



The Halifax Amateur Radio Club

REFLECTOR

PO BOX 8895
HALIFAX NS
B3K 5M5

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club web site is www.halifax-arc.org



March winds and April showers Bring forth May flowers



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The **March 2016 General Meeting** of the Halifax Amateur Radio Club will be held Wednesday, March 16, in the Senior's Room on the 1st floor of the St. Andrew's Centre, 3380 Barnstead Lane, Halifax.

6:30pm - Social with refreshments.

7:30-8:15pm Presentation:

Speaker: Fred Pegley (VE1PEG)- Topic: Sending and Receiving e-mail on SSB using a Pactor Modem.

8:30-9:30pm Regular Monthly Business Meeting

Guests are welcome

When Insults Had Class

"He has never been known to use a word that might send a reader to the dictionary."

-William Faulkner (about Ernest Hemingway)

Deadline for submissions to the April Reflector is Saturday April 9, 2016

Take-15 Net Controllers

This will be the rotation.

We need more net controllers. If you want to join, contact Bill, VE1MR



March 13	Bruce	VE1MLW
March 20	Win	VE1WIN
March 28	Gary	VA1GGM
April 3	Doug	VE1LDL
April 10	Bruce	VE1MLW
April 17	Win	VE1WIN
April 24	Gary	VA1GGM

THE GETAWAY!

A man walked into a Topeka, Kansas Kwik Stop and asked for all the money in the cash drawer. Apparently the take was too small, so he tied up the store clerk and worked the counter himself for three hours until police showed up and grabbed him.



GENERAL INFORMATION



Sunday evenings:
TAKE-15 NET at 8:30 PM

CLUB REPEATERS:

VE1PSR - 147.270 MHz + TX=82.5
 VE1PSR/UHF - 444.350 MHz +
 VE1PSR/6M - 53.550 MHz -
 access tone 151.4 Hz
 VE1HNS - 146.940 MHz - TX=82.5
 PACKET: VE1NSD 145.050 MHz
 LAN NODE

Event for Your Calendar

April 9&10 - the 18th annual Shearwater Hobby Show

- 10AM to 4PM both days.

We've requested a spot near the door of the Sea King Club. (Not enough room in the museum this year so they've relocated to the Sea King Club.)

For more on the show see

<http://www.shearwateraviationmuseum.ns.ca/modelshow.htm>

The show will be a multi-discipline event featuring model Aircraft, Armor, Ship, Figure, Science Fiction, Automotive subjects, and Model Railway layouts; Dolls and Dollhouse Miniatures; Radio Control Ship and Aircraft Models; a Lego display; Historical Gaming; a one day Model Contest; a Trade Fair, and more.

June 11 - DownEast FleaMarket

Location: St. Andrews Center gym.

June 25&26 - Field Day

July 24th, 2016 is the date for the Ledwidge Lookoff Rally and they would appreciate our communications help.

Contact-Ian, VE1IGP, to volunteer.

SPECIAL EVENT DATE:

February 15 (0001Z) through March 27 (2359Z), 2016. - Worked All NCDXA "RST" Stations: A Special Event Covering All of Northern North America! (See January Reflector for more details & information)

Members of the North Country DX Association (NCDXA) will be active in February and March 2016 from several different locations in Alaska, Yukon, Northwest Territories & Nunavut using **KL7RST**, **VY1RST**, **VE8RST** & **VY0RST** to further promote Amateur Radio up north. All modes 6-160 meters and WARC bands are permissible. SWLs are welcome to participate.

Alex, VE1RUS will be at EUREKA (Ellesmere Island)...-ed.

EXCHANGE: NCDXA "RST" stations send signal report and QTH (ie-5x7 Anchorage, 5x9 Whitehorse etc.). Receiving stations send signal report and state, province or country.

Brit Fader Scholarship Trust Announces 2016 Call for Applications

The Brit Fader Scholarship was established in 1993 by the Halifax Amateur Radio Club and endowed through the generosity of Club members and Radio Amateurs throughout the Maritime Provinces of Canada. This scholarship is intended exclusively for post-secondary educational use, including graduate studies, to provide assistance with the cost of tuition, room, board, books and/or other fees essential to the advanced education of the recipient. **The amount of the 2016 award will be \$1500.00.**

Applicant must be a citizen of Canada, but without regard to gender, race, national origin, handicap status or any other factor and must be performing at a high academic level.

Applicant must hold an active Basic Class or higher grade of Canadian Amateur Radio license.

This Scholarship will be provided for attendance in any programme at an accredited Canadian post-secondary technical school, college or university. **Preference may be given to applicants who have been accepted into a program in the field of electronics or electrical engineering, or related areas such as computer science.**

Application submissions must be
postmarked no later than July 8th, 2016.

A zipped application package (Criteria; Application Form; Reference Form) is available for down-loading from the HARC website at: <http://halifax-arc.org/britfaderscholarship>.

D. Howard Dickson – VE1DHD for the Brit Fader Scholarship Committee, Halifax Amateur Radio Club

HARC Membership Renewal Process

Any one of the following three ways will work:

(1) Simply down-load and save our new Fillable PDF membership form to your computer. The fillable form is new and will hopefully make the membership renewal process a little easier. Once the form has been down-loaded, we recommend that you open it using Adobe Reader to fill it in. If you don't have Adobe Reader it can be download for free for either PC or Mac computers from: <https://get.adobe.com/reader/>; then fill in the form and print out a copy and mail it along with appropriate cheque payment to our postal address.

(2) Interac e-Transfer The process to do an Interac e-Transfer is as follows:

a) Simply down-load and save our new fillable membership application form to your computer. Then open it in your .pdf reader - we recommend Adobe Reader; fill it in and save it to your computer. Then, e-mail Howard VE1DHD our Membership Chair dhdickson@eastlink.ca and cc: Jim Guilford our Treasurer jimguilford@gmail.com a copy of your completed membership application form clearly indicating in the body of your e-mail that you are paying by Interac e-money transfer.

b) Then, go to your on-line banking site and send an Interac e-money transfer to our Treasurer (Jim Guilford) jimguilford@gmail.com; DO

(Continued on page 4)

PRESIDENT'S MESSAGE for February, 2016

Hello all amateurs: --.This is VA1CC, just sitting here reflecting on the past month's activities in the club. Last weekend was the RMS course held at the club and taught by Dave,-VE1EDA. He had 9 participants attend and it was a fun event where we had a chance to learn about the software and its capabilities.

On Sunday Feb.28, we had the ham breakfast at Tom's in Sackville. There were 35 hams and their spouses who attended and enjoyed good food and great conversation. This was a fine opportunity to get out with friends who have a common passion for radio.

Thursday night, March 3rd, saw many volunteers come to the club for a meeting to establish the March break schedule at the Museum of the Atlantic.. We still have a number of events that will require volunteers such as the MS Walkathon: MS Bikeathon: Museum ships weekend: Canada Day and others as they become available. Please let Erik know if you have time to volunteer for THE MUSEUM OR any of the events listed as we always need help.

The flea market is coming up on June 11 at the St. Andrews Centre and once again Tom Guam will need help to set up and take down. Go through your boxes of gear and see what you want sell at the flea market and have fun doing it. DON'T FORGET FOOD AND PRIZES TOO.

The Shearwater hobby show is also on the horizon and Craig McKinnon is heading up this event. He plans to run an HF station and do some psk as well. He will need help setting up and taking down the antenna, radio and computer. This will be on April 9/10/16.

Today, March 5/6 weekend, is the ARRL DX contest and so far I have worked over 130 contacts with my vertical and low power. This is a great opportunity to get your dxcc award for 100 countries worked and easily done with so many countries on the air. GOOD DX.....

Just as a reminder, there are several folks who have not yet renewed their membership. Please take a moment and fill out your form and submit it to Howard so he can get you your membership card via e-mail. And oh yes, you can submit payment via e-transfer now to make it easier or more convenient.

The next meeting is MARCH 16/16 AT 19:30 at the club. See you all there.

Respectfully. Brian Allen, VA1CC

SURPLUS EQUIPMENT

The club has a complete multi band HF antenna and is looking for bids from club members before advertising to the general Amateur population. The antenna is a **Cushcraft MA5B in good condition**. This antenna covers 20M, 17M, 15M, 12M and 10M. The boom is 7.3 feet with the longest element of 17.1 feet.

The cost new is about \$600 to \$670 CAD plus HST and shipping. So we are looking for bids in the 50% range and you save the HST and shipping.

Check the specifications and reviews. Not recommended for use with an amplifier although they say it is good for 1200 Watts.

Currently partially assembled.

Take-15 Net controllers needed

We need more net controllers for the Take-15 net. This is not a hard task and usually takes less than ½ hour on a Sunday evening. It is good practice for running a net which can enhance your usefulness in doing a net during an emergency.

I would like to see some of the newly licensed Amateurs take this on. The more controllers we have the fewer times during a year that you would need to take a net. We are currently down to 4 controllers and this means they only get 3 weeks off before they do a net again. An ideal number would be 12 but 6 to 8 will spread the task out nicely. Contact Bill, VE1MR

It's easy and you meet other club members on the air as well as visit-

ing Amateurs during the summer. Please consider taking a small amount of time on a Sunday evening to help the club out.

This Net may be one of the longest running 2M nets in existence It would be a shame to discontinue it.

The Take-15 net is a good place to hear what is going on in the Amateur community and hear news of upcoming club events. You can also ask questions on topics of interest to Amateurs, perhaps technical, operating, building etc. So if you don't want to be a net controller right now at least check in to the net. We know a lot of Amateurs & scanner listeners are on frequency - many more than usually check in.

(Continued from page 2) Membership renewal

NOT send this to Howard. Be sure to include in that email the security question that Jim will need to then transfer your membership funds into our HARC bank account.

c) Once Jim receives the money and has deposited it to the HARC account, he will confirm with you and he will cc: Howard.

d) Howard will then issue a 2016 e-Membership Card by email confirming that your 2016 membership has been paid.

(3) Alternatively, you can come to one of our March monthly club meetings and Howard (VE1DHD) our Membership Chair will be happy to renew your membership.

D. Howard Dickson, VE1DHD // VE1ZD

The Darwin Awards are bestowed, honouring the least evolved among us.

Nominee: When a man attempted to siphon gasoline from a motor home parked on a Seattle street, he got much more than he bargained for. Police arrived at the scene to find a very sick man curled up next to a motor home near spilled sewage. A police spokesman said that the man admitted to trying to steal gasoline, but he plugged his siphon hose into the motor home's sewage tank by mistake. The owner of the vehicle declined to press charges saying that it was the best laugh he'd ever had.

Message handling practice nets

On VE1PSR 147.270 + Sunday at 1930 hrs.

Anyone wishing to become involved with the emergency communication message handling please contact

Tom Caithness for voice practice. Tom.caithness@ns.sympatico.ca

or Dave Musgrave for digital david.musgrave@ns.sympatico.ca



Guides on the Air - GOTA 2016 at the HARC club station

There were five girl guides present and three leaders.

We talked to a few places stateside and one overseas station. Conditions were not good at the time. All had fun and all were talking on 2 two meters. They all had a chance to hear cw with Tom and the history and purpose of the club with what we do. Tom, VE1GTC, and Fraser, VE1WO, and myself were present for there was a mix up in times to meet there, but all worked out ok. We have been going there for 12 years with the same troop of girl guides and the interest is still there year after year.

I want to thank the club for their time and interest with this group.

Gary Surette-VE1WAN

(Obviously the Guides of 12 years ago are no longer troop members. - ed)



Defination: Cashtration (n.):

The act of buying a house, which renders the subject financially impotent for an indefinite period of time.

WHERE DID YOUR OUTPUT POWER AND RECEIVED SIGNAL GO?

By Bill Elliott, VE1MR

This article was written many years ago and has appeared in the Reflector a couple of times but was in need of updating since there are several new types of cable available. I am going to try and condense the original article.

The following information will be of interest to both new and not so new amateurs. Many amateurs are aware that using a larger coaxial cable will reduce losses in transmitted signal, but not all the factors are considered, or known. Many readers are new amateurs and may only have the Basic qualification and line loss at VHF and UHF can be quite high. Some information about line losses will be given in the following article, with tables and examples.

The different types of coaxial cables have advantages and disadvantages. The list of cable types is large, I will cover some of the more popular and available cables. I will list cables according to diameter, ranging from smallest to largest, progressively becoming less flexible as the size increases. The loss table below is for the cable only, connector loss must also be considered. I will only discuss 50 or 52 ohm cables although the table will include a couple of 75 ohm cables which of course are very suitable to match dipoles.

RG-174 is a very small light weight cable, high attenuation if much is used.

You might use this cable for the drop from an HF dipole suspended at each end to reduce the weight at the center of the dipole. Normally you would transition to a larger cable once you were at a point where it could be supported.

RG-58 is readily available, small light, significant attenuation even at HF.

Good for shorter runs and where light weight is useful. Other types of RG-58 have different loss characteristics. The RG-58C has a stranded center conductor while the other types have a solid center conductor that may be prone to breaking if repeatedly stressed, such as flexing.

LMR-200 is a low loss cable with a foil shield as well as a tinned copper shield and a solid center conductor. Exactly the same size as RG-58 and uses the same connectors but the cable does cost more.

RG-8X has a foam dielectric for a small cable with relatively low loss for it's size. Connectors and splices for RG-59 will fit this cable. RG-8X is called several different names. There are better cables available today but they do cost more.

LMR-240 is a low loss cable with a foil shield as well as a tinned copper shield and a solid center conductor. Exactly the same size as RG-8X and uses the same connectors but the cable does cost more.

RG-8, RG-213 and other counterparts are the general purpose cable in HF use and short VHF runs. Readily available.

RG-214 is similar to RG-213 except it has double shielding and usually has tinned center conductor and tinned braids. This makes it more expensive and is only used where the extra shielding is required, such as in repeater use.

RG-8 FOAM is a foam dielectric cable with lower loss than it's same sized counterparts (RG-8 and similar). Soldering connectors onto this cable can be problematical since too much heat will melt the foam causing poor connections. There are better cables available today but they do cost more.

Belden 9913 or similar is an air dielectric cable with lower loss than it's same sized counterparts (RG-8 and similar). This cable has a foil shield as well as a tinned braid with a solid center conductor. Most connectors for the RG-8 type cable will also fit. Make sure your connections are watertight since a small amount of water in the air space will ruin it's characteristics. Other versions use a solid dielectric and are less prone to water ingress degradation. This cable costs more than the previous types of cables

LMR-400 is a low loss cable with a foil shield as well as a tinned copper shield and a solid center conductor. Exactly the same size as RG-8/RG-213/RG-214/9913 and uses the same connectors but the cable does cost more.

1/2" Helix or hardline is reasonably flexible but cannot go around a rotator, new connectors are expensive and used ones are sometimes hard to find.

7/8" Helix is not very flexible, new connectors are very expensive and used ones are still fairly expensive..

There are variations of all these cables and several different manufacturers. Different manufacturers cable will have slightly different losses. Check the specifications of a particular cable not mentioned here. The tables following show losses for the most common cables available. With the exception of the hard lines the cables are flexible and can go around a rotator. There are more flexible cables available in the LMR series and other manufacturers but they have about 10 to 15% more loss. I have included a couple of 75 ohm cables in the following table - RG-59 and RG-11.

(Continued on page 7)

**The Halifax Amateur Radio Club
Monthly General Meeting
February 17th 2016
MINUTES**

President Brian Allen (VE1AZV) opened the meeting at 19:41. There were ### members in attendance.

Silent Keys –

Berry William Cope, VE1DO
Billy Hollis Elliott, Y2FF
Howard Anthony, VE1TEC
Angus McKnight, VE1AEK
Trudy Edith, VE1TES

Introduction of guests & Self-introductions –

Approval of Minutes of January 20th 2016 monthly:

Motion – THAT the minutes of the January 17th 2016 monthly meeting of the Halifax Amateur Radio Club as published in the February 2016 edition of the Reflector and on the HARC website be approved.

Moved by: Bruce VE1MLW;

Seconded by: Erik Hein, VE1JEH.

Motion carried.

Treasurer's Report

Jim Guilford (VE1JG) reported that the March opening balance was \$5231.32 expenses for the month of January were \$543.83, income was \$1039.50, petty cash \$00.00, for a net bank account balance of \$5726.99. Full report is attached to the formal copy of these minutes.

Motion – THAT the report of the treasurer be approved.

Moved by Bill Elliott, VE1MR;

Seconded by: Howard Dickson, VE1DHD.

Motion carried.

Committee Reports:

Tom, VE1GTC, - education

Tom has taken over the basic course. Has been in contact with previous trainers, will be arranging something with them to discuss further classes and education. Want to expand the course in regards of time frame, with the amount of time it takes on certain outcomes. Saturday 27, at the club

upstairs. RMS introduction course is being held by Dave. Very beneficial, an email will be sent out to people who have completed the course over the previous years. TMR 2, the provincial system, Don Mosher will be putting on a training course. Contact Tom, VE1GTC, or Dave VE1EDA

Brian- Discovery Centre

The Discovery centre is to move down to the Halifax waterfront. Some years back the HARC did make a presence. They are more than willing to have us, perhaps start out with lectures and videos and then move up to live demonstrations.

Field Day – Taking place June 25 and 26. Looking for volunteers. Looking into York redoubt. Other possible locations, contact Wayne, VE1WPH, if any ideas.

Hobby show in April is looking for supporters.

June 11th is flea market

Emergency preparedness week is May 6-12.

Ian, VE1IGP, with the Ledwidge Lookoff car Rally--

July 23, 24 weekend.

Looking for volunteers.

Sea King club is the new location of the hobby show.

Museum update for March break

Update will be available soon.

Membership – Howard Dickson (VE1DHD)

5 life members, 76 full members and ___ associate members. Now available to accept interact payment of the membership dues.

50/50 Draw - \$25.00 was won by Don Mosher.

Door prize – was won by Brandon Fowler

The meeting was adjourned at 21:20 .

Respectfully submitted – February 17th, 2016.

Laura Muise (VE1ZMB)

HARC Secretary



Silent Key

The Ham World has another Silent Key – my friend Glenn Wallis VE1GK passed away on Wednesday February 24th. Link to funeral home website for obituary –

<http://www.brownsfuneralhome.com/>

I spoke with Glenn on the air as recently as the Sunday prior to his death. He helped me by speaking with some of the Girl Guides during GOTA at the MARC in Day-spring Lunenburg County.

Al, VE1CYP

David, WA1OUI, sends a link to a video detailing the human implications of living in the National Radio Quiet Zone. "It's about the thousands of square miles around the National Radio Telescope in West Virginia [Including parts of Virginia and Maryland -- Ed.] that must be radio emission free, and what that does to the inhabitants: no cell, microwave, Wi-Fi, ham radio or anything!":

<https://www.youtube.com/watch?v=I35z9Borplw&feature=youtu.be>

Forwarded by Ken, VY2RU

The Maritime Amateur

Ham Radio
for Maritimers by Maritimers

www.maritimeamateur.ca

Darwin Award Nominee

Three Brazilian men were flying in a light aircraft at low altitude when another plane approached. It appears that they decided to moon the occupants of the other plane, but lost control of their own aircraft and crashed..

They were all found dead in the wreckage with their pants around their ankles.

LOSS PER 100 FEET IN dB

CABLE	FREQUENCY IN MHz					
	10	20	30	50	150	450
RG-174	3.9	5.3	6.4	8.0	----	----
RG-58C	1.4	2.1	2.72	3.6	6.8	11.0
RG-59	1.25	1.8	2.1	2.7	4.7	8.1
LMR-200	1.02	1.44	1.8	2.3	4.0	7.0
RG-8X, RG-8M	1.1	1.6	2.0	2.5	4.3	7.5
LMR-240	0.77	1.09	1.3	1.7	3.0	5.3
RG-8, RG-213, RG-214	0.68	1.0	1.2	1.6	2.8	5.1
RG-11	0.37	0.54	0.66	0.88	1.62	3.1
RG-8 FOAM	0.57	0.72	0.90	1.2	2.1	3.7
Belden 9913	0.39	0.55	0.68	0.89	1.58	2.85
LMR-400	0.38	0.54	0.67	0.87	1.52	2.69
1/2" Heliac (LDF4-50)	0.21	0.29	0.36	0.46	0.82	1.45
7/8" Heliac (LDF5-50)	0.11	0.16	0.20	0.25	0.45	0.81

The figures in the previous table are taken from several sources, and where there was a difference the lowest figure was used. Different manufacturers of cable will not always have the same specification and different lots of cable may exhibit different characteristics. Remember these figures are for new cable and may degrade with exposure to the elements. Cables that are similar in appearance to those listed may have very different losses, be wary of unmarked or older used cable, the impedance or loss characteristics may not be suitable for your needs.

The following table will give you a feeling for losses at 2 METERS using different types and lengths of cables. I have used 160 Watts since this is my own case when working terrestrial SSB or CW. Included are 0.2 dB connector losses.

LOSS PER 100 FEET IN dB

CABLE	LENGTH IN FEET	MATCHED LOSS IN dB	POWER		
			INPUT	OUTPUT	%
RG-58C	50	3.5	160	71	44.38%
RG-58C	100	7	160	39	24.38%
RG-8X, RG-8M	50	2.25	160	96	60.00%
RG-8X, RG-8M	100	4.5	160	57	35.63%
LMR-240	50	1.6	160	110	68.75%
LMR-240	100	3.2	160	76	47.50%
RG-8, RG-213, RG-214	50	1.6	160	110	68.75%
RG-8, RG-213, RG-214	100	3	160	80	50.00%
LMR-400	50	0.85	160	132	82.50%
LMR-400	100	1.7	160	113	70.63%

You should now have a feel for losses at 2M and that some cables are unsuitable to use at certain frequencies. You may also have noticed the table heading for loss is MATCHED LOSS dB. This is for a perfectly matched system (usually 50 ohms impedance), if your system is not matched, i.e. SWR higher than 1.0:1 then more losses are introduced. I will give an example of this later. A good rule of thumb is to try to get 70-80% of you signal to and from the antenna. Remember that the figures shown in the following tables include the losses of two properly installed connectors.

The table below shows losses when using a 100 foot piece of RG-8, RG-213, RG-214 at different frequencies.

As you can see 100 feet of this cable is suitable for HF and reasonable at 6M but the loss at 70cm is excessive. Cables with more attenuation per 100 feet will up the losses even more.

BAND	MATCHED LOSS IN dB	POWER		
		INPUT	OUTPUT	%
At 80M	0.6	100	87.1	87.10%
At 40M	0.8	100	83.2	83.20%
At 20M	1.0	100	79.4	79.40%
At 15M	1.2	100	75.9	75.90%
At 10M	1.4	100	72.4	72.40%
At 6M	1.8	100	66.1	66.10%
At 70cm	5.3	100	29.5	29.50%

As you can see 100 feet of this cable is suitable for HF and reasonable at 6M but the loss at 70cm is excessive. Cables with more attenuation per 100 feet will up the losses even more

What happens with a mismatch (SWR).

The table below shows losses at 20M when using a 100 foot piece of RG-8, RG-213, RG-214 at different SWR.

SWR	APPROXIMATE LOSS IN dB	POWER		
		INPUT	OUTPUT	%
1.0	1.0	100	79.4	79.40%
1.1	1.1	100	79.2	79.20%
1.2	1.1	100	79.0	79.00%
1.3	1.1	100	78.8	78.80%
1.4	1.1	100	78.4	78.40%
1.5	1.2	100	78.0	78.00%
2.0	1.2	100	75.5	75.50%

As you can see 100 feet of this cable is suitable for HF with SWR up to 2.0:1

I have done some power measurements on cables at various frequencies and found the actual results to be very close to the theoretical calculations. My main concern is attenuation at VHF and UHF where weak signal conditions must be compensated for. A good low noise preamplifier at or near the antenna will overcome the problem of received signal attenuation, but will do nothing for transmit power losses. If you use a preamp in the shack you are amplifying the line noise as well as the signal. There are many more considerations, but these I have covered will go a long way to improving your output signal and receive capability.

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Many readers are basic licensees using only VHF and UHF where attenuation can be a limiting factor. Pay close attention to the length and type of your feed line. Use the best cable you can afford, remember, try to get 70% - 80% of your power to the antenna.

Most of the above information assumes the SWR is 1.0:1, this is a perfect match at the antenna. A higher SWR will result in more loss, a quick example follows. Assume 100 feet of RG-8 at 20 METERS with 1.0 dB loss and SWR at the antenna of 3.0:1, then this will result in an overall loss of 1.5 dB. 100 watts into this line at perfect match results in about 80 watts out, but with SWR at 3.0:1 the result is about 70 watts out. The SWR measured on this line at the radio will show 2.3:1 because of line attenuation of the reflected power.

The power handling capability of coax is a consideration that I was not going to mention but it was brought to my attention as an important oversight in many cases. This often overlooked fact is the reduced power handling capability of foam dielectric cables. In particular the RG-8M or RG-8X mini foam cables should only be used with about 100 watts, the specifications may rate them higher but only on a perfectly matched line.

Because there seemed to be such a stretch of time between Christmas/New Years and spring weather that was filled with nothing but snow, early darkness & winter, some years ago the HARC began a "tradition" of a breakfast get-together in late February or early March. This year's Ham Breakfast was enjoyed at Tom's Family Restaurant in Lt. Sackville



Breakfast photos that Jeremy, VE1JHF, took are on the FB page, <https://www.facebook.com/groups/227771417387479/>

2 Police Constables call the station on their radio.

"Hello. Is that the Sarge?"

"Yes?"

"We have a case here. A woman has just shot her husband for stepping on the floor she had just mopped clean."

"Have you arrested the woman?"

"Not yet".

"Why not"

"The floor is still wet..."



If you use Twitter, you can follow the Maritime Amateur website via @maritimeamateur and receive immediate updates and changes to the website as they happen. It also delivers news and information from other amateur radio operators and clubs using Twitter.

A man's got to do what a man's got to do. A woman must do what he can't.
-- Rhonda Hansome



HALIFAX AMATEUR RADIO CLUB MEMBERSHIP - For 2016

- Same address as last year New address
- I would like newsletter as PDF E-Mail (Please note by taking the newsletter online you save the Club significant mailing and printing costs)
- I would prefer to have the newsletter mailed to my home **at an additional cost of \$10.00 to the regular membership fee structure below..**



_____ E Mail Address (Please provide for our files)

Call Sign _____

First Name	Initial	Surname
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_____ Street Address (Mailing)

City/Town	Province	Postal Code	Telephone Number
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- Fees Full Member, must be a licensed Amateur (\$30.00)* Associate member (Non Voting) (\$15.00)
- Family membership (one newsletter) (\$30.00)* + \$15.00* each additional person.* Amount submitted \$_____.

* Full HARC Members will also receive full membership in the NSARA

The membership year is from January 1 to December 31.

All members receive the newsletter, which is also available on the HARC website.

☒ Mail to: Membership Chair Halifax Amateur Radio Club P.O. Box 8895 Halifax, NS B3K 5M5	CERT _____ SEC _____	CARD _____ ENTERED _____
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Payment Options ... In addition to mailing a cheque to the Club mailing address along with the application form, or paying at the February Club meeting, we have set up a new electronic money transfer process as outlined below:

Procedure for Paying HARC Membership Dues by electronic money transfer:

Since fewer and fewer of our members use cheques, it is becoming more difficult for some to pay their HARC dues, requiring that they come to a meeting and pay with cash. That is fine for some but for others who are for what ever reason unable to attend meetings it is a problem. However, we now have a system set up to allow HARC members to pay their 2016 membership dues using electronic money transfer. The procedure to use is as follows:

- 1) Send an email to Howard VE1DHD our Membership Chair at dhickson@eastlink.ca and cc: Jim Guilford our Treasurer at jimguilford@gmail.com... with either a scanned or photo of your 2016 Membership Application Form; or, if there are no changes, simply email with your full name and callsign saying no changes; ALSO indicate that you are paying by e-money transfer.
- 2) Go to your on-line banking site and send an e-money transfer to our Treasurer (Jim Guilford) jimguilford@gmail.com. Be sure to include in that email the security question that Jim will need to then make an electronic transfer into our HARC bank account.
- 3) Once Jim receives the money and has deposited it to the HARC account, he will confirm with you by email and he will cc: to Howard.
- 4) Howard will then issue a 2016 e-Membership Card (by email) confirming that your 2016 membership has been paid.

73 Howard, VE1DHD