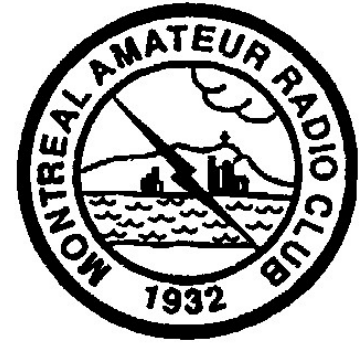


marcOgram

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Volume 66, Number 5

February 2020

NEXT MEETING

Tuesday 25 February 2020

Ragchew and Fleamarket: 19:30
Club meeting: 20:00

St. Ignatius of Loyola Parish Church

4455 West Broadway (corner of Terrebonne) in N.D.G. - Montreal

**** Leo VE2SI, Amateur Radio Tower Safety ****

Video presentation by Jim Idelson K1IR at NEARfest October 2019
accompanied by a display of hardware.

FROM THE EDITOR'S DESK

We're finally into the twilight of winter; the time when we can start planning for warmer times. However, never trust March; in 1971 a March blizzard put Montreal down for three solid days. Snowmobiles, skis and snowshoes on Sherbrooke Street, and lots of friendly hitch-hiking to get home.

Speaking of **GREEN**, St. Patrick's Day is upcoming.

MARC is still looking for an appropriate space in which to hold our hamfest in April. Anyone with ideas please contact Jim, VE2VE.

MARCOgram can always use more material. Somebody out there must surely have something about which to write an article, and photographs / diagrams are always appreciated.

73 de Nora, VA2NH

- . . . -

Call for Volunteers!

st. patrick's day parade

The 197th St. Patrick's Day Parade will be taking place on 22 Mar 2020, and I am looking for amateurs to assist with certain communications. I will need three persons to walk with the parade to provide position information. I will be contacting people shortly to assist me at parade headquarters. If you are interested, please remember that the parade will be held regardless of the weather, so you'll have to dress appropriately. Please contact me if you would like to help.

73 de Jim, VE2VE



The opinions expressed herein are, unless otherwise stated, solely those of the authors concerned, and not those of the Club, the Directors or members and do not represent the policy of the Club.

The repeaters are open to all amateurs.

Meetings of the Board of Directors are open to any member to attend. Board meetings are held on the first Tuesday of the month (Aug to June) at 19:30 in the Wardens' Room, St. Ignatius of Loyola Parish, 4455 West Broadway. Should you wish to attend one of the meetings you are welcome; just speak to one of the directors before-hand to make certain that the meeting has neither been cancelled, nor the location changed.

Participation is open to everyone and MARC membership is not a requirement. .



UPCOMING FLEAS/EVENTS

2020

What: VE3CJ Memorial Spring Fleamarket

Who: Burlington Amateur Radio Club

When: Saturday, 29 Feb, 2020

Where: Burlington ON

What: Ham-Ex 2020

Who: Peel and Mississauga AR Clubs

When: Saturday, 28 Mar 2020

Where: Brampton/Caledon, ON

What: Iroquois ARC Fleamarket

Who: Iroquois Amateur Radio Club

When: Saturday, 4 Apr 2020

Where: Iroquois ON

What: 44th Annual Durham Hamfest

Who: North Shore ARC & South Pickering ARC

When: Saturday, 25 Apr 2020

Where: Pickering, ON

What: NEAR-Fest XXVII

Who: New England Amateur Festival, Inc.

When: Fri & Sat, 1 & 2 May, 2020

Where: Deerfield Fairgrounds
Deerfield, NH

What: 36th Annual Smiths Falls Flea Market

Who: Rideau Lakes AR Club

When: Saturday, 9 May, 2020

Where: Smiths Falls, ON

What: Dayton Hamvention

Who: Dayton Amateur Radio Association

When: May 15, 16, 17, 2020

Where: Greene County Fairgrounds,
Xenia, OH

FOR SALE:

From the Estate of Pierre Lafortune, VE2ANH SK

Kenwood TS-820s transceiver.

With manual. In quite good condition as Pierre was very meticulous. Contact Jim, VE2VE.



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TEST EQUIPMENT: THE BASICS AND BEYOND

By Leo Nikkinen, VE2SI

leo49@videotron.ca

Part 1: Introduction.

Those of you who have heard me speak at MARC meetings might be aware that measurements and test equipment hold a certain fascination for me. My interest in test equipment developed when I had to repair and tune up the used and surplus radios that were part of many new ham's station. If something wasn't working and the drugstore tube tester didn't

(Continued on page 4)

(Continued from page 3)

reveal a dead vacuum tube, it was necessary to dig deeper. Fortunately, I had a friend who were able to lend me an oscilloscope for some of the more involved troubleshooting. I also rapidly became interested in building and eventually designing my own electronic equipment. The conversion of any free horizontal space into test equipment shelf space followed quickly.

Putting accurate numbers to a quantity or characterizing it in measurable and reproducible terms is a way to increase our understanding something. Handwaving arguments and vague statements often disappear when a number appears and simply defining what a number means reduces ambiguity. This can, and does involve, some math but we should be able to stay away from that for the most part.

This introduction is the first article in a series that will acquaint the reader with the range of measurements that they might wish to make and the test equipment that's available to perform those measurements. The objective of this series will be to introduce basic test equipment that would be useful for operating and maintaining an amateur radio station and proceed to more advanced equipment needed by those who wish to design, develop and build their own electronic circuitry.

The term measurement includes not only the characterization of some circuit or component parameter, such as a voltage or a coil's inductance, but also measurements that allow us to visualize the operation of circuitry by, say, an oscilloscope or network analyzer. The term test equipment extends to signal generators, power supplies and the vast array of equipment that's helpful when developing or trouble shooting electronic circuitry. Those who wish to fully appreciate the range of equipment involved can try to locate and browse through a Hewlett-Packard (hp) test and measurement catalogue from the 1980s (hp became Agilent, which is

now known as Keysight).

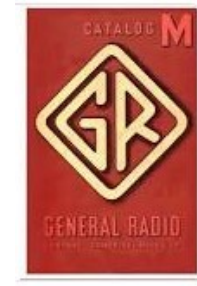
Advances in electronics have helped make available older used test equipment that was originally prohibitively expensive for personal use. As newer test equipment came along, the old equipment was sold and appeared in amateur radio fleamarkets and, more recently, on eBay. A \$2500 (1980s price) Tektronix oscilloscope can still work well and be found for around \$125, or less, at a fleamarket. While test equipment from the larger and better-known manufacturers, such as hp / Agilent / Keysight, Tektronix, Fluke, etc., will meet stringent specifications, equivalent functionality is often available at a much lower price in imported products.

With care, it is possible to purchase new test equipment at a reasonable price and obtain some of the benefits of modern electronics, such as remote control and/or readout via USB, Wi-Fi and network connections, battery operation and portability. Newer microprocessor-based equipment often provides greater functionality in a single package. A modern oscilloscope not only displays a waveform but, having converted the waveform into numbers, it can calculate RMS values and perform distortion and other measurements. In the end, the application, budget and availability all affect the final purchase decision.

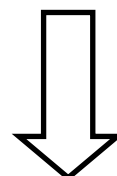
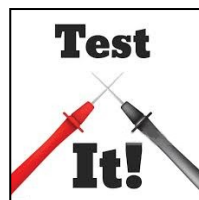
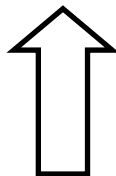
The photos below show some of the test equipment gathered over many decades of hamfests.

If you have a specific subject you want covered, please email me.





Measure and
generate.



More equipment - you cannot
have too much.



NATIONAL RADIO CENTRE, BLETCHLEY PARK



The RSGB National Radio Centre at Bletchley Park welcomed more than 300 visitors over the weekend when the call GB19YOTA was being used for YOTA month. It was good to see young radio enthusiasts at the microphone. QSOs were made mainly on 20m and 40m SSB, 40m FT8 and D-Star, along with a few satellite QSOs. It was pleasing to see young enthusiasts who had attended some of the Introduction and Building events coming into the NRC and being able to pass greetings messages on the air.

Ally, M0WSE from the Youth Team introduced Damian (who attended the Introduction to Amateur Radio Workshop) to HF. He went on to pass a greetings message to a special event station on the USS Medway and was very impressed. His father is licensed in Poland and Damian is planning on taking his UK Foundation licence.

During the month, the NRC welcomed Lloyd Westerman, K2JYX, visiting from New York state. Lloyd enjoyed operating the station GB3RS with the Flex-6500, Gemini linear amp and SteppIR beam on both 20m and 40m, making SSB QSOs across Europe.

The NRC volunteers recently welcomed 13-year-old Alfie, 2E0FFV, along with his family. Alfie took his Foundation exam at the beginning of this year and followed it up with his Intermediate. He normally uses a Baofeng handheld to work through local repeaters. He hadn't worked on HF before, so was delighted to have the opportunity to try out the 40m band. Keith, one of the NRC volunteers supervised him whilst he took control of the FT-5000 running 200W,

operating the NRC station GB3RS. The family were delighted to see how quickly Alfie took to operating on HF; first working F8DHE and then GM8FOQ. He was thrilled to have such a fantastic time and his mum videoed him throughout whilst working the HF stations.

During a visit to Bletchley Park with his extended family, 98-year-old Rudi Shoberl, who was an officer in the Luftwaffe in German signals and intelligence during WW2, visited the National Radio Centre. He picked up a Morse key and, after not touching one since 1941, he started sending good Morse code on a straight key (although his hands were a bit stiff). He did not like the iambic paddle key. A wonderful visit in the NRC with a very nice gentleman.

Courtesy of:
Radio Society of Great Britain
RadCom Feb 2020, Vol. 96, No. 2, p. 6



Rudi Shoberl, during WW2 (above) and visiting the NRC (left)



GB3RS, the RSGB amateur radio station at Bletchley Park, Milton Keynes, Buckinghamshire, UK.

