

# marc gram

Volume 58, Number 06 - March 2013



## *Next meeting - March 27, 2013*

Ragchew and Fleamarket : 19h30, Club meeting : 20h00

St-Ignatius of Loyola Parish Church  
4455 West Broadway, N.D.G. - Montreal

**Presentation by Richard Desaulniers, VE2DX  
on Station Automation**

### MarcOgram

The MarcOgram is published nine times per year on the second to last Wednesday of September through June, excepting December, by the Montreal Amateur Radio Club. Advertising and copy deadline is one week prior to publication.

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*Cover photo by Marc-André Gingras, VE2EVN*

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### The marcOgram team needs you!

We're always on the lookout for interesting articles to include into your monthly newsletter. Do you have a ham radio news item you would like to contribute or just pass along to the marcOgram editors? Just send your document or links to Cliff Tooher, VA2UTC  
va2utc@marc.ca

### Club Activities - Monthly Meetings

Club meetings are held on the last Wednesday of the month at St-Ignatius of Loyola Parish Church, 4455 West Broadway, N.D.G. - Montreal. The meetings will be held in the Lounge which is the rearmost door on the South side of the building unless we have reason to hold it in the Parish Hall which is the first door on the South side of the building.

An informal flea-market and ragchew session starts at 19:30 with the formal meeting starting at 20:00. STM buses 51, 162, and 105 stops at or near the door!

### Meetings of the Board of Directors

Meetings of the Board of Directors are open to any member to attend. Board meetings are held on the first Wednesday of the month (Sept. to June) at 7:30 PM at the same venue as the monthly meetings (see above). Should you wish to attend one of the meetings you are welcome. Just speak to one of the directors beforehand to make certain that the meeting has neither been cancelled, nor the location changed.

### Club Directors

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Cliff Tooher, VA2UTC

## MARC Fundraiser WE NEED YOUR SUPPORT

In order for MARC to reach some of its goals, we have decided to re-introduce advertising in the marcOgram newsletter. The rates are as follows:

Business card	\$ 5.00 per issue
Quarter page	\$ 7.00 per issue
Half page	\$12.00 per issue
Full page	\$20.00 per issue

The "Marcogram" publishes from September to June, which is nine issues. We also publish a summer edition during the months of August/September, which becomes a free month. So we actually publish ten issues. We have a list distribution of about 200 persons. A business card placed for 9 issues would only be \$ 40.00. We are asking for all members with family or friends who have a business to place an ad. You could also advertise a special function.



### A Word from the President

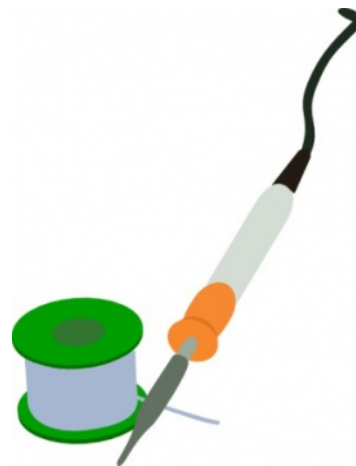
Hello all,

Well it's official folks, hamfest season is upon us. I can sense the excitement and already hear whispers of deals in the making, in the corridors of club meeting halls and other haunts favored by hams. Next weekend will be the CRALL one in Laval. MARC will have a table there and be promoting our own hamfest next month on April 13. Have you reserved your tables yet? If not, better get cracking. Send an email to Jim Hay at [ve2ve@marc.ca](mailto:ve2ve@marc.ca) or myself, at [ve2ofh@ve2ofh.com](mailto:ve2ofh@ve2ofh.com). Jim VE2VE and Vern VE2MBS will unfortunately be unable to make it this year and I'm not sure who's more nervous. Them or I. I think George said it best at our last hamfest organizer when he told Jim that he felt like a kid who's parents are going away and leaving him home alone for the first time.... Anyways I don't know about you, but I've already a number of plans for summer projects and I may be showing up at a few of the local hamfests with a shopping list.

As I write these words, I'm enjoying the first spring evening of 2013. A quick look out my window at all the snow dumped on us over the past couple of days though and you wouldn't know it. But the weather today was beautiful and I was able to

operate mobile with a window open on the way home from work today. It's refreshing to be able to open a window and drive home, while it's still light out don't you think?

Stay tuned to these pages for solder spot announcements as we are gearing up for a follow up project, after Eamon's VE2EGN excellent power pole workshop. We'll be building a DC power distribution bus much like the popular (and expensive) RIGrunner. I've been using a prototype version since last summer and it's been



fantastic in the truck, powering the 3 rigs I have in there as well as the occasional sundry device. My prototype unit consists of individually fused power poll connectors as well as a pair of binding posts, for those times when only alligator clips will do. I used electric winch connectors and heavy gauge wire to make connections to either the vehicle battery, or other 12V DC power sources. If you are interested, drop me an email and I'll add you to the Solder spot reflector list so you can keep abreast of future announcements.

The monthly meeting promises to be a good one. Richard Desaulniers VE2DX will be giving us a presentation on the principles of station automation. So mark the date, March 27, 2013 in your Ipad, Android, crontab, palm pilot or whatever it is you use to automate your appointments a little and plan it. I for one am looking forward to seeing you all there.

73 de Paul, VE2OFH

#### Annual Fees are:

General Members	\$25.00
Associate Members	\$25.00
White cane members	\$15.00
Family members (per family)	\$30.00

The membership year runs from September 1 to August 31. Membership received on or after June 1 commences immediately and extends through the subsequent membership year - covering a period of up to fifteen months.

#### Club Call Sign: VE2ARC

Club Website: <http://www.marc.qc.ca>

Club Email: [ve2arc@rac.ca](mailto:ve2arc@rac.ca)

#### Repeaters

VE2BG 147.06 MHz (+)  
Owned and operated by Montreal Amateur Radio Club.  
Located on the Pointe Claire water tower.

VE2RED 147.27 MHz (+)  
Owned and operated by Montreal Amateur Radio Club.

### From the Desk of VA2UTC

It's hard to believe that in a few months it will be one year since I became the Content Editor for the Marcogram. It's been interesting working on the newsletter and I am enjoying the exercise in creative writing that doing such work affords me. I also have to say thanks to those who have been helping me print the newsletter, Marc-Andre and Sheldon along with Nora have been very easy to work with and I appreciate that very much. Now before you go thinking oh no he is going to leave the post, fear not. I am interested in continuing as the head of the newsletter and if my small gang is up for doing another year then onward we go.

The challenge is content, finding that interesting story to print can be daunting, but not impossible. In fact with little effort I do find good stories to add into each edition. That said I

would really like to see more local content coming in. I invite those reading this to tap into your creative side and share your stories and thoughts on what interests you as you play radio. Amateur radio after all is a science as well as a form of communication. I and the readers of the newsletter would love to hear about your latest adventure on the bands, or the new antenna you designed, or even how you took a once dead radio and brought it back to life. How about sharing some tips for operating SOTA, or RTTY. If it's radio related we'd love to know about it.



Cliff T VA2UTC  
Marcogram Content Editor.

### Low Cost Software Defined Radios

We've been hearing a lot of talk of late about low cost software defined radios (SDR). A number of hams from your local area have been discovering and playing with these inexpensive and fun radio receivers. The price point cannot be beat. A little time and willingness to re-flash the ROM on a USB TV dongle and you are in the game. Software defined transceivers can be quite expensive and yet compared to knob radios, are still a bargain when you compare them feature by feature.

If you want more than just a receiver though, maybe you should check out the BladeRF project an open source, low cost software defined transceiver with a price point of around 400\$. With 40Mhz of bandwidth and a range from 300Mhz to 3.8Ghz this looks like a fun project for the enterprising HAM

who also likes to tinker with computers. Sporting a USB 3.0 interface, bus powered I'd be interested in hearing how this runs with the Raspberry PI. It supports GNURadio and comes with a Linux device driver so you can run it on your favorite open source OS as well. I see no mention of amateur radio on the Kickstarter website. Who will be the first among us to come with new and innovative ways to use this technology? If you are intrigued and SDR curious, check out the Kickstarter website. Maybe this is just what you've been looking for.

<http://www.kickstarter.com/projects/1085541682/bladerf-usb-30-software-defined-radio>

73 de Paul, VE2OFH

### First Aid for the Amateur Radio Operator

Why is it that when it comes to Amateur Radio Operators that are involved in groups like ARES, many others within and outside the community think that we are certified in First Aid? This is a false assumption that can lead to disaster and turn others away from our hobby. ARES and other services like ARES are communication orientated and while they are in some ways intertwined with First Aid, they are in no way certified in First Aid, so many operators opt to take various courses in First Aid to better themselves for various reasons and tasks within the Community. First Aid courses are vast and complex from the Basic Life Support course to Advanced First Aid and Specialty Courses such as Wilderness Survival, etc.... Each of these courses are given by Certified Trainers and from

various organizations such as the Red Cross, St. John's Ambulance, Quebec Secours, etc.... In-fact, some Communities and Government Agencies give courses in First Aid to specific organizations at a nominal cost or free to those who are interested in helping the community during a disaster.

While many Radio operators do opt to take a course in First Aid for various reasons such as helping the community or to advance themselves for ARES. Many others take a course just for the fun of it. A basic course in First Aid can come in handy when a group is participating in an event like SOTA, IOTA,





Field Day, or just hanging out at the shack. However it depends on how interested or involved you are in this aspect of the hobby. Just a basic First Aid kit that can be bought at most pharmacies, supermarkets, sporting stores, etc.... are sufficient for those who want a piece of mind. All in all, during an emergency situation, "One must not panic and think with a clear mind as to the situation and what is the best way to get the most help to those involved in the situation"!

Sheldon, VA2SH

# 220

## 220 NET

I have to admit I have never worked this band, but it is one that we have and promoting the use of the band is never a bad idea. I heard from Gabriel VA2QA who advised me of a net on the 220 band. Here are the details.

There is a bilingual net taking place once a week, on the 220 band. During the net there is no translation of what is being said unless public interest requires it (announcements for instance) Everyone checking in will be answered in her/his language. This net has been going on for a year now and seems to have attracted many "dedicated" operators.

WHEN.....EVERY SUNDAY NIGHT AT 19,00 HOURS

WHERE....224.900 MHZ (NO SUB TONE) ON THE VE2RHH REPEATER LOCATED ON ÉCOLE POLYTECHNIQUE ATOP MOUNT-ROYAL

Gabriel VA2QA

## GMT OR ATOMIC?

Sheldon VA2SH sent me an interesting article which spoke about the possibility that UTC/GMT may go the way of the dino. It appears that the ITU and the BIPM (Bureau of International Weights and Measurements) are debating the question with members. A vote on the topic was taken in January 2012 as part of the international conference the ITU had and it appears that the change was turned down. However the that has not dampened the determination make the change. France supports the change, Briton does not, the key reason for the change or desire for the change is the concern over leap seconds. It is believed that adjusting clocks for leap seconds

Converting from U.T.C. to...	
Eastern Standard Time (EST)	UTC - 5 hours = EST
Central Standard Time (CST)	UTC - 6 hours = CST
Mountain Standard Time (MST)	UTC - 7 hours = MST
Pacific Standard Time (PST)	UTC - 8 hours = PST
When "Daylight Savings Time" is in affect, the conversion becomes...	
Eastern Daylight Time (EDT)	UTC - 4 hours = EDT
Central Daylight Time (CDT)	UTC - 5 hours = CDT
Mountain Daylight Time (MDT)	UTC - 6 hours = MDT
Pacific Daylight Time (PDT)	UTC - 7 hours = PDT
Department of Atmospheric Sciences University of Illinois Urbana-Champaign	

should be abolished and replaced with atomic measurements. The reason behind the idea is to ensure accuracy for GPS and cell phone networks requires that time be accurate to the millisecond. Currently GMT/UTC requires the use of 400 clocks around the world which need to be corrected using leap seconds to account for the rotation of the earth, problem is that the earth's speed fluctuates, which makes this not as easy as it sounds. One would think that the world would be on board for a change to a better way, but not so fast. Briton where the current system comes out of and has been in use since 1884 and France which wants to take over via the BIPM and wanted to have PMT (Paris Mean Time) when all this started in 1884 are on opposite ends of the debate. The two opposing sides and they're supporters are set to go head to head again at a workshop in September of this year. For more info on this story you can visit the ITU site and view details about the workshop.

The link is

<http://www.itu.int/ITU->

[R/index.asp?category=conferences&mlink=itu-bipm-workshop-13&lang=en](http://www.itu.int/ITU-R/index.asp?category=conferences&mlink=itu-bipm-workshop-13&lang=en)

VA2UTC

## KA0XTT REAL CALL FAKE NAME REAL ACTOR CONFUSED? EXPLANATION BELOW

The ABC comedy series Last Man Standing, airs Friday's at 8, features a ham. The character name is Mike Baxter and he is the main character in the show, which is about a man Mike Baxter who is trying to maintain a sense of maleness in a world where woman are more dominant. Tim Allen, formerly the star of Home Improvement is the actor who plays Mike. Mike is the man behind the marketing of a fake sporting goods store. He is an avid outdoors man and of course loves gadgets. Included in the gadget list is ham gear. The folks at ABC got clearance to use KA0XTT on the air. XTT is a bit of an inside

joke. It stands for ex Tim Taylor, the name of Tim's character on Home Improvement.



Now if you are looking to hear this call on the bands, umm forget that. This is strictly for use on the TV show and is not being used on the air. Though it would be interesting to hear Tim on the bands. Maybe we should lobby for that just a one time so hams could work and get the card.

In the meantime check the QRZ page out <http://www.qrz.com/db/KA0XTT>

VA2UTC

## REVIEW OF CANADIAN AMATEUR RADIO EXAM QUESTIONS UNDERWAY

As a result of its response to a Request for Proposals from telecommunications regulator Industry Canada, Radio Amateurs of Canada has been awarded a \$20,000 contract. This to review the questions used for examinations to qualify radio amateurs in that nation.

The actual work began back on January 28th with the final product will be delivered to Industry Canada on April 17th. More than 3000 questions are being reviewed. Of these 965 are in English and in French for the Basic qualification. Another 545 in English and in French for the Advanced qualification.

The objective of the review is to identify questions and answers no longer relevant as well as those requiring modifications to correct grammatical errors or improve clarity. The review should also lead to new questions on aspects of amateur radio that have changed in recent years.

The present work is the first comprehensive review of the Canadian question pool in more than a decade. While some current questions were revised in 2007 many questions date from much earlier. Radio Amateurs du Quebec Inc. is working with Radio Amateurs of Canada on the French language component of this question pool revision and overhaul. (RAC)

Via Amateur Radio Newline

## FRANCE APPROVES USE OF DIGITAL VOICE AND OTHER DIGI MODES

France has finally approved the use of digital modes by its ham radio community. According to word from Digital Radioamateurs of France president F1SHS, the new draft regulation was signed by the Minister on Wednesday, March 6th. Until now French radio amateurs had been banned from using digital modes including D-STAR and the like. F1SHS calls this great news for the French amateur radio community following a lot of work on the part of the organization. (F1SHS, Southgate)

Via Amateur Radio Newline

## 7 Band Semi Vertical Trap Antenna

In May of 1974 I received my amateur radio licence. It took little time for me to construct a dipole antenna on my very large lot so that I could talk to the world. In November of that same year my wife gave birth to twin boys. We now had four sons and my amateur radio career was on hold. Thirty years later I had time for amateur radio but was living on a small lot with restrictions. An article by David Conn in the March / April 2005 issue of The Canadian Amateur reignited my interest in returning to the airwaves using a vertical antenna. After building this antenna I was back on the air but still searching for that elusive antenna that would allow me to work more bands using a simple structure with minimum components.

Several months after building David Conn's antenna a fellow amateur sent me a very interesting article that appeared in the March 1968 issue of Radio Communications entitled "Which Aerial?" <http://www.kevin.earl.btinternet.co.uk/G3RNL-0368.pdf> This article was prepared by the Medway Amateur Receiving and Transmitting Society and details their testing of various wire antennas. Their results indicated that the best all round wire aerial tested for multiband operation was a semi-vertical trap. Their test included 80, 40, 20, 15 and 10m bands.

It became a very low-cost endeavor to construct a semi-vertical trap antenna because most of the aluminum tubing used to construct David Conn's antenna could be reused for this antenna. The semi-vertical trap antenna provided very good results except for 20m. Realizing that my knowledge of antennas was very limited I decided to experiment using nothing but what I thought was good logic. I attached a length of insulated wire representing a  $\frac{1}{4}$  wavelength for 20m to the side of my main antenna using stand-offs and trimmed the wire for the best SWR. This approach worked so well that I added wires for 12 and 17m and obtained the same good results with no interaction on the other bands.

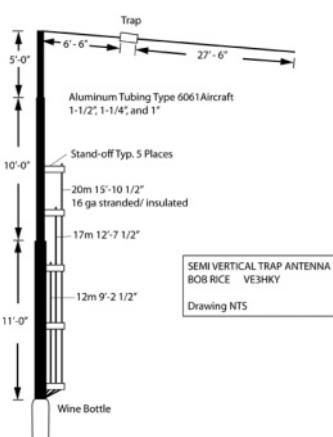
Figure 1 provides dimensional information and material sizes for the antenna. The 6061 aircraft aluminum tubing can be purchased from Metal Supermarkets. The length of each section of aluminum tubing is not critical provided they add up to the total length required. If you wish to only have two sections that should work just as well provided the

overall length is correct. It is important to add approximately 10" to the length of the intermediate and top sections so that they can be nested and fastened to the section below. My intermediate and top section measure 10'-0" and 5'-0" respectively. The cut length of these two sections is 10'-10" and 5'-10" with the additional 10" inserted into the section below to provide stability.



The completed antenna can be seen in Figure 2 fastened to the side of a wooden / plastic deck. If you visit the Medway site you will note that the vertical section of their antenna is listed as 32'-6" high with a 7100 kHz trap mounted at the top followed by 27'-6" of horizontal wire for 80m. I communicated with one of their current members who had built the antenna but reduced the overall height to 26'-0". The remaining 6'-6" of antenna height was obtained by using a solid horizontal wire which then attaches to the 7100 kHz trap. I constructed my antenna in a similar manner stabilizing it with a three point guy system in which the horizontal wire section of the antenna serves as one of the guy supports.

Figure 3 illustrates the base of the antenna which is sitting on an empty/corked wine bottle. A notch was cut into the aluminum tubing where it sits on top of the wine bottle to ensure that any condensation that collects inside the aluminum tubing can drain properly. The top of a 10 foot galvanized ground rod is visible on the left side of this photo to which 6-25' and 6-50' radials are attached. Three of the five stand-offs that support the individual wires for 12, 17 and 20m can also be seen in this photo and will be discussed later. The bottom section of aluminum tubing is encased in a 10 foot length of



central-vacuum PVC duct to provide a measure of protection especially for children standing on the deck. An enlarged view of the antenna base is presented in Figure 4.

The top of the base section of aluminum tubing can be seen in Figure 5 where it is clamped to the bottom of the intermediate section. A friction saw was used to notch the outer tubing after which conductive grease was applied to the connection point. Gear clamps were then used to lock the two sections together. An enlarged view of the stand-off which is made from a 6" length of 3/4" electrical PVC conduit is illustrated in Figure 6. The outer diameter of the central-vacuum PVC duct is approximately 2". A 2" circular saw similar to the ones used for installing lock sets in doors was used to cut the required radius on the end of the PVC conduit so that it could be fastened tight to the side of the antenna. Slots were cut into the PVC conduit to facilitate the installation of a gear clamp. Stainless steel springs and washers available from TSC were used to keep the wires taut.

In Figure 7 a furnace humidifier motor was attached to a 140 pf tuning capacitor that can be rotated continuously. The capacitor was connected between the base of the antenna and the ground rod. Power for the humidifier motor came from my ham shack. I set my transceiver for the center frequency of each band and transmitted a low-power signal while the tuning capacitor was being rotated. When I had achieved the lowest SWR I stopped the motor and went outside to measure the capacitance. There was very little variation in the capacitance required for each of the bands. I compromised using a fixed 25 pf high-voltage capacitor.

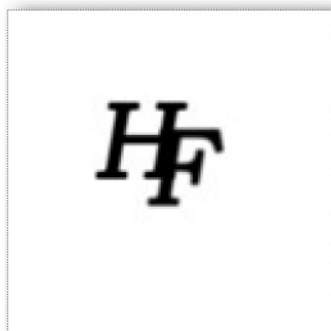
The SWR results shown in Figure 8 have been confirmed using several different meters. My transceiver is a Kenwood TS 850S (100 watt) with built-in tuner. I operate with the tuner disabled because there really is no need to use it. (I continue to be amazed by the excellent signal reports I have received from around the world and will adapt the antenna for 160m in the near future.

The total cost for this antenna using all new parts should be less than \$100. The antenna has experienced several severe ice storms and winds of 90 km without damage.

This article would not have been written without the encouragement and support of David Conn, VE3KL who modeled the antenna using EZNEC.

Bob Rice, VE3HKY

Foot Note: Testing has indicated that the base of the antenna must be at least 12" above ground for ideal results!

**RADIO H.F.****PO Box 67063-Lemoyne****St-Lambert, Quebec****J4R 2T8****tel/fax :450-671-3773****sans frais - toll free in Canada****1-800-463-3773****email : [info@radiohf.ca](mailto:info@radiohf.ca)**

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