

From the Gavel...



Welcome again to another edition of the MARC Newsletter. 2009 is quickly drawing to a close. Halloween has come

and gone with very little in the way of suspicious events and the Christmas season is just around the corner. And before you know it, that flakey, frozen white stuff will be falling from the sky! Hopefully everyone has performed their required antenna maintenance and is prepared for the annual return of Old Man Winter.

November is a particularly important month because of Remembrance Day on the 11th. Over the last century our country has been involved in two World Wars, several smaller conflicts and numerous peacekeeping missions around the globe. Many brave men and women made the ultimate sacrifice. It is the least we can do to take one day out of the year and remember those who died so that Canada could remain the great and free country that it is today. On November 11, I urge you to wear your poppy with pride, stop for just a minute and give thanks to those who served, and those who continue to serve, in our armed forces.

A significant milestone will be coming next year for MARC. 2010 is the 25th anniversary of the coming together of a handful of gentlemen to form the Mississauga Amateur Radio Club. Ed, VA3TPV has agreed to spearhead a committee to celebrate this auspicious occasion. More information will follow in the months ahead about the special events Ed and his committee are planning.

A number of changes have occurred over the last month with respect to the MARC website. Our previous hosting service closed down much to the surprise of those involved in the operation our website (Dave VA3DFH and

Rick VE3IMG). My understanding is the issue came to light after a few people noted that the MARC site was no longer coming up while searching Google, Bing or the like. Further investigation determined that something was amiss with ASP Hosting. The MARC site was still accessible by typing in www.marc.on.ca but we weren't coming up in the search engines. The problem has since been resolved, including the migration of the website itself to a new server and a new host, Syntex hosting. Thanks to Dave and Rick for their hard work in getting things running properly again. I'll also take this opportunity to encourage MARC members to visit the website regularly to see the club calendar and to learn what club events are coming up.

Finally, the MARC membership renewal period is quickly wrapping up. I trust everyone has renewed for the 2009-2010 club year. If you have not, please get your renewal in now. Your continued support helps cover the cost of our meeting space, the operation of our repeaters and other club activities. Plus, as a member of MARC you get access to our MARC Members Yahoo Group which is a treasure trove of information on ham radio, club pictures and a place for you to post questions or other radio-related items that might be of interest to MARC members. Just a reminder: if you don't renew you will lose access to the Yahoo Group.

That's about it for me. Remember to remember on November 11 and see you at the MARC meetings!

73 --- Jeff Stewart VA3WXM

This Month

1. **From the Gavel**
2. **Commentary**
3. **Club Calendar**
4. **The Invisible War**
4. **Amateur Radio Band Plans Part 1**
6. **M3 FPM-1 Frequency/Power Meter Kit**
8. **Where Are You?**
9. **RAC Application Form**

Sunday Brunch

Sunday brunches are held on the first Sunday of each month. Time is 9:30AM at Shopsy's, 6986 Financial Drive Unit 5 Mississauga (at the corner of Mississauga Rd and Derry Rd). All are welcome to come out and have an opportunity to chat in an informal setting.

Club Nets

2 Metre Tuesday Night Phone Net Join in on the chatter starting at 8:30PM every Tuesday on the club repeater. Hosted by various net controllers. 145.430MHz Tone 103.5 Minus (-) offset. Contact our VHF Net Manager, **Lorne (VE3CXT)**, if interested in becoming a net controller.

75 Metre Sunday Night Net Starts at 8:30PM every Sunday. Hosted by various net controllers. Contact our HF Net Manager, **Michael (VE3TKI)**, if interested in becoming a net controller.

Commentary



It is November and activities at the Mississauga Amateur Radio Club (MARC) are in full swing. Jeff Stewart, VA3WXM, our president, in From the Gavel, has given us some

reflections on the previous month and also reminded us of the particular importance of November because of Remembrance Day on November 11th.

In keeping with the November Remembrance of past wars and our current piece keeping missions, the lead article this month is about The Invisible War, The Untold Secret Story of Number One Canadian Special Wireless Group, Royal Canadian Signal Corps, 1944-1946. This book chronicles Canada's Signals Cores contribution to radio communications eavesdropping in the southwest pacific during World War II.

For a review of the Amateur Radio Band Plans, read on to find out where they came from and how they affect all of us Amateur Radio Operators.

For those looking for a versatile piece of test equipment that won't break the bank, see the article on the M3 FPM-1 Frequency Counter/Power Meter Kit. It may be just what you have been looking for.

Lastly, Where Are You? looks at the various locator systems used in Amateur Radio.

The Communicator is one of MARC's methods for communicating information to club members and is your newsletter. Let me know what you would like the newsletter to be and what you would like it to include. I solicit your input on topics for articles i.e. antennas, kits you have built, great operating experiences, operating tips, book reviews, etc. for consideration by the technical committee.

Without your constant support in the form of ideas, suggestions and article submissions, we would not have such a fine newsletter month after month. I look forward to hearing from all you budding or aspiring authors. Your experience is what makes amateur radio what it is. Let's hear from you.

I can be reached at any club meeting or via email at va3tpv@rogers.com (remove spaces).

73, Ed, VA3TPV.

Executive Directors

President	Jeffrey Stewart, VA3WXM
1st Vice President:	Rick Brown, VE3IMG
2nd Vice President:	Ki-Hup Boo, VA3PEN
Treasurer:	Scott Gregory, VA3NMI
Secretary:	Asim Zaidi, VE3XAP
Past President:	Rick Brown, VE3IMG

Club Managers

Membership Manager	Dave Harford, VA3DFH
Education Manager	Earle Laycock, VE3XEL
House / Visitor Host Manager	Murray Yewer, VE3JMY
Newsletter Editor	Edward Spingola, VA3TPV
Net Managers HF Net	Michael Brickell, VE3TKI
VHF Net	Lorne Jackson, VE3CXT
Repeater Manager	David Shilling, VE3XDS
Assistant	Michael Brickell, VE3TKI
Assistant	Sheldon Pimentel, VE3SPJ
Assistant	John Lorenc (Sr), VA3XJL
Trustee	John Duffy, VE3DRZ
Club Station Manager	Rick Brown, VE3IMG
Assistant	Stefan Bejusca, VA3OBR
Assistant	Asim Zaidi, VE3XAP
Field Day Joint Chairman	Lorne Jackson, VE3CXT
Joint Chairman	Thomas Godden, VE3TWG
FSV Manager	David Malar, VA3MLR
Assistant	John Duffy, VE3DRZ
Program Manager	Thomas Bernard, VA3TMB
Assistant	Lorne Jackson, VE3CXT
Webmaster Manager	Dave Harford, VA3DFH
Assistant	Rick Brown, VE3IMG
Legal Consultant	Lorne Jackson, VE3CXT
Public Info/ Media Relations	Tony Champion, VA3QC
Education Basic Course Prime	Earle Laycock, VE3XEL
Advanced Course Prime	Thomas Bernard, VA3TMB

Audit Committee

Auditors Coordinator	Basil Burgess, VE3JEB
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Public Service

ARES Emergency Coordinator	Dan Goodier, VE3NI
Assistant	Thomas Bernard, VA3TMB
Assistant	Michael Brickell, VE3TKI
Assistant	David Malar, VA3MLR
Assistant	Bob Boyer, VE3XBB
Assistant	John Duffy, VE3DRZ

CANWARN Manager	Peter Mosher, VA3PKM
Special Events / Walks Manager	Bob Boyer, VE3XBB

CLUB CALENDAR FOR 2009/2010

November, 2009

01 Sun HF - 75/80 Meter Net
02 Mon Basic Class 7
03 Tue VHF/UHF - 2 Meter Net
05 Thu Exec Meeting
07 Sat ARRL Sweepstakes
08 Sun HF - 75/80 Meter Net
09 Mon Basic Class 8
10 Tue VHF/UHF - 2 Meter Net
13 Thu Club Meeting - Speaker's night
15 Sun HF - 75/80 Meter Net
17 Tue VHF/UHF - 2 Meter Net
19 Thu Radio Night at Club Station
19 Thu ARES Meeting
21 Sat ARRL Sweepstakes
22 Sun HF - 75/80 Meter Net
23 Mon Basic Class 10
24 Tue VHF/UHF - 2 Meter Net
26 Thu Club Meeting - Member's night
27 Fri CQ WW DX Contest
29 Sun HF - 75/80 Meter Net
30 Mon Basic Class 11

December, 2009

01 Tue VHF/UHF - 2 Meter Net
03 Thu Exec Meeting
04 Fri ARRL 160 Meter Contest
06 Sun HF - 75/80 Meter Net
07 Mon Basic Class 12
08 Tue VHF/UHF - 2 Meter Net
10 Thu Club Meeting - Potluck dinner
11 Fri ARRL 10 Meter Contest
13 Sun HF - 75/80 Meter Net
14 Mon Basic IC Examinations
15 Tue VHF/UHF - 2 Meter Net
17 Thu Radio Night at Club Station
17 Thu ARES Meeting
18 RAC Canada Winter Contest
20 Sun HF - 75/80 Meter Net
24 Thu Christmas - NO club meeting
27 Sun HF - 75/80 Meter Net
29 Tue VHF/UHF - 2 Meter Net

January, 2010

05 Tue VHF/UHF - 2 Meter Net
07 Thu Exec Meeting
12 Tue VHF/UHF - 2 Meter Net
14 Thu Club Meeting - Speaker's night
19 Tue VHF/UHF - 2 Meter Net
21 Thu ARES Meeting
26 Tue VHF/UHF - 2 Meter Net
28 Thu Club Meeting - Speaker's night

February, 2010

02 Tue VHF/UHF - 2 Meter Net
04 Thu Exec Meeting
09 Tue VHF/UHF - 2 Meter Net
11 Thu Club Meeting - Speaker's night
16 Tue VHF/UHF - 2 Meter Net
18 Thu ARES Meeting
23 Tue VHF/UHF - 2 Meter Net
25 Thu Club Meeting - Speaker's night

March, 2010

02 Tue VHF/UHF - 2 Meter Net
04 Thu Exec Meeting
09 Tue VHF/UHF - 2 Meter Net
11 Thu Club Meeting - Speaker's night
16 Tue VHF/UHF - 2 Meter Net
18 Thu ARES Meeting
23 Tue VHF/UHF - 2 Meter Net
25 Thu Club Meeting - Speaker's night
30 Tue VHF/UHF - 2 Meter Net

April, 2010

01 Thu Exec Meeting
06 Tue VHF/UHF - 2 Meter Net
08 Thu Club Meeting - Speaker's night
13 Tue VHF/UHF - 2 Meter Net
15 Thu ARES Meeting
20 Tue VHF/UHF - 2 Meter Net
22 Thu Club Meeting - Speaker's night
27 Tue VHF/UHF - 2 Meter Net

May, 2010

04 Tue VHF/UHF - 2 Meter Net
06 Thu Exec Meeting
11 Tue VHF/UHF - 2 Meter Net
13 Thu Club Meeting - Speaker's night
18 Tue VHF/UHF - 2 Meter Net
20 Thu ARES Meeting
25 Tue VHF/UHF - 2 Meter Net
27 Thu Club Meeting - Speaker's night

June, 2010

01 Tue VHF/UHF - 2 Meter Net
03 Thu Exec Meeting
08 Tue VHF/UHF - 2 Meter Net
10 Thu Club Meeting - Speaker's night
15 Tue VHF/UHF - 2 Meter Net
17 Thu ARES Meeting
22 Tue VHF/UHF - 2 Meter Net
24 Thu Club Meeting - Speaker's night
26 Sat ARRL Field Day Contest
27 Sun HF - 75/80 Meter Net
29 Tue VHF/UHF - 2 Meter Net

NOTES

1. Meetings start 7:30PM at St. Thomas A Becket Church Hall, 3535 South Common Court unless otherwise noted.
2. Brunch is at 9:30AM unless otherwise noted.
3. Classes are from 7:00PM - 9:00PM at Meals On Wheels at 2445 Dunwin Drive

Visit our website: <http://www.marc.on.ca> for any updates of the calendar.

The Invisible War

By Ed Spingola, VA3TPV

The Invisible War: The Untold Secret Story of Number One Canadian Special Wireless Group, Royal Canadian Signal Corps, 1944-1946, by Gil Murray, Dundurn Press, 2001. ISBN 1-55002-371-3.

Gil Murray's journalistic career included ten years at the Toronto Daily Star, eight years at CFRB Radio in Toronto, and twenty years as Information Officer and Director of Public Information at McMaster University. Gil Murray's memoir of Number One Canadian Special Wireless Group of the Royal Canadian Signal Corps (1CSWG) describes the career of the only complete Canadian signals unit sent to the war in the Southwest Pacific. The Invisible War describes the significant part 1CSWG played in the Allied signals intelligence operation known as "Magic".

The true story told in this book is neither one of daring Second World War valour nor of gory hand-to-hand combat. What is described is how a group of young Canadians fought secretly and helped win the war in the Pacific on the invisible battlefield: the airwaves that carried the vital communications of the Imperial Japanese Navy and Army. The 1CSWG's task was close-in radio eavesdropping on Japanese communications.

Amateur Radio Band Plans Part 1

By Ed Spingola, VA3TPV

Background

The Canadian Radio Communications Act governs the use of the radio frequency spectrum in Canada. The Act contains generalized rules with respect to the operation and licensing of stations and certification of operators, etc. RBR-4e, Standards for the Operation of Radio Stations in the Amateur Radio Service is the Industry Canada document affecting Amateur Radio Operators.

Canada is a member of the International Telecommunications Union (ITU), an international body which ensures equitable access to the radio frequency spectrum for all member countries. The ITU Radio Regulations govern the international use of the radio spectrum through the agreements of the ITU member countries. As a member country, Canadian legislation and policy and procedures are developed to ensure conformity with the provisions of the ITU Radio Regulations.

The book follows the life of Gil Murray from his teenage years in St. Catharines, Ontario, working at a local radio station through his volunteering for the Canadian Army, his posting to Darwin, Australia, and the return home through Vancouver, BC. Most of the book deals with the daily happenings and life in the 1CSWG and his recollections of life in Canada's only complete Canadian signals unit sent to the war in the Pacific. This book provides a truly unique and personal account. The unit's career was an adventurous one and the trip to Darwin and back provides the bulk of the story. The role of 1CSWG was the radio interception and decoding of Japanese radio communications. This book does not tell explicit details of Japanese communications received and decoded. Nor are there many details of the 1CSWG radio operations. Nevertheless the book is interesting reading with the topic of radio communications on the periphery.

While the Canadian military strength was necessarily focused on the war in Europe, the 336 officers and Other ranks of Number One Canadian Special Wireless Group represented Canada's principle contribution to the war against an enemy that once threatened to invade the west coast of Canada. The Invisible War is the story of their part in the unseen and unsung "War of the Airwaves" over the Pacific as told by a member of 1CSWG.

The origins of the International Telecommunications Union (ITU) trace back to the invention of the telegraph in the 19th century. To establish an international telegraph network, it was necessary to reach agreements on uniform message handling and technical capability. In 1865, several European countries met in Paris to discuss rules for the exchange of messages over the fast growing telegraph networks at the first International Telegraph Conference. By the 1906 conference in Berlin, the organization had grown to include radiotelegraphy. The Berlin conference focused on how to divide the radio spectrum by specific uses to minimize interference. In 1927, the Washington Radio Conference of 27 maritime nations was the beginning of international regulation of Amateur Radio. At that conference, the Table of Frequency Allocation was first devised, and six harmonically related bands from 1.715 MHz to 60 MHz were allocated to Amateurs. In 1932, at the Madrid Conference, this organization became known as the International Telecommunications Union (ITU).

The ITU periodically holds conferences to discuss updating the rules and regulation to reflect changes in technology and new spectrum uses. Each member country has one vote.

The International Amateur Radio Union (IARU) is an observer organization at the ITU conferences. The IARU is an international federation of 146 amateur radio member societies, of which the Radio Amateurs of Canada (RAC) represents Canadian amateurs.

Band Plans

The IARU is responsible for band plan recommendations throughout their member countries. Band plans are an attempt to present a voluntary, gentlemen's agreement for the guidance of amateurs without which chaos on the bands would prevail. The band plans specify specific uses within each Amateur Radio allocated band.

In Canada, the Industry Canada document RBR-4e, Standards for the Operation of Radio Stations in the Amateur Radio Service outlines the amateur radio authorized frequency bands and the maximum modulation bandwidths. The RBR-4e does not define specific sub-band usage or modes of operation within any band. Therefore RBR-4e is not to be confused with a band plan.

It is noted that Canada lies within IARU Region 2. The information on the IARU Region 2 Band Plans may be found at

<http://www.iaru-r2.org/band-plan/>

There are also links on this IARU web page to the Region 1 and Region 3 Band Plans. Persons contemplating operating in these regions should familiarize themselves with the specifics of these band plans.

The IARU states the following on their web site. "The IARU Region 2 has established this band plan as the way to better organize the use of our bands efficiently. To the extent possible, this band plan is harmonized with those of the other regions. It is suggested that Member Societies, in our case the Radio Amateurs of Canada (RAC), in coordination with the authorities (Industry Canada), incorporate the Band Plan in their regulations and promote it widely with their radio amateur radio communities."

RAC MF-HF Band Plans

The latest revision of the Radio Amateurs of Canada (RAC) MF-HF Band Plan was approved on July 22, 2008. The RAC MF-HF Band Plan may be found at

<http://www.rac.ca/en/rac/services/bandplans/hf/>

As stated previously, the Band Plan is a voluntary, gentleman's agreement, intended for the guidance of and observation by Canadian Radio Amateurs. Without these guidelines for usage chaos on the bands would set in. The main mode of enforcement is peer pressure.

Industry Canada as a government department regulates the amateur radio spectrum. They regulate the frequencies and the bandwidth, but not the modes of operation within the amateur spectrum. A Band Plan (even though it is voluntary) is necessary for the guidance of the users.

The Canadian (RAC) MF-HF Band Plan was formulated by a committee of Radio Amateurs representative of a cross section of each geographical district. After a consensus was reached by the committee, the MF-HF Band Plan was submitted to the Board of Directors of Radio Amateurs of Canada for approval.

The RAC MF-HF Band Plan reflects the interests of Canadian Radio Amateurs, while taking into account the regional and international concerns of the International Amateur Radio Union. The plan addresses the needs of Canadian Radio Amateurs for a workable MF-HF Band Plan.

The Contest Club Ontario (CCO) has on their website a colour chart of the Canadian HF Band Plans.

http://cco.ve3xd.com/rac_band_plan.htm

US Amateur Band Plans

The US Amateur Band Plans are a bit more complicated than those for Canada. This is mainly because of the many classes of Amateur Radio license which restrict their frequency and mode of operation. For example, the US Amateurs do not have phone privileges below 7125 KHz.

A chart of the US Amateur Band Plans may be found on the ARRL web site at

<http://www.arrl.org/FandES/field/regulations/bands.html>

The latest updated US band plans became effective on February 23, 2007, coinciding with a revision to the US Amateur license classes.

Other Band Plans

Band Plans for the VHF/UHF and microwave bands may be found on the RAC web site at

<http://www.rac.ca/en/rac/services/bandplans/hf/>

Specific Band Usage

Throughout the Amateur radio spectrum there are specific examples of frequency usage by special interest groups. An example of this are the specific frequencies used for CW, PSK, RTTY, SSTV, EME, and other modes as well as specific contests. The best source of information for these special modes is the Internet.

M³ FPM-1 Frequency Counter /Power Meter Kit

By Ed Spingola, VA3TPV

As an avid experimenter and electronics enthusiast, I am constantly on a voyage of discovery for test equipment that will make my experimentations easier. When I saw



the review of the M³ FPM-1 Frequency Counter/Power Meter Kit, in the December, 2007 issue of QST, I knew that I wanted one. What caught my attention was the following: the FPM-1 is a portable combination unit measuring frequency into the GHz region and power in dBm in a single package.

Building the FPM-1

I had ordered the M3 Frequency Counter /Power Meter Kit in early 2008 and it arrived in a small brown cardboard shipping box shortly thereafter. However, I did not

Part 2 of this article will discuss the Band Plan Operating Procedures.

For further reading see the notes.

Notes:

- 1) IARU Region 2 Band Plan <http://www.iaru-r2.org/band-plan/>
- 2) RAC Band Plan <http://www.rac.ca/en/rac/services/bandplans/hf/>
- 3) RAC Band Plan chart http://cco.ve3xd.com/rac_band_plan.htm
- 4) US Band Plan <http://www.arrl.org/FandES/field/regulations/bands.html>
- 5) UK Band Plan <http://www.qsl.net/g3yrc/Bandplans/UK%20HF.htm>
- 6) The RAC Operating Manual
- 7) The ARRL operating Manual

get around to building the kit until December 2008. The kit comes with a very well written manual. As manuals for kit go, there was the usual list of parts and step by step instructions. After assessing the inventory of parts and assuring myself that all parts were present, I began building the kit. The first task was to read thoroughly the assembly instructions. I am a firm believer in reading instructions first since in the long run it may save time and frustration. It is a less exciting approach than guess as you go.

The kit contains two printed circuit boards. The larger one is the main board with the microprocessor. The microprocessor is in a DIP socket. The smaller board contains the LCD display. All surface mount components were factory installed. That was good news since I had neither the tools nor the experience of working with surface mount components.

The building of the kit was straight forward. I followed the instructions including the enclosed errata sheet. Since some of the resistors are small and the colours sometimes difficult to read, I measured the resistance of each resistor before assembly to verify their value. The only difficulty I had was with the tight fit of the shield around the input connector for the power measurement function.

The smaller board, the LCD board, sits on top of the main board. Follow the assembly instructions or you may have difficulty with the alignment of the push button switches which protrude through the front panel.

After the initial assembly, the smoke test is made with the application of power from a 9 volt battery or a 12 volt wall wart.

Calibrating the FPM-1

The one problem for home kit builders is the calibration of the test equipment that they build. M³ has solved this with the availability of their optional RF Calibrator. The RF calibrator is not a kit but comes factory assembled, tested and calibrated. The RF Calibrator is used to set the internal clock of the frequency meter and the reference level of the power meter. The manual has a detailed procedure for calibrating the counter and power meter which is easy to follow. The RF Calibrator provides frequency references of both 10 MHz and 20 MHz sine waves at 0, -10, -20, and -30 dBm power levels selectable from front panel switches.



The RF calibrator is not a kit but comes factory assembled, tested and calibrated. The RF Calibrator is used to set the

Specifications

FPM-1

Power requirements: 9-15 V dc, 200 mA.

Counter sensitivity: 2 Hz to 50 MHz, 20 mV, 50-70 MHz, 30 mV, 70-100 MHz, 40 mV, 100-1300 MHz, 50 mV.

Frequency accuracy: 3 ppm (first year crystal aging rate)

Power meter input range: -72 dBm to +16 dBm.

Power level accuracy: +/- 1 dBm typical dependent on calibration accuracy, to 500 MHz

RF Calibrator

Power requirements: 8-15 V dc, 40 mA.

Frequency accuracy: +/- 1 ppm

Output level accuracy: +/- 0.1 dBm

Using the FPM-1

The finished FPM-1 is packaged in a small size (height, width, depth) 4 x 6.125 x 1.5 inches case weighing 13 ounces. A two line back lit LCD with adjustable contrast shows various measurement values and settings. The LCD also displays the various control menus that are set via the row of pushbuttons on the front panel.

What can the FPM-1 do? The frequency counter section covers 2 Hz to 1.3 GHz via the two frequency counter input ports. Input channel 1 is a high impedance and covers 2 Hz to 100 MHz. Input channel 2 is a 50 ohm input for 50 MHz to 1.3 GHz.

The counter can store frequencies and make offset measurements of stored values. This offset measurement can be used to determine the drift of an oscillator over time.

The power measurement section of the FPM-1 is used for power measurements from 1 to 500 MHz over the range of -72 dBm to +16 dBm. The FPM-1 has built-in frequency compensation for power measurements. Up to ten different frequencies can be stored. The power measurement section also allows the correction of any external attenuator which may be required for power measurements. This external attenuator value is then added to any power measurement.

One use I have found for the FPM-1 is the measurement of coaxial cable loss. An MFJ-259 or other RF generator can be used as a signal source. The FPM-1 is used to measure the coaxial cable attenuation. This is a useful method to check out the quality of those fleamarket cables you may have purchased.

Again using MFJ-259 as a signal source, the FPM-1 can also be used for a quick check of filter response at RF frequencies. This is a easy way to check those bargain fleamarket low pass or band pass filters.

In summary

The FPM-1 is a portable versatile measurement instrument which you will find useful on your work bench or in the field.

Customer Support

Customer support for M³ Electronix is just a telephone call or an email away. I had the experience of contacting M³ Electronix and the support was prompt and exceptional.

Further Information

Information on M3 Electronix products and ordering information may be found on their web site give in the notes to this article.

Notes:

- 1) M³ Frequency Counter/Power Meter Kit, QST December, 2007.
- 2) M³ Electronix web site: <http://www.m3electronix.com/>

Where Are You?

By Ed Spingola, VA3TPV

The Q-signal QTH means My Location is.... or What is your location?

How you answer this question depends upon the particular circumstance at that moment. Are you in a casual conversation or a contest? What band are you on?

There are several different systems used in Amateur Radio to satisfy a response to Where are you? These are as follows:

- 1.) Simple location
- 2.) IARU Zone
- 3.) CQ Zone
- 4.) Grid Square (Maidenhead Coordinates)

Simple Location

If you are in a casual conversation, the appropriate response to QTH? may be your town, province, and country. Otherwise, the appropriate answer deserves a more careful consideration.

CQ DX Zones

There are 40 CQ DX Zones. According to Dave Goodwin, VE3ZP, "CQ Magazine sponsors an award called 'Worked All Zones' or WAZ. In the 1930's, a group of American DXers felt that earning DXCC was not a sufficient measure of one's ability to work stations all over the world. After all, one could find those 100 countries on no more than three continents. They came up with an idea for a more challenging award. They drew a map carving the world up into 40 zones of roughly equal size. Their award, WAZ, required a contact with each zone. This system of zones has been adopted by many DXers as an alternative and supplement to DXCC. They are also used in several contests, the most notable of which are the CQ WW DX contests every October and November."11. The 40 CQ Zones are different from the 90 ITU Zones, and should not be confused.

The CQ Magazine web site has a CQ DX Zone Map at <http://www.cq-amateur-radio.com/wazmap.html>

ITU Zones

The ITU zones are used in some amateur radio contests. There are 90 ITU Zones. There is no explanation or definition of the ITU Zones on the International Telecommunications Union (ITU) web site other than the ITU Zone Map. The ITU divided the land surfaces into 75 zones for broadcasting area planning. 15 additional zones covering the worlds ocean areas were added when the map was adopted for amateur radio use.

The International Amateur Radio Union (IARU) web site has an ITU Zone map at

<http://www.iaru.org/ituzonesc.gif>

Grid Squares

The third method to define where you are is by your grid square. The grid squares are usually exchanged by amateurs operating above 50 MHz and for application for the VUCC award, the VHF/UHF equivalent of the DXCC. The grid squares are based upon the "Maidenhead" system. The grid locator is made up of two letters followed by two numbers followed by two letters as in FN03dn. The FN indicates a 20 degree by 10 degree area of the earth's surface. The 03 represents a further subdivision into a 2 degree by 1 degree square. The dn defines a 5 minute by 2.5 minute sub-square. The RAC operating Manual has series of tables for determining your grid square location based upon your latitude and longitude. Some GPS units may also display your Maidenhead Coordinates.

A QTH in Mississauga is located in CQ Zone 4, ITU Zone 4, and grid square FN03.

See the following ARRL link for more information and a link to an online grid square calculator and also a downloadable program for your PC.

<http://www.arrl.org/locate/gridinfo.html>

Notes

- 1.) RAC Operating Manual, 2nd Edition, page A-85.

RAC MEMBERSHIP APPLICATION/TCA SUBSCRIPTION OPTIONS

For two- or three-year memberships or renewals please contact the RAC Office given at bottom of this page.

Please enter applicable choice(s)

Please indicate New or Renewal:	
1 year RAC membership; (includes \$45.00 subscription for TCA) @\$50.00 plus GST or HST as applicable Total \$52.50 in BC, AB, SK, MB, ON, QC, PE, NT, NU Total \$56.50 in NL, NS, NB	
1 year RAC membership only; for a blind person <u>NO MAGAZINE</u> @\$20.00 plus GST or HST as applicable Total \$21.00 in BC, AB, SK, MB, ON, QC, PE, NT, NU Total \$22.60 in NL, NS, NB	
Family membership; price per extra family member @ \$20.00 plus GST or HST as applicable per year (one TCA per family) (Does not apply to simple subscriptions.) Total \$21.00 in BC, AB, SK, MB, ON, QC, PE, NT, NU Total \$22.60 in NL, NS, NB	

CONTACT INFORMATION

Name:	Call sign:
Address:	City/Town:
Province:	Postal Code:
Family Member Name	Family Member Call sign:
If you enter something on line above, a charge of \$20.00 (plus taxes) will be added to your membership	
Family Member Name	Family Member Call sign:
If you enter something on line above, a charge of \$20.00 (plus taxes) will be added to your membership	
Email:	Telephone #:

DONATION OPTIONS

Donation to the RAC Foundation enclosed	\$
Donation to the Defence of Amateur Radio Fund enclosed	\$
Donation to the Youth Education Programme enclosed	\$
Donation to the Amateur Radio Emergency Service (ARES) Programme enclosed	\$
Grand Total:	\$

PAYMENT OPTIONS (Cheque or)

Visa/MasterCard No:	Card Expiry Date (MM/YY):
Security code on back of card (CVV2):	
Name of person credit card is issued to:	



Mail to:

Radio Amateurs of Canada Inc.
 720 Belfast Road, Suite 217
 Ottawa, ON K1G 0Z5
 Telephone #: 614-244-4367 or
 877-273-8304, Fax: 613-244-4369
 Email: rachq@rac.ca