RAC affiliated MISSISSAUGA amateur radio club VE3MIS

THE COMMUNICATOR
VOICE OF AMATEUR RADIO IN MISSISSAUGA

...wait for this...**29 years** and still going strong...Is this not a club that needs your aid and support!

VE3MIS/VE3RCX Volume 17.02 - Page 1 of 14 APRIL 19, 2014

The Gavel

As I pass on the 'gavel', to the new incoming President of the club (Jeff Stuart), I find myself reminiscing about how the previous year went past so quickly. They say, if you are busy time stands still.

Back in May last year, our journey began with me challenging the membership to dust those old cob webs and roll up those sleeves and get involved in some 'real' amateur radio related projects. I am happy to say some of the members listened. There is however, room for improvement. A club is the sum of its people, and we have a pretty darn good set of those. From all walks of life, various ages and stages, our membership remains strong year after year, so we must be doing something right.

I want to ask you today to make a personal commitment to dive into the new culture. Commitment is always a choice. But if each of us focuses on

The new and improved COMMUNICATOR, utilizing state of the art graphic's text publishing. A small taste of the old and a heaping shovel full of what todays publishing, image processing, and modern presentation technologies, can bring. To learn more read the editors column.

This edition is the new look new feel, with new exciting content for a new up coming club year.

Don't forget to submit your idea's column's picture's, or thoughts, we take them all

The Table of content is on page four,just to make sure you read the first 3 pages

"The Gavel"

This is only the beginning of the possibilities available, pitch in, and not just the regulars, come on people you as members of this club this is your and there by your newsletter.

constantly promoting the hobby and assisting if certain resources are limited in one area, we can build an extraordinary future for this club in particular and the hobby in general. There is no room for complacency, if you want to cherish the hobby while you are on this planet. As the saying goes, ` use it or lose it`. We just cannot afford to lose it. It has been a 100 years when the ARRL was formed to promote and protect the interest of this hobby and with the commitment and dedication of the amateur radio operators in the south, has bloomed into a formidable and effective organization. Can we learn some lessons and make our national organization, RAC, the same ? It all starts with joining the ranks of members and then volunteering time where needed.

Last year the membership voted to discount new member fees, if you are a RAC member. We have taken on ourselves as a club, to promote RAC membership, a small commitment on our part. We also, for the past 5-6 years have committed financially, to fund the RAC Canada and RAC Winter contests trophies. Our commitment to DARF has also been in the same spirit, for a number of years. Even though we are seeing an increase in our expenses I hope we will continue to support RAC anyway we can in the future.

The executive board deserves a pat on the back. Rick VE3IMG, John VA3XJL, Robert VE3RYE and Jim VA3JIW, have steered your club with exceptional talent. I would like to thank them on behalf of the membership for their commitment and support. Notably, HamEx, RAC club affiliation, relocating the IRLP node to name a few. I would also like to thank

Bob VE3CWU for his gracious support at the repeater site, in building the club SDR, assisting in MIS station, assisting Anthony with the HSMM project and preparing for the field day network setup. I would be remiss if I did not mention Mike Wilde, for his help whenever the call went out. Mike is a breath of much needed fresh air.

I know we have the potential and the drive that simply needs to be harnessed and promoted to bring out the best in us. We all know what our potential is and what level of support we can provide to move the club agenda forward. Do not hesitate to step forward. There are multiple opportunities to do that. Field day, Bread and Honey festival, Halton railway, to name a few. We all saw the collective support provided at HamEx. Exceptional.

As I hand the reigns to Jeff, I will say that I was honored to serve in the capacity of President. It was a great ride, thanks to all of you. Look for the opportunity to assist in a special interest group or as a volunteer to assist one of the assigned Managers. I expect that we will be climbing more mountains and crossing fast moving rivers as we have always done.

Asim VE3XAP

The Editors column:
from the keyboard of editor in chief
Valentine Stubbs
VE3VVS

MARC Members Yahoo Group

The MARC Members Yahoo Group is the primary way to disseminate club information about upcoming events.

Join the MARC
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communications
and to contact
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http://groups.yahoo.com/group/marc_members

The Contents:

Well to make up for content submissions I have to get a little creative, which is kind of funny I since I work as Senior Linux system administrator at an animation studio, the 3 largest is Toronto.

There we constantly "make up" our own content, we have writer's, story boarder's, producer's, director's, artist's, editor's, any many more.

For this newsletter I have taken creative license, and have evolved the newsletter. new look, new software, new source's.

I look forward to the new club year the new president's wise words, any many new exciting things like our new HSMM back bone.

Valentine Stubbs

Chief Editor - Communicator

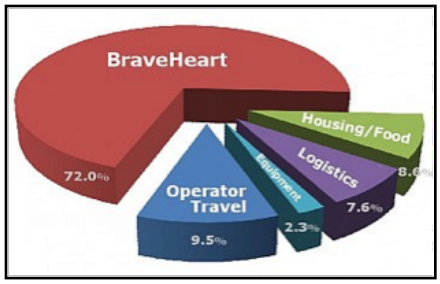
VE3VVS

FT5ZM: Amsterdam Island DXpedition 2014
By Michael Brickell VE3TKI

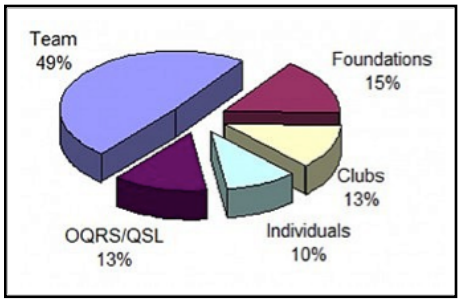
One of the things I enjoy most about amateur radio is chasing dx. Dxpeditions to remote places offer a particular challenge, especially those to locations only rarely activated. Amsterdam Island, 9 days sailing from Freemantle on the west coast of Australia, is one of those places. The island is located in the Southern Indian Ocean, at 38° south, 77.5° east.

The FT5ZM web site has this to say about Amsterdam Island: "Amsterdam Island is under the administration of TAAF, the Terres Australes et Antarctiques Francaises, which controls access to the islands in the French Antarctic Territories. Access is strictly controlled and permission to land on the island is subject to the use of an environmentally acceptable vessel, the ability to land in difficult sea conditions, self-sufficiency, and a sound environmental plan. The dxpedition team had to prepare a detailed plan before permission to go was given, and in fact once the team arrived they had to wait for final approval by island authorities before landing and unloading."

Dxpeditions to places such as Amsterdam require extensive planning, beginning years in advance, and are very expensive to mount. Notices began to appear in various dx newsletters over a year ago. The budget for FT5ZM was about $450,000. Vessel charter, operator travel costs, equipment, logistics, and Housing/per Diem charges imposed by TAAF made up the costs. The largest cost by far, was the cost of chartering the M/V Braveheart, which is based in Christchurch, New Zealand, for 40 days and re-positioning the vessel to/from New Zealand. The pie charts below, from the expedition website, show the allocation of costs.



Where does the money come from? Almost half is contributed by the 14 operators:



Working one of these major dxpeditions involves significant time and effort on the part of an intrepid operator. You have to be able to devote the time to sit in front of your radio for perhaps hours on end, and be prepared to battle the pile ups. Literally thousands of operators from all over the world try to get contacts with these dxpeditions. Success depends on propagation, your perseverance, the skill of the dx operator at the other end, both in running the pile up and his skill in picking your particular call out of the barrage of calling operators.

Because of the huge volume of calls, all major dxpeditions operate "split", that is, they transmit on one frequency and listen for calls over a range of frequencies. For cw, this range can be 2-3 kHz up (or down), and sometimes much wider. The corresponding range for ssb is usually 5-10 KHz or wider. For FT5ZM the cw range seemed to be anywhere between 3 KHz to about 10 kHz, and the ssb range was anywhere from 5 kHz to 20 kHz. You as a caller listen to the dx station on one vfo, and transmit using the other vfo somewhere in the range the dx station is listening. Sometimes it is possible to hear the dx station come back to another dxer, and also to find that dxer in the pileup. If this is the case you may be able to make your call on the same frequency and be heard by the dx station who will then reply to you.

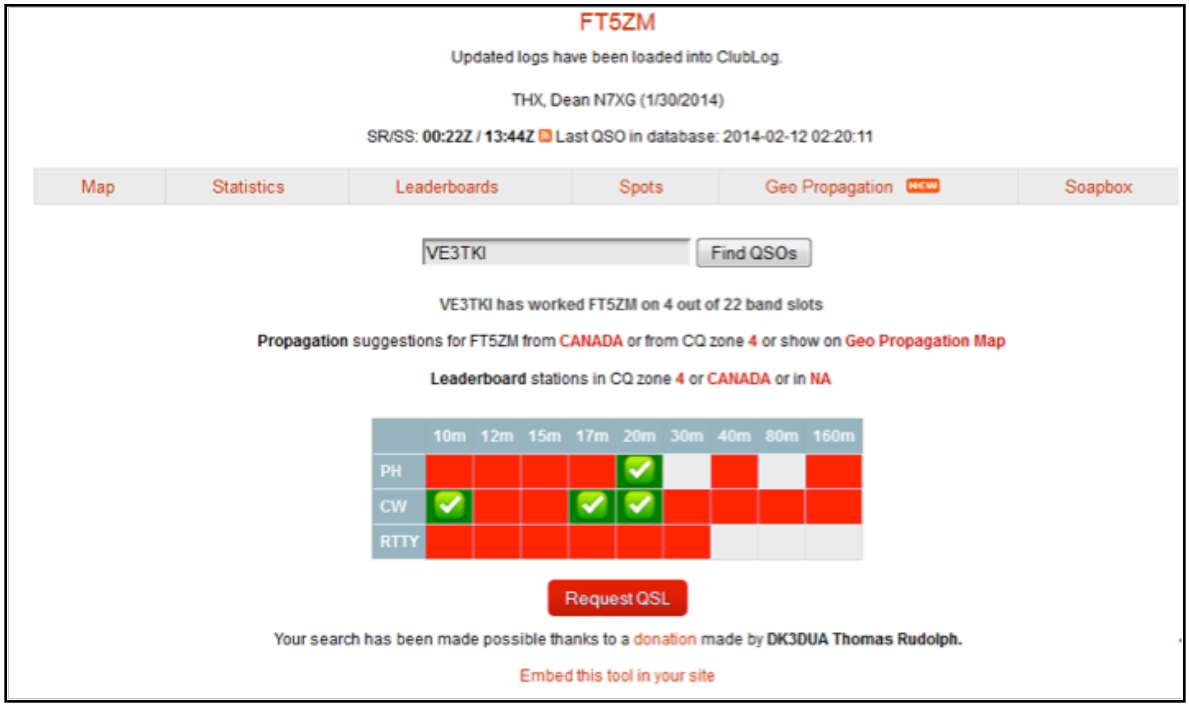
Bob Locher W9KNI, in his excellent book "The Complete DXer, 3rd Edition", talks about listening to the pileup and determining the pattern the dx station is using as he moves up and down the pileup. The idea is that by listening you can figure out where the dx station is going to be next, and go there to call. In my experience this is an impossible ideal. More often than not it is not possible to find the caller in the barrage of too many calls, or, on the higher bands, hear any callers at all. I these situations the best option appears to be to park yourself on a likely spot and call from there, in the hope that eventually the dx station will find you as he tunes up and down the pileup. This is not very satisfactory, but it does work (sometimes).

The success of split operation relies on the discipline of dxers to keep off the dx station's transmitting frequency, so that callers can hear the dx and know when to call him. Unfortunately there are bad apples in the ham population as in any activity. This was very evident in the FT5ZM operation, with deliberate jamming of the dx transmitting frequency, including playing music, playing recordings of contest, and various forms of foul language. As well, there is a contingent of so called operators who yell "up, up" or worse whenever anyone transmits by mistake on the dx frequency. The situation is not helped by ops who do not understand how split operation works or how to set up their transceivers. The result is extreme frustration, for example when you think the dx station has heard your call but you can't be sure because someone has jammed the dx station just at the time he comes back with your call. AS well, there are many operators who just call and call and call, even while the dx station is talking to someone and therefore can't hear callers.

Having said all this, it is still worth the chase. It's fun to do this in conjunction with other members of the club as a sort of informal competition. The trick is to work the dx and then call your friends to say you worked them, rather than the other way around. We did pretty well, as you can see from the table:

CALL	10m		15m		17m		20m		40m		80m		160m	
VE3NI		X		X			X	X						
VE3CXT								X						
VE3TKI	X				X		X	X						
VE3YV	X						X	X						
VE3CWU							X							
VE3TA	X	X	X				X	X	X	X	X	X	X	

Once you think you have worked the dx, it's time to get confirmation that you are actually in the log. Most dxpeditions these days upload their logs every day or so to the on-line Club Log, and you can search for your qsos. A typical Club Log search result looks like this:



If you don't show up in the log it's best to assume that you are in fact not there, and work them again to be sure. This is where you discover if you qso is one of the many (in this case 165,000) qsos in the log.
The next step is to request a qsl card using the OQRS system, which is accessed using the "Request QSL" tab on the Club Log page. There is a minimum fee to cover postage for your card, but it's up to youwhether you want to add a bit to contribute to these very expensive operations. The final outcome is a QSL card to brag about at a club meeting. Then it's on to work the next dxpedition…

Attend all the

regular club meetings,

all times and events are posted on the club website:

WWW.MARC.ON.CA

The Tale of the Generac generator

by Mike Wilde

I took a Generac generator set home from the work equipment locker last night for a first look over. It was apparently not working, per the locker custodian.

I found no air filter in the air intake. This is not a good idea for on the road work where this set is usually used.
It is usually and around concrete cutting 'flour' from bridge and road condition sample drilling activities (residue of which coated a lot of the chassis).

The gas tank looked empty, but had a film of oil sort of sliding around on the bottom of the tank. I took the tank off, added some camping naphtha gas to act as a solvent, and swished the tank around.
In the process I found out the gas shut off valve did not work anymore. I poured the mix out, into a tin can, and burned it off. The tank no longer had a sludge in it.

While the tank was off it was a lot easier to access the spark plug. It was disgustingly coated with oil and carbon. I surmise that at some point a 2 cycle (oil mixed in) gas mixture was used to fuel this engine.
That for a four cycle engine is a no-no. that would explain the sludge in the fuel tank too.

The oil in the crank case, while more or less up to the right level was very dark and dirty.

So off to Canadian Tire:
I sourced a couple of generic lawn mower foam filters, coated them in oil, wrung them out, and tucked them into the air intake housing.
I have no idea where the proper Generac paper filters could be sourced, but this fix should work well.

I bought a new suitable spark plug (actually a pack of 2), gapped it to match the oily one, and installed it.

I could not find a substitute gas shut off valve to suit at CTC, so I slept on the idea.
This morning I thought up using a 3/16" brass fish tank airline valve, of which I have a stash. I placed it after the original, now non shutting off, original valve
Sundry buts of plastic hose kept around for crazy fix it jobs like this were used to suit the sizing needs to cut this new line into the fuel supply hose, which was originally either ¼" or 5/16" .
I think the packing on the valve and the plastics are suited to exposure to gas, but time will tell if the gas leaches the plasticisers out of them and leaves the brittle.

New spark plug, fuel shut off, air filter, gas in the tank (with some fuel stabilizer added) , and the thing would run after a few pulls, although very roughly with a lot of riding the choke needed.
It burned blue exhaust for about 3 minutes, burning off the last of the oil residue from the prior tank contamination.

I fed it a good dose of carb spray cleaner with the air filter pulled off and the thing ran a lot smoother, and the choke manipulation was no longer needed.
Once it had run to warm up, I set it up to change the oil.
It was disgusting. The machine says to change the oil every 25 hours.
This stuff looked like it had been in there for about 10 years.

I filled it part way with fresh oil, and ran it for another ten minutes, and then stared draining it while running.
The low oil pressure sensor light came on and the engine stopped, just like it is supposed to.
The fresh oil when drained had loosened some of the mid-worst of the sludge left from the last change clouding it, and only looked like it might have otherwise been in the machine for a few years.

I filled it with 30 weight oil. The air cleaner cover says 5w30 for winter service. I figured there will still be enough sludge still coming off that this oil will not be too thin for summer use.

The oil filler cap has been partially broken, and the o-sealing ring had spilt.
I used a BBQ cleaner and an old tooth brush and water rinses to dislodge most of the oil that had leaked onto the engine housing case and sludged up around the filler area.
I used high temperature thread sealing tape on the filler cap thread in lieu of trying to fix tor source a new o ring. With part of the filler top gone, the O ring would not really seal well anyway.

Once the engine was running in good shape I started to look for power output. The engine idle switch was not affecting the idle speed at no load, so something was not right.
I measured and found no AC on ether leg where it should be , nor any real DC. (Other than a tiny amount from the permanent magnet field). No dice after trying to reset all of the circuit breakers.

I took the end cover plate off of the generator, and brushed out a ton of concrete cutting flour.
I could see that an insulating boot from the 12V DC battery charging circuit had worked loose, and was shorting to the frame.
I fixed that, but still no power out.

I figured out which were the leads for the field winding and shunt winding, and found which field leads led to the brushes.
You need a magnetic field, from these parts of the generator to get power.

I pulled the brush holder, to inspect that area. The brushes and slip rings on the rotor looked good.
There was still at least ¾" of brush left, and since this is an AC machine the wound field runs DC through smooth slip rings, which don't wear as fast as a segmented commutator, like is found in a universal motor
Once the brushes were fitted again I checked for field and shunt winding continuity with an ohm meter. They were both reasonable. Field measured maybe 10-20 ohms, and shunt about 75 ohms.

Apart from the schematic and layout colour coding diagram on the service manual I pulled off the web for this machine I did not have detailed electrical characteristics for it.

There is a small permanent magnet in the generator to get some power flowing, and then that power from the stator winding is routed through the field coil by a controller circuit and rectifier to make it DC to really build the rotating magnetic field.
The shunt winding is usually is used to increase the magnetic field under heavy power output demands to counter the winding losses in the stator winding.

I fired the engine up, and looked for field power. Nope, not yet, just about 2 VDC.

So now it was down to low tech fix it techniques.
I pulled every connector apart one by one in the end of the generator wiring compartment.
I blew the concrete dust out, and wiggled the connectors as I put them back together, to try to grind off any insulating oxides that may have settled in there.

I fired the thing up again, and measured carefully for DC field voltage across the brush connectors again. This time it was 75VDC. Bingo.
I flicked the idle control switch on, and the engine now started to lope along, barely keeping the engine from stalling. Yes, this is more like what I wanted to see.

I tested the voltage with the idle switch off. It is like 40V AC on both of the 120V winding legs, and 4VDC off of the rectified half wave bridge pulsating DC output.
I put a healthy load on the AC side (My wife's hair drier, a handy 1500W load) and the engine RPMs pick up again, and gradually settle back to a slow lope after the load has been off for a minute when thr idle control switch is turned on.

So I tidied the work are up, loaded the generator on the truck and took it to work to swap it with the 5KW rig which we also have,
Field crews have been using it recently with the more convenient littler 4400 guy DOA and waiting for a nice day like today for me to fix it.

I will now take the 5KW unit home for a bit of TLC, since I suspect some fresh oil at the least would make it happier too.

Mike Wilde, P.Eng. PMP
Project Manager, Transportation Systems Engineering
Associate

MARC Members Yahoo Group

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Hot of the wire: == HSMM News ==

Ah, we had a fun weekend! It started on Friday, when we came to the MARC repeater site and finally put up the HSMM antenna which was down the whole winter. And later on Saturday we have set up the HSMM node at the Club Station.

But let's get back to Friday. It was a nice day. Jim, VE3JIW, Anthony VA3IDL, Bob VE3CWU and Waverly VE3tba went to the MARC repeater site to troubleshoot VHF antenna and reinstall the HSMM antenna which was down the whole winter. Jim wrote about VHF issues already, I won't repeat that. As for HSMM we faced the unexpected. The N-male connector of the feed line was open since the antenna was taken down and now it was all rotten. The central pin missing and all the central part was green. We had to use another LMR400 cable that was available, with UHF type connector, and borrow the UHF-N adapter from Jim. This has to be fixed later, but it allowed us to be up in the air anyway. Also, after putting up the antenna we noticed that it was not straight vertical. This antenna has a 5 degree wide diagram in the horizontal plane, so it matters. However, due to time constraints we had to leave this for the next time too.

We will need an N-male connector for LMR400 and tools to put it in. Soldering preferred.

Saturday, we had better luck at the Club Station. Bob VE3CWU, Asim VE3XAP and Anthony VA3IDL put the router and the antenna donated by Asim on top of the south tower, just below the HF beam.
There is a FedEx building blocking the path to the MARC repeater site. The building is tall enough to have airplanes dock to it. Still we decided to give it a try. While being up there I was only seeing Merilyn Monroe buildings behind the FedEx, but nothing else. Despite of that, and despite all the troubles with our vertical at the repeater site, we did get the signal through. Looks like we are scratching the back of the FedEx building. The

signal is very weak, on average -87 dB, which is 4 dB below the average noise level, but we got it! With such signal we could not establish the connection, the best we had was seeing the remote station's IP address, but that is just the beginning. We've also put another antenna (Chinese Yagi) pointed to the PRARC repeater site, where soon there will be another HSMM node.

Next time we are at MARC repeater site, we should fix the omni antenna connections and make sure it stands straight vertical so we get the best signal out of it. If that is still not enough, we could set up another router with a grill dish pointing to the Club Station. Now that we got any signal, I feel very optimistic about what we can do! And as I mentioned earlier, Peel club has all the equipment for the HSMM node ready and just waiting for their next repeater site visit to get it up in the air. I have also contacted Oakville club, which is going to be our next connection from the MARC repeater site, and they are also exited about putting up a node and pending to schedule that.

I am always open to everyone to join the project. And now, the weather is good and we entered the active "putting stuff up" and experimentation phase of the project, it is very much fun. I would love to hear from anyone saying: "Anthony, let me join you next time you'd be installing another connection". Also, as the new omni-s come up at Oakville and Peel, more of you will be able to get yourself connected, give it a try! :)

73
Anthony VA3IDL

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regular club meetings,

all times and events are posted on the club website:

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