The Halifax Amateur Radio Club



# REFLECTOR



PO BOX 8895 HALIFAX NS B3K 5M5

October 2015, Volume 76 Number 8 club web site is www.halifax-arc.org



### Happy Hallowe'en



HARC Club Station phone number - 902-490-6421

Executive	-						
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President - Brian Allen, VA1CC	489-4656	basailor@eastlink.ca
First V.P. – Don Trotter, VE1DTR	Don	Trotter@sierrasystems.com
2nd V.P. Paul Legault, VA1PAL	818-9073	pajolegault@g mail.com
Secretary - Jeremy Fowler, VE1JHF	240-4302	VE1JHF@Gmail.com
Treasurer - Jim Guilford, VE1JG	466-2124	jimguilford@gmail.com
Director-at-Large: - Ian Pierce VE1IGP	469-3474	igpearce@hotmail.com
Director at Large (Educational): Scott Verge	, VE1SRV 4	12-3448 scott@ve1srv.net
Station Manager: Alex Tikhomirov, VE1RU	S 444-1271	a.texer@gmail.com
Past President - Scott Wood, VE1QD	823-2761	ve1qd@rac.ca
Director Emeritus - Bill Elliott, VE1MR	865-8567	bowser.elliott@ns.sympatico.ca

#### **Committees/Offices/Prime Contacts**

Government & Media Relations - VACANT

QSL Bureau Mgr - Tom Caithness, VE1GTC 477-7081 tom.caithness@ns.sympatico.ca EMO Coordinator - David George, VE1AJP dgeorge@dal.ca 466-8723 EMO Trailer coordinator – David Musgrave, VE1EDA 435-4333 ve1eda@rac.ca Reflector editor - Lynn Bowser, VE1ENT 865-8567 bowser.elliott@ns.sympatico.ca Reflector Dist. - Carol Wood, VE1HAZ carol.wood@EastLink.ca Membership - Howard Dickson, VE1DHD dhdickson@eastlink.ca Web page content contact – Howard Dickson, VE1DHD dhdickson@eastlink.ca Basic ham course - Scott Verge, VE1SRV 412-3448 scott@ve1srv.net

2016 Flea market Chair – VACANT Youth Coordinator - VACANT

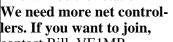
Field Day Coordinator - VACANT

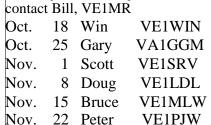
Safety Officer - Terry Bigelow, VE1TRB ve1trb@eastlink.ca NSARA Director - Barry Diggins, VE1TRI 861-3719 ve1tri@rac.ca Honorary Legal Counsel – Paul Radford, VE1ARH

Non Club Contacts

RAC Atlantic Director - Everett Price, VO1DK vo1dk@rac.ca
RAC Section Manager - Craig Seaboyer, VE1DSS cseaboye@stfx.ca
RAC Assistant Director for HRM Scott Wood, VE1QD, 823-2761 ve1qd@rac.ca

# **Take-15 Net Controllers** This will be the rotation.





#### Puzzler - Do you know?

What feat of aeronautics did Airbus accomplish on July 10, 2015?

Answer to Puzzler is on page 9

Photos this issue thanks to Ian, VE1IGP; Erik, VE1JEH; Scott, VE1SRV; Howard, VE1DHD; Michael, VE1LEB The October 2015 General Meeting of the Halifax Amateur Radio Club will be held Wednesday, October 21, in the Senior's Room on the 1st floor of the St. Andrew's Centre, 3380 Barnstead Lane, Halifax.

6:30 – 7:30pm - Social Hour with refreshments

7:30 – 8:30pm - Presentation: The role of Amateur Radio in Emergency Measures planning.

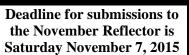
Presenters: Barry Manuel, VE1JRG, and Andy Boutilier 8:30–9:30pm Regular Monthly Business Meeting

Guests are welcome



The reason the golf pro tells you to keep your head down is so you can't see him laughing.

-Phyllis Diller



## 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

### Events for Your Calendar

October 24 – Greenwood FleaMarket

The Basic Amateur Radio Course started Thursday, September 10, 2015 at 7 pm with 8 students. Cost, \$145.

The Coordinator is Scott, VE1SRV

An Advanced Amateur Radio Course will begin January 7; 2016.

Coordinator Scott, VE1SRV, has set up a website for the course with the pertinent information (cost of course = \$300, number of seats, etc.) at

ve1srv.net/advanced

IF you're interested in either Basic or advanced course e-mail Scott at scott@ve1svr.net

Dec.16 – HARC Christmas party, time – 18:30

The ARRL Handbook 2016 Hard-cover & Softcover Editions are now being advertised on the ARRL website as are the ARRL Antenna Book 23rd Hardcover & Softcover Editions.

RAC's web site is at www.rac.ca



#### The 2015 Brit Fader Scholarship Winner

Bram Paterson, winner of the HARC's 2015 Britt Fader Scholarship of \$1,000.

Bram has been accepted to attend Cégep de Saint-Laurent in Technique de l'électronique (Option Télécommunication).

Get Well Soon!

Ed, VE1EGG, is in hospital recovering from trauma received



when he escaped from a falling tree at his cottage. Ed was around 12 feet up the tree when he heard a breaking

noise below him ...

## Keep our Club Station Shipshape PLEASE!

We have a grand Club Station and I'm sure that everyone knows to clean up after yourself but also, PLEASE, any time you are the last person leaving the Club Station make sure that

1/ all windows are closed

2/ the air conditioners are off

3/ all radio equipment is turned off

4/ the lights are off

5/ the door is locked



The National Do Not Call List – what's it for?

The National Do Not Call List (DNCL) gives consumers a choice about whether to receive telemarketing calls. The National DNCL Rules introduce new responsibilities for Canada's telemarketers.

"Freedom is never more than one generation away from extinction. It's not in the genes we pass to our children. It must be fought for, protected, and handed on for them to do the same."



#### GREENWOOD AMATEUR RADIO CLUB 27th ANNUAL FLEAMARKET 2015

Date: 24 October 2015 (Saturday)

**Time:** 10:00AM – 1:00PM

(Open 8:00AM To Sellers) **Place:** Greenwood Community Centre, Church Street, Greenwood, N.S.

Cost: Admission \$4.00.

Tables Free to Sellers

#### **GPS Coordinates:**

N44° 58.512' W064° 55.612'

**Talk In:** VE1WN 147.240+

Someone will be on our local repeater to answer questions or give directions.

**BBQ:** Sausage, Hot Dogs, Pop, Tea and Coffee Available.

**Door Prizes And Raffle:** There will be various door prizes given out throughout the event with one big door prize at the end. We will also be selling tickets on a radio.

**Fleamarket:** All sorts of Amateur Radio, Computer and Electronics for sale. Sell your old stuff or buy some new old stuff.

#### To Book Tables Contact:

Carol VE1ICY at cfhutchinson@gmail.com

#### **To Obtain Further Info Contact:**

Eric VE1JW at

ve1jw2010@gmail.com

From the ARRL website 10/08/2015

Right on schedule at 1249 UTC on October 8, the Atlas rocket carrying the AMSAT Fox-1A Amateur Radio CubeSat and 12 others lifted off from Vandenberg Air Force Base in California on the National Reconnaissance Office (NRO) NROL-55 mission. Fox-1A carries an Amateur Radio FM transponder. Stations in Europe and Japan have reported copying telemetry from the 1U CubeSat. The first pass over the US will be at about 2350 UTC.

(Continued on page 6)

#### PRESIDENT'S MESSAGE for October, 2015

...Wow it's fall already.. the weather is beautiful, the colors are magnificent and in full display. Speaking of October, we have several events this month. The most important event is the general meeting with special speaker Barry Manual from EMO. He always provides an entertaining discussion and insight into the world of emergency measures from a home perspective as well as a regional level. This is one meeting you won't want to miss. There will be a special announcement at this meeting so once again you will want to be there for this.

As you all know, Erik is looking for volunteers for the Museum of the Atlantic for events and radio time spread out over a twelve month period. The more volunteers we have to call upon, the less time you may have to put in at the museum. Now that we have a station at the museum, there is ample time to put our hobby on display and give the public an opportunity to see and hear what we are all about. Hopefully this coming summer we can participate in Museum ships weekend and other water front activities. For those looking to volunteer, we must have a police check and this is done thru Erik and the Corps of Commissionaires. Erik can certainly help here with information / location and timing.

While on the radio on Saturday, I noticed that propagation was some what better. The numbers were bad but after 09:00, the 20 and 17 meter bands opened up. I was able to work the Scandinavian contest as well as Venezuela. did work some special events stations as well in both the US. and Europe. Maybe there is a real chance of good propagation for the CQ WORLD WIDE competition o October 24/25.

I cannot forget the GREENWOOD Flee Market on October 24 as well. This is always a great time and a chance to catch up with old friends and reminisce over better times when propagation meant working any one any where on 10m. The Greenwood club always puts on a good show and if possible we should show our support for a fellow club. After all we are one fraternity only separated by a few miles. Halifax will have the QSL Bureau there as well as some other tables with goodies on them. Look forward to seeing you all there.

Well, that's pretty much it for now.. so just a recap- general club meeting with special guest speaker and SPE-CIAL ANNOUNCEMENT.... the GREENWOOD Flee Market on the 24 and the CQ-World-Wide starting on the 24 / 25. Busy times eh...

73 for now...Brian Allen, VA1CC

# **Auxiliary Telecommunications Service. Information**

By Tom, VE1GTC

As a result of recommendations coming from Exercise Kingfisher, a steering committee was formed resulting in the formation of a group to be known as Halifax Auxiliary Telecommunications Service (ATS).

The objectives of the ATS are as follows:

- 1. To train volunteers in formal message handling.
- 2. To implement a callout system to deploy members.
- 3. To maintain, test and utilize telecom systems, both amateur and non-amateur.
- 4. To support emergency sites and other sites as required i.e. Joint Emergency Management Sites (JEMS), Reception

centers and other sites as may be directed by an incident.

- 5. To co-ordinate practice sessions, conduct exercises and assist in other telecommunication needs that may be required
- 6. To enhance operator skills.

To volunteer for the ATS group you should;

- 1. Be interested in providing telecommunications for emergencies
- 2. Be willing to take training
- 3. Participate in practices and exercises
- 4. Be available for emergency callout.

Volunteers are not required to hold an Amateur license, but it would be an asset.

There will be a presentation given at the October meeting of the Halifax Amateur Radio Club The term of the HARC's current executive has almost come to an end. (THANK YOU for your service!) The election of the new slate of officers will be at our November meeting. Prior to our November meeting, our Nominating Committee will be contacting HARC members inviting them to offer for the various positions. Please consider what executive position in which you could serve

Fascinating Error in Judgement

"But what is it good for?"

- Engineer at the Advanced Computing Systems Division of IBM, 1968, commenting on the microchip. On August 15 members of HARC and other region clubs descended on the lovely Noel area of Nova Scotia for the special stages of **the Ledwedge Lookoff Rally**.

The objective was to provide communication for the 12 stages to be run on Saturday. Departure and arrival of cars on the stage would be passed, and any emergency traffic if required.

Of note this year, was the trialing of the EZ track rally system. This system uses cellular data systems to relay speed, location and emergency beacon info to a central location. Fans could watch the timing live on the website as the event progressed. Craig, VE1JMA had close exposure to the system

as he manned the service park net control with none other than Mark Williams, one of the most experienced Co Drivers in North America.

Road conditions for Saturday were much improved, with some excellent grader work completed late Friday. This allowed teams to push for impressive stage times.

There was some spectacular scenery to be taken in, and some very tranquil rural Nova Scotia, punctuated by the passing of Rally cars at speed.

Only one minor incident occurred; conveniently, it was in close proximity to one of the radio checkpoints. Injured pride was the only outcome, and the team continued the day. Big thanks to the Backcountry 4x4 Club for their course opening, closing and recovery vehicle expertise.

The organizers wish to send their sincere thanks for this essential communications aspect of the event.

Location Hams

Service Park: Craig, VE1JMA Airport Loop Scott, VE1SRV,

Pauline, VA1PAV,

Fraser, VE1WO.

Tennycape: Hal, VE1LV,

Shavne, VE1SCE,

Doug, VE1LDL.

Quarry: Tom, VE1GTC,

Alexey, VE1RUS, Alex Tamo, VA1MTN.



cation. Fans could watch the timing live on the website as the event progressed. Craig, showing Alex Tamo, VA1MTN & Tom Caithness, VE1GTC.



FIA Radio Point Board, Alexey's post for the day.

If you have First Aid Training you could save someone's life! Go to

http: //stjohnambulance.ns.

ca nd out wha

to find out what courses St. John Ambulance offer.

Politicians are people who, when they see light at the end of the tunnel, go out and buy some more tunnel.

~John Quinton~



Do you have a radiorelated story, technical article, picture, news, comment, etc. that you would like to share in the HARC Reflector? Send it (or

them) to Reflector editor Lynn Bowser, VE1ENT by E-mail at bowser.elliott@ns.sympatico.ca or snail-mail at

15 Lakeland St

Beaverbank, NS B4G 1A6

Links to more pictures from the Rally:

http://www.bluenoseautosport.ca/hmmerk/LLO-Aug2015/ MerkFridaySlideShow/

http://www.bluenoseautosport.ca/hmmerk/LLO-Aug2015/TurnerSlideShow/http://www.bluenoseautosport.ca/hmmerk/LLO-Aug2015/SaturdaySlideShow/

#### The Hammond Museum of Radio

As a new ham, I'm actively looking for opportunities to expand my knowledge of the hobby, particularly radio technology and its history. In preparing for our annual family holiday—which often consists of a long drive to Ontario to visit family—I happened across the website for the Hammond Museum of Radio in Guelph, 45 minutes west of Toronto. The URL is

http://www.hammondmuseumofradio.org.

I was born in and grew up mostly in Guelph, and as my father was Program Director of the local broadcasting stations CJOY and CKLA-FM, I was interested in radio. I knew that Hammond made cabinets and transformers, but was unaware of the museum, which was hidden in a side room of the Hammond Manufacturing plant.

We planned to stay in Guelph, a ten minute drive from the current location of the Museum on Southgate Road off of Highway 6. The Museum is operated by volunteers so it's best to make an appointment. I emailed Nori Irwin-Hann, VE3AQZ, with my request and she replied positively a few hours later.

When I arrived, I was met by Larry Asp, VE3RF. He guided me down the aisles, stopping every so often to regale me with inside stories on this exhibit or that. I learned that the Hammond company was started almost 100 years ago in Guelph by Oliver Hammond. In 1920 they began to build single tube and then 5 and 6 tube radios. In 1926, the company abandoned radio set production after receiving a cease-and-desist letter from RCA—over patents. Hammond Manufacturing began to build transformers and cabinetry, which they continue to do to this day.

Fred Hammond, VE3HC, the major force behind Hammond Manufacturing, is a member of the Canadian Amateur Hall of Fame (1996), and was one of those select few who were responsible for bringing China back on the air in 1983. In terms of the museum, many of the pieces come from Fred's collection. Fred passed away in 1999.

Some of the Museum highlights that are included in the photo set: an impressive collection of Collins gear, a 1920's era receiver donated by our own Brit Fader, several large transmitters—including a WW2 transmitter that was destined for the battleship USS Mis-

souri—and an analog flight computer pulled from an Avro Arrow.

Whatever your interest, whether it be a formidable collection of morse code keys, an array of old and new vacuum tubes, amateur radio sets, or some of the first transistor radios, you'll be spellbound and amazed by this little-known collection of radio technology.

Michael LeBlanc, VE1LEB







#### Halifax Amateur Radio Club General Meeting minutes 16 Septembet 2015

Meeting convened 20305 Don Trotter (VE1DTR) running the meeting in place of Brian (VA1CC) who is away in Ontario.

Review of the evenings agenda: Motion to accept agenda Scott, VE1SRV, Seconded by Eric, VE1JEH / Doug, VE1LDL. Accepted.

Introduction of members present:

VE1DTR, VE1JG, VE1MR, VA3IIF, VE1JDH, VE1SRV, VE1PAV, VE1AI, VE1FA, VE1RUS, VE1JEH, VA1ALW, VA1YL, VE1HGR, VE1CU, VE1AE, VE1LDL, VE1AJP, VE1JMA, VE1IGP, VE1SBC, VE1JHF, VE1BMF, VE1GFA

Silent Keys: VE1LB, VE1PUD, VE1EAF, VE1MT, VE1AOP, VE1XLY, VE1GAM, VE1EJC, VE1DLT

Acceptance of meeting minutes from June meeting Moved by Bill VE1MR Seconded by Scott VE1SRV

Accepted

<u>Treasurers Reports</u>: Presented by Jim, VE1JG
Acceptance moved by Jim (JG)
Seconded by Dick (AI)
Accepted

Flea Market financial details were then presented.

Don (DTR) advised that the HARC network has been updated and the firewall implemented, and the remote station been brought online with the new network.

Alex (RUS) presented the Field Day statistics with a total of 5,584 points. He then gave an overview of the recent work completed on the Club Station and the antennas.

Scott (SRV) gave a quick report on the Basic Course that has started, with a total of 8 members.

EMO/SAR: Dave (AJP) gave a brief overview of recent searches, and the first use of their new Zodiac boat to effect a rescue of 2 hikers that drastically cut the time it would have taken if they'd had to walk in and out.

Eric (JEH) gave thanks to Fred (FA) and Dick (AI) for all their hard work on the Maritime Museum project, and gave an update on the progress of the room construction and how the Museum is very much behind this project. The Museum has graciously offered us the use of a large meeting room for an upcoming meeting so that the members may see the progress of the room for themselves.

Membership Update: Howard was not present

We currently have 5 Life, 97 Full, 18 Associate members.

Appointment of Auditor:

There were calls for anyone to perform the Auditor function for this year

Amanda has agreed to do the auditing again this year.

<u>Election of nominating committee</u> chair:

Proposed committee is Howard (DHD), Scott (QD) and Dick (AI). Bill (MR) nominated Howard (DHD) as the chair.

Seconded by Scott (SRV) Accepted

Ian (IGP) passed along thanks from the car club for their assistance with the Ledwidge Lookoff Rally.

Dave (AJP) mentioned that Princess Auto had some good prices on electronic parts thanks to the recent closure of Radio Shack in the States.

Jeremy (JHF) mentioned that Dave Charbonneau (DDC) was in the hospital suffering from gallstones, an inflamed pancreas, and jaundice.

Eric (JEH) asked for volunteers to operate the station at the Museum for the next year.

Door Prize: VA1YL Helen 50/50: VE1WO Fraser

Motion to adjourn: Dick, VE1AI; Seconded: Alex, VE1RUS

Meeting adjourned at 2115

Respectfully submitted Jeremy Fowler, VE1JHF, HARC Secretary



(Continued from page 2)

Fox-1A employs Data Under Voice (DUV) to send 200 bps FSK telemetry data at the same time as FM audio by making use of sub-audible frequencies below 200 Hz. High-speed 9600 bps FSK also can be transmitted when the transponder is not operating for data-intensive experiments and is only active when commanded from the ground. Free FoxTelem telemetry decoder software is available to decode both DUV and high-speed telemetry. AMSAT also has posted a

Fox Operating Guide.

Fox-1A went aloft as part of the NASA Educational Launch of Nanosatellites (ELaNa) program, which offers free launches to educational entities and encourages science missions. Prior to the launch, AMSAT Vice President for Engineering Jerry Buxton, NOJY, was part of a NASA TV prelaunch panel.

The transponder has not yet been activated, but Fox-1A includes a Mode B (U/V) FM transponder with an

uplink frequency of 435.180 MHz, and a downlink frequency of 145.980 MHz and capabilities similar to those of the AO-51 satellite, which went dark in late 2011. Satellite users are advised not to attempt to access Fox-1A until AMSAT announces that it is available.

Four of the CubeSats going up on October 8 were NASA sponsored, and nine were NRO-sponsored, one of which was developed with NASA

(Continued on page 7)

#### **UPDATE ON THE MUSEUM FILE**

On September 15<sup>th</sup> Dick VE1AI and I presented, on HARC's behalf, the call sign certificate VA1MMA to Ms. Kim Reinhardt, the director of the Maritime Museum of the Atlantic. Ms. Reinhardt, Gerry Lunn, Dick and I had a good conversation about what we have achieved and where we still need to go, including getting volunteers signed up to operate all this fine equipment.

Dick suggested that we should have 14 operators, this way we may only have to call upon the same person twice a year. I'm happy to announce that this number has been achieved and 50% have

also had their police check done. When the rest of you get it done, please let me know as I have to submit all this information to the Museum.

#### 73 Erik, VE1JEH

Stella Awards – Outlandish Lawsuits & settlements

2013's runaway First Place Stella Award winner was: Mrs. Merv Grazinski, of Oklahoma

City, Oklahoma, who purchased a new 32-foot Winnebago motor home. On her first trip home, from an OU football game, having driven on to the freeway, she set the cruise control at 70 mph and calmly left the driver's seat to go to the back of the Winnebago to make herself a sandwich. Not surprisingly, the motor home left the freeway, crashed and overturned. Also not surprisingly, Mrs. Grazinski sued Winnebago for not putting in the owner's manual that she couldn't actually leave the driver's seat while the cruise control was set. The Oklahoma jury awarded her, are you sitting down?

\$1,750,000 PLUS a new motor home. Winnebago actually changed their manuals as a result of this suit, just in case Mrs. Graz-

inski has any relatives who might also buy a motor home.



Progress in golf consists of two steps forward and ten miles backward



**A Cyber-Safety Story** about 9-0-# on your telephone; author unknown.

I dialed '0' and asked the operator to confirm if this was correct, so please pass it on.

I received a telephone call last evening from an individual identifying himself as a Telephone Serviceman, who was conducting a test on the telephone-lines.

He stated that to complete the test I should touch nine (9) and then zero (0), followed by the pound sign (#), and then to hang up.

Luckily, I was suspicious, and I refused.

On behalf of the HARC Erik, VE1JEH, and Dick, VE1AI, present the VA1MMA callsign certificate to Kim Reinhardt for the Museum

(Continued from page 6)

funding. All flew on the NRO's Government Rideshare Advanced Concepts Experiment (GRACE), which is an auxiliary payload aboard the NROL-55 mission. These CubeSats also include the first to be designed, built and operated by students in Alaska, and the first from Native American tribal college students. — Thanks to AMSAT News Service and NASA

Upon contacting the telephone company, I was informed that by pushing 90#, you are giving the requesting individual full access to your telephone line, which enables them to place long distance calls billed to your home phone number.

I was further informed that this scam has been circulating in B.C., Alberta,

Ontario & New Brunswick from local jails and prisons.

DO NOT press 90# for ANYONE!

After checking with Telus, they said it was true, so do not dial 90# for anyone!

#### Scott's Solar Project (update)

Here is an update for my solar project. As you remember from my last Reflector update I have decided to power my Icom IC-3200A 24/7 using solar power only. Having done the math I have selected a solar array of 60 watts, comprised of four 15 watt panels. The math shows that I should be able to keep my Icom up and running 24/7 in December, the month with the least amount of light, using a 180 amp hour deep cycle battery.

Before I can harvest the solar energy I have to construct roof top mounts. The purpose of the mounts is two fold. First is gives me a stable way to attach the solar panels to the roof. Second it gives me the ability to change the angle of the panels to match the angle of the



Mounting the 2 solar panels to the steel frame using stainless steel washers, bolts and nuts. The glass on the solar panels is covered (not shown) to protect from scrapes and scratches.

sun through out the seasons.



Array mount assembled. The long side is the base. The short side is the adjuster to adjust the angle of the array to match the sun



So lets roll up our sleeves and see what I have done. First stop, Home Depot. I selected 8 four foot lengths of 1 1/2" slotted angle steel. It was good and solid with lots of predrilled holes. Perfect for this project. I cut the slotted angle material to fit the width of the aluminum frames

of the solar panel then bolted them together.

Next I constructed a wooden base to mount the steel on. This allows me to mount the array on my flat roof without have to drill into the water proof membrane on the roof.



Panels mounted to steel frame and wooden base

Finally, I aligned the panels so they point due south at solar noon. The best way to do this is with a cylinder (cup or can) placed directly on the solar panel at solar noon. If the panels are correctly aligned the cylinder should cast no shadow.

The next part of the project is to wire this into a charge controller and battery. Once this is done I can migrate my Icom over to my solar generator just in time to do some practical testing in December. Stay tuned and I will update again soon.

#### 73, Scott VE1SRV

Definition: Arachnoleptic Fit (n.): The frantic dance performed just after you've accidentally walked through a spider web.



A shot from the back of the panels after they were mounted on the wooden base an aligned due south at solar noon. There are no shadows from the trees that reach the panels. Even a small shadow would make a huge difference in the output of the panel

#### **↓** Answer to Puzzler on page 1

On July 10, 2015, French pilot Didier Estyne flew Airbus' E-fan electric plane across the English Channel; taking off from Lydd, England and landing at Calais, France.

The plane operates exclusively on batteries and, since there's no oil or water, the 20-foot long, 1,300-lb. jet releases zero emissions.

Just 12 hours earlier French pilot Hugues Duval had flown his 2-engine, 1-seat Cricri plane from Calais to Dover and back but, lacking authorization to take off from Calais, had stated his flight under tow by a fuel-powered plane. The E-fan's maiden flight was in March, 2014. Airbus plans to begin selling the 2-seater in 2017. Source: the Montreal Gazette, July 11, 2015

The only difference between a tax man and a taxidermist is that the taxidermist leaves the skin. Mark Twain



1,10111 1,10111

#### **The Maritime Amateur**

Ham Radio for Maritimers by Maritimers www.maritimeamateur.ca

#### DONATIONS FOR BRIT FADER SCHOLARSHIP TRUST

Since 1985 the Halifax Amateur Radio Club has sought to set up a scholarship fund for post-secondary technical education for ham radio license holders in honour of Brit Fader, an outstanding Nova Scotia radio amateur who died in 1990.

Brit Fader Scholarship Trust has been approved by Revenue Canada as a charitable organization. The Trust will issue official income tax receipts for all donations made to the scholarship fund.

We urge each club and each radio amateur to consider making a donation to the Trust.

Donations should be made payable to Brit Fader Scholarship Trust and be accompanied by the enclosed donation form. Send the enclosed form and your donation to: Halifax Amateur Radio Club

P.O. Box 8895

Halifax, Nova Scotia B3K 5M5 Attn: Brit• Fader Scholarship Trust

#### DONATION FORM - BRITT FADER SCHOLARSHIP TRUST

I direct that the enclosed gift to the Brit Fader Scholarship Trust, Registration number 0984971-25 (and any property into which it is converted) be held for a period of not less than 10 years. This permits the Trust to keep my donation as capital and use the interest for scholarships.

Amount of Gift:	Date of Gift:	<u> </u>
Name of Donor:		<u> </u>
Address of Donor:		·
		·
Make cheques payable to Income Tax Receipt will	BRIT FADER SCHOLARSHIP TRUST be issued)	. (An Official
Signature of Donor		