



this Feedline issue. Henry,VA3OV, is our Field Day Coordinator. Sign-up sheets will be at the monthly meeting for Band Captains and other needed positions. Field Day is June 22-23.

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### 2019-2020 Executive Positions

President: (required)  
Vice President: (required)  
Secretary: April Lewis  
Treasurer: Clayton Mattatall

**Non Voting Positions:**  
Public Relations: John Eagle  
Repeater Chair: John Lorenc  
Feedline Editor: Denis Cahill

### General Meeting May 9, 2019 Meridian Community Centre, Fonthill

The meeting was called to order by the President Steve,VA3FLF at 7:07pm. There was a moment of silence in remembrance of Nick Sawchuck,VE3DID, and Bob Mitchell VE3BYA. There was a round of self-introductions of those in attendance (about 32).

The Meeting began with a very informative Presentation by Dana Shtun,VE3DSS on his specialty: "Six Metres and Down".

Steve VA3FLF: A reminder of next month's AGM. There will be no guest speaker. We have business only including all Committee Reports, Election of Directors and Officers, Field Day Report followed by a Pizza Dinner.

The 50/50 draw of \$21 was won by Rick,VA3WU

Nominating Committee: John VA3WM: We have as follows:

- Treasurer: Clayton VE3AUO
- Public Relations: John VE3HWE
- Repeater Committee: John VA3WM
- Bulletin Editor: Denis VE3ONO
- Secretary: April VE3BHG
- Vice President open
- President open

\*Moved by Dennis VE3XC / Seconded by Geddie VE3CJX: That the minutes of the last General Meeting be accepted as printed in the Bulletin. Carried.

Treasurers Report: Clayton VE3AUO: Bank balance less outstanding bills was disclosed to the members present

\*Moved by David VE3RNF / Seconded by Henry VA3OV: That the Treasurer’s Report be accepted as presented. Carried.

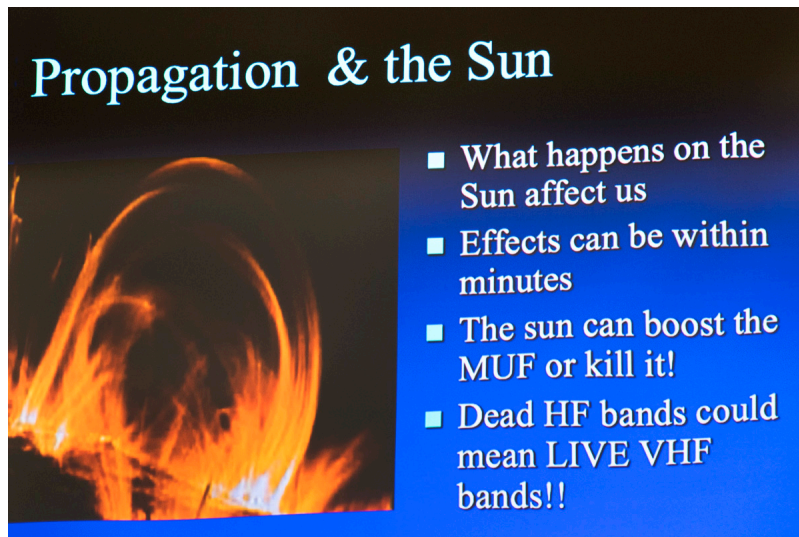
Repeater Committee Report: John VA3WM gave a detailed report of the state of our present repeaters, and the costs and benefits of the Yaesu Fusion DR2X as a replacement. There was a lengthy discussion of the need for replacing one or both repeaters and the features of the DR2X repeater. The discussion eventually became what was known as the “One Repeater Option”: set up a DR2X at Crossley as a UHF repeater or the “Two Repeater Option”: Set up a DR2X as a UHF repeater as in the first option and purchase a second DR2X to be kept as a spare in the event of a failure of either of the GE Master II repeaters.

\*Moved by Lloyd VE3ERQ / Seconded by Glen VE3NDW: To proceed with the “One Repeater” option. This motion was defeated.

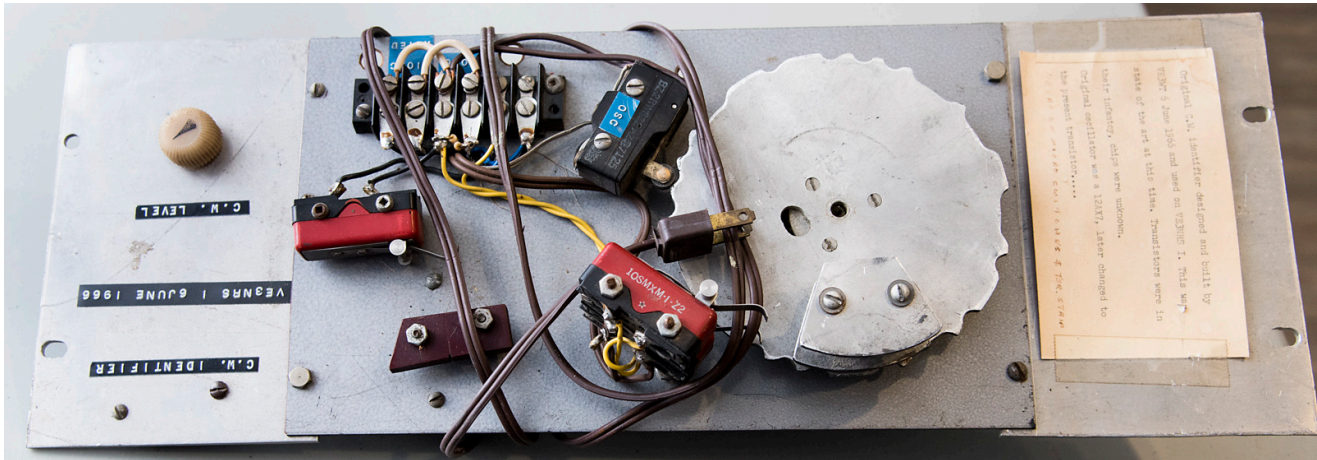
\*Moved by Roy VE3OQP / Seconded by David VE3DVK To proceed with the “Two Repeater” option. This motion was carried

\*Moved by Geddie VE3CJX / Seconded by John VE3HWE: To adjourn. Carried.

**MAY MEETING - Speaker - Dana Shtun - VE3DS - RAC Magazine columnist**



## VE3NRS History



The original CW identifier designed and built by (Howard Cowling) VE3WT, June 6, 1966 and used on the VE3NRS repeater. This was state of the art at this time. Transistors were in their infancy, chips were unknown. Original oscillator was a 12AX7, later changed to the present transistor....

( source - label taped to identifier )

## New Yaesu Repeaters Purchase Passed

Repeater Chair John Lorenc provided a PowerPoint presentation to the members attending the May meeting. In total he used nine slides to give background and outline options to replace our aging repeaters. Space won't permit publishing all the slides. Highlights follow.

- Do nothing and drive the existing infrastructure into the ground
  - Reactive response would mean a protracted and unknown outage
- Buy repurposed commercial repeaters
  - Limited local technical skills to support
- Buy new Yaesu amateur repeater infrastructure
  - Lower cost better value
  - Take advantage of digital amateur radio capabilities
    - Analog / analog, digital / digital, analog / digital, digital / analog
  - Have benefit of 3 yr warranty
  - More predictable repair response with return to manufacturer

Option #1.) Acquire and deploy one DR-2x as a UHF repeater at Crossley site using VE3RNR repeater pair configure analog / digital mode.

AND acquire and deploy second DR-2x as a VHF Repeater at Crossley site using VE3WCD repeater pair configure analog only.

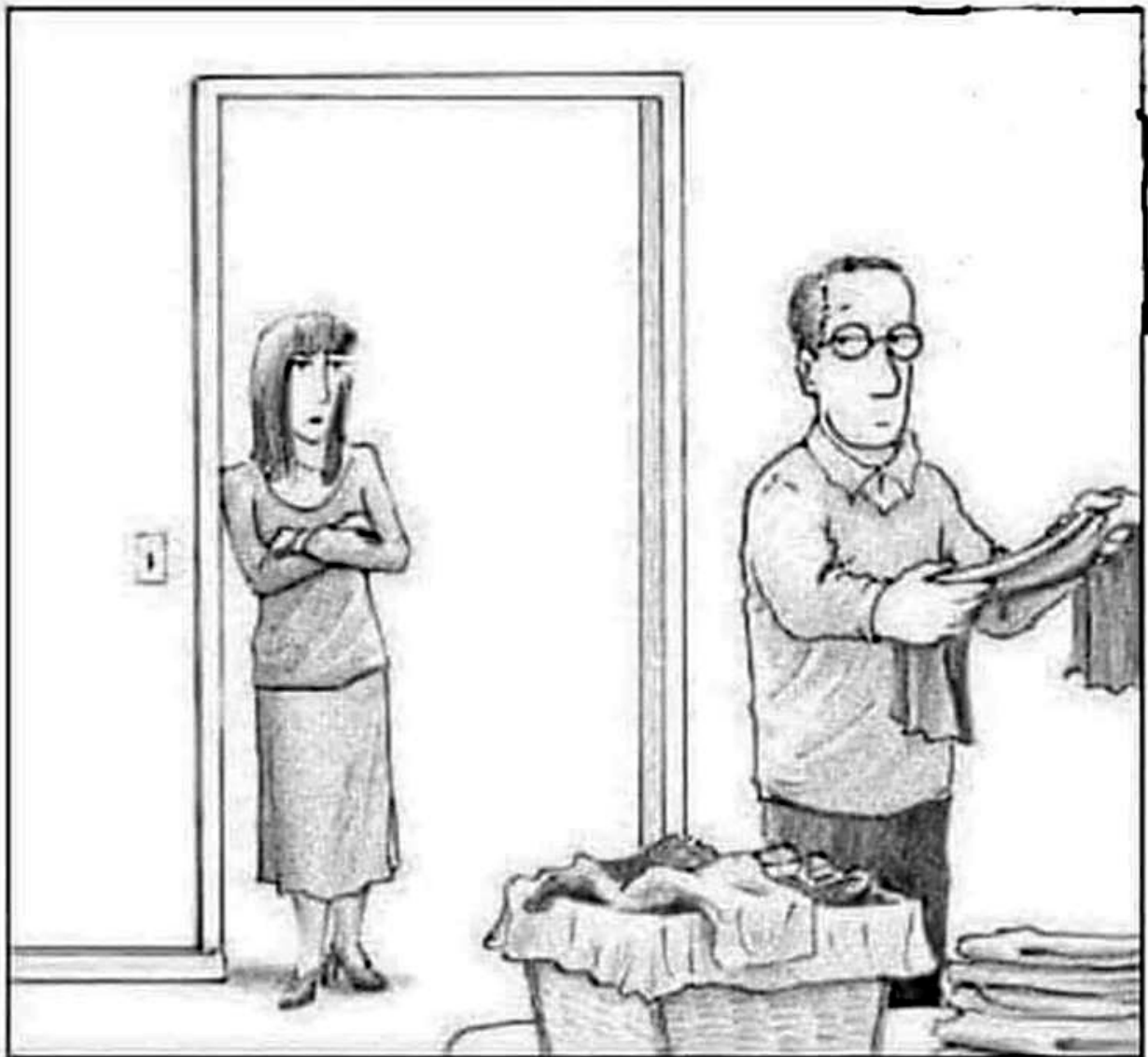
Acquisition cost of \$3,584.36

Option #2.) Acquire and deploy one DR-2x as a UHF repeater at Crossley site using VE3RNR repeater pair configure analog / digital mode.

Acquisition cost of \$2,137

## Affordable Recommendation Opt #1 two repeaters

|   |   | CDN\$       | tax in         |
|---|---|-------------|----------------|
| 2 | DR-2X w/ network linking @ \$900 USD from YAESU<br>vs \$2999 CDN dealer price (~\$1,700 saving) | 2466        | 2786.58        |
| 2 | FVS-2 voice module  | 96          | 108.48         |
| 1 | FTM 100 for wires-x and remote repeater control   | 450         | 508.5          |
| 1 | HRI-200 for wires-x   | 160         | 180.8          |
|   | <b>TOTALS</b>   | <b>3172</b> | <b>3584.36</b> |



**"OK, LAST NIGHT YOU WASHED DISHES,  
TODAY YOU ARE FOLDING LAUNDRY.  
What did you buy at Hamvention and  
*how much did it cost??***

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## 2019 EVENT LIST

JUNE 22 - Ride For Roswell, JUNE 22/23 - Field Day, JULY 1 - Canada Day Parade,  
JULY 1- RAC Canada Day Contest, AUG. 25 - Ft. George, SEPT. 15 - Terry Fox Run,  
OCT. 6 - CIBC Run for the Cure, OCT. 14- Man-A-Mile, OCT. 20 - Jamboree OTA,  
NOV. 17 - N.F. Santa Claus Parade.

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## VHF NETS

NPARC Net, Wednesdays, 20:00, VE3NRS, 147.240+, 107.2 Hz Tone – always looking for check ins and net controllers. Niagara ARES Net, Mondays, 20:00, VE3RAF, 145.190+, 107.2 Hz Tone. Trans Canada IRLP Net, Wednesdays, 11:00, VE3WCD, 147.310+, 107.2 Tone, IRLP 9013

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## NIAGARA ARES

We conducted four VHF Net on VE3RAF 145.190MHz on each Monday night at 8:00PM. On May 11, 2019 we had a Simulated Emergency Training exercise in conjunction with our partners in the GTA area. We activated radio stations at the St Catharines and Welland Hospital, plus another radio station at the Niagara Falls Fire Department. There was a couple mobile stations around the Short Hill Provincial Park taking part in the emergency scenario.

Voice and Winlink messages were transmitted between locations in the Niagara Region and GTA providing timely information. On May 15 Niagara ARES had their monthly meeting on May 15, 2019. Looking forward to Field Day on June 22 and 23 to setup and operate radio station in an emergency setting.

Henry VA3OV VP NPARC EC, CEC Niagara ARES

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## WORKING THE BIRDS

Thanks to Dennis VE3XC for supplying the current AMSAT bird list and frequencies. I know he's having fun nailing brief QSO's relayed from low-orbit satellites. Dennis has plans operate his portable VHF/UHF station at the club's new field day location this month at the Black Creek Community Centre.

# AMATEUR SATELLITE FREQUENCY GUIDE

**April 2018**  
freqguide@amsat.org

| Satellite <sup>(Notes)</sup>                        | Mode <sup>(1)</sup>                                 | Frequencies   |
|---|---|---|
| <b>AO-7</b> <sup>(3)</sup>                          | V/a-Non-Inverting<br>U/v-Inverting<br>Analog SSB/CW | <b>Dwn-USB</b> 29.400 410 420 430 440 450 460 470 480 490 29.500  |
|   |   | <b>Up-USB</b> 145.850 860 870 880 890 900 910 920 930 940 145.950   |
|   |   | <b>Dwn-USB</b> 145.925 930 935 940 945 950 955 960 965 970 145.975  |
|   |   | <b>Up-LSB</b> 432.175 170 165 160 155 150 145 140 135 130 432.125   |
|   |   | <b>Bcn</b> 29.502 145.975 435.100   |
| <b>AO-73</b><br>(FUNcube-1)                         | U/v-Inverting<br>Analog SSB/CW                      | <b>Dwn-USB</b> 145.950 955 960 965 145.970  |
|   |   | <b>Up-LSB</b> 435.160 155 150 145 435.140   |
|   |   | <b>Bcn</b> 145.935 <i>BPSK Telemetry</i>  |
|   |   | <i>Transponder is on when in eclipse and off when in sunlight. Transponder is continuously active on weekends and holidays.</i> |
| <b>AO-85</b> <sup>(2)</sup><br>(Fox-1A)             | U/v<br>FM Voice<br>Digital [g]                      | <b>Dwn-FM</b> 145.980   |
|   |   | <b>Up-FM</b> 435.170 <i>67.0 Hz CTCSS tone for access</i>   |
| <b>AO-91</b> <sup>(2)</sup><br>(RadFxSat, Fox-1B)   | U/v<br>FM Voice<br>Digital [g]                      | <b>Dwn-FM</b> 145.960   |
|   |   | <b>Up-FM</b> 435.250 <i>67.0 Hz CTCSS tone for access</i>   |
| <b>AO-92</b> <sup>(2,4)</sup><br>(Fox-1D)           | U/v - L/v<br>FM Voice<br>Digital [b] [g] [\$] [j]   | <b>Dwn-FM</b> 145.880   |
|   |   | <b>Dwn-FM</b> 145.880 <i>FSK data up to 9600 baud</i>   |
|   |   | <b>Up-FM</b> 435.350 <i>67.0 Hz CTCSS tone for access</i>   |
|   |   | <b>Up-FM</b> 1267.359 <i>67.0 Hz CTCSS tone for access</i>  |
| <b>CAS-4B</b> <sup>(2)</sup>                        | U/v - Inverting<br>Analog SSB/CW<br>Digital [b] [k] | <b>Dwn-USB</b> 145.915 920 925 930 145.935  |
|   |   | <b>Up-LSB</b> 435.290 285 280 275 435.270   |
|   |   | <b>Dwn</b> 145.890 <i>Digital telemetry</i>   |
|   |   | <b>Bcn</b> 145.910  |
| <b>EO-88</b> <sup>(2)</sup><br>(FUNcube-5, Nayif-1) | U/v-Inverting<br>Analog SSB/CW<br>Digital [i]       | <b>Dwn-USB</b> 145.960 965 970 975 980 985 145.990  |
|   |   | <b>Up-LSB</b> 435.045 040 035 030 025 020 435.015   |
|   |   | <b>Bcn</b> 145.940  |
|   |   |   |
|   |   | <i>Transponder is on when in eclipse and off when in sunlight.</i>  |
| <b>FalconSAT-3</b> <sup>(2)</sup>                   | V/u<br>Digital [l] [#] [*]                          | <b>Dwn-FM</b> 435.103   |
|   |   | <b>Up-FM</b> 145.840  |
| <b>FO-29</b><br>(JAS-2)                             | V/u-Inverting<br>Analog SSB/CW                      | <b>Dwn-USB</b> 435.800 810 820 830 840 850 860 870 880 890 435.900  |
|   |   | <b>Up-LSB</b> 146.000 990 980 970 960 950 940 930 920 910 145.900   |
|   |   | <b>Bcn</b> 435.795  |
| <b>NO-84</b><br>(PSAT)                              | V/v APRS<br>A/u PSK31                               | <b>Dwn-FM</b> 145.825   |
|   |   | <b>Up-FM</b> 145.825 <i>APRS</i>  |
|   |   | <b>Dwn-FM</b> 435.350 <i>PSK31</i>  |
|   |   | <b>Up-USB</b> 28.120  |
| <b>SO-50</b> <sup>(6)</sup><br>(SaudiSat-1C)        | V/u<br>FM Voice                                     | <b>Dwn-FM</b> 436.795   |
|   |   | <b>Up-FM</b> 145.850 <i>67.0 Hz CTCSS tone for access</i>   |
| <b>UKube-1</b> <sup>(2)</sup><br>(FUNcube-2)        | U/v-Inverting<br>Analog SSB/CW<br>Digital [c] [e]   | <b>Dwn-USB</b> 145.930 935 940 945 145.950  |
|   |   | <b>Up-LSB</b> 435.094 089 084 079 435.074   |
|   |   | <b>Bcn</b> 145.915 <i>Telemetry</i>   |
|   |   | <b>Bcn</b> 145.840 <i>Telemetry</i>   |





| Satellite <sup>(Notes)</sup>                               | Mode <sup>(1)</sup>                            | Frequencies  |
|--|--|--|
| <b>XW-2A</b><br>(CAS-3A)                                   | U/v-Inverting<br>Analog SSB/CW                 | <b>Dwn-USB</b> 145.665 670 675 680 145.685                   |
|  |  | <b>Up-LSB</b> 435.050 045 040 035 435.030                    |
|  |  | <b>Bcn</b> 145.660   |
| <b>XW-2B</b><br>(CAS-3B)                                   | U/v-Inverting<br>Analog SSB/CW                 | <b>Dwn-USB</b> 145.730 735 740 745 145.750                   |
|  |  | <b>Up-LSB</b> 435.110 105 100 095 435.090                    |
|  |  | <b>Bcn</b> 145.725   |
| <b>XW-2C</b><br>(CAS-3C)                                   | U/v-Inverting<br>Analog SSB/CW                 | <b>Dwn-USB</b> 145.795 800 805 810 145.815                   |
|  |  | <b>Up-LSB</b> 435.170 165 160 155 435.150                    |
|  |  | <b>Bcn</b> 145.790   |
| <b>XW-2D</b><br>(CAS-3D)                                   | U/v-Inverting<br>Analog SSB/CW                 | <b>Dwn-USB</b> 145.860 865 870 875 145.880                   |
|  |  | <b>Up-LSB</b> 435.230 225 220 215 435.210                    |
|  |  | <b>Bcn</b> 145.855   |
| <b>XW-2F</b><br>(CAS-3F)                                   | U/v-Inverting<br>Analog SSB/CW                 | <b>Dwn-USB</b> 145.980 985 990 995 146.000                   |
|  |  | <b>Up-LSB</b> 435.350 345 340 335 435.330                    |
|  |  | <b>Bcn</b> 145.975   |
| <b>ISS</b> <sup>(5)</sup><br>(International Space Station) | V/v - U/v - s<br>FM Voice<br>Digital # [a] [d] | <b>Dwn-FM</b> 145.800 (voice, SSTV)                          |
|  |  | <b>Dwn-FM</b> 145.825 (packet)                               |
|  |  | <b>Up-FM</b> 144.490 Region 2/3 Voice 145.200 Region 1 Voice |
|  |  | <b>Up-FM</b> 145.825 Simplex Digipeater                      |
|  |  | <b>Dwn</b> 2.369, 2.395, 2.437, 2.422 GHz DATV               |
|  |  |  |

### FUTURE LAUNCHES

|   |               |               |                         |
|---|---------------|---------------|-------------------------|
| <b>Fox-1Cliff</b> <sup>(2,4)</sup>        | U/v - L/v     | FM Voice      | Digital [b] [g] [h] [i] |
| <b>ESEO</b> <sup>(2)</sup>                | L/v           | FM Voice      | Digital [m]             |
| <b>JY1-SAT</b> <sup>(2)</sup>             | U/v-Inverting | Analog SSB/CW | Digital [i] [f]         |
| <b>RadFxSat-2</b> <sup>(2)</sup> (Fox-1E) | V/u-Inverting | Analog SSB/CW | Digital [i]             |

### CURRENT SATELLITE STATUS IS AVAILABLE AT [WWW.AMSAT.ORG/STATUS](http://WWW.AMSAT.ORG/STATUS)

**NOTES:**

1. The Mode designations are:

A = 10m      H = 15m      V = 2m  
 U = 70cm      L = 23cm      S = 13cm  
 C = 6cm      X = 3cm      K = 1.5cm

The uplink is upper case and listed first while the downlink is lower case and listed last. Uplink/Downlink. Thus, old Mode B is U/v and old Mode J is V/u.

2. Letters in [ ] represent the following digital formats:

- [a] = 1200 bps AFSK-FM AX.25
- [b] = 9600 bps FSK
- [c] = 1200 or 9600 bps BPSK
- [d] = DATV (Digital Amateur Television)
- [e] = Spread Spectrum
- [f] = Transmits stored images via SSDV
- [g] = Subaudible slow speed data when in transponder mode
- [h] = 1200/4800 bps GFSK

- [i] = 1200 bps BPSK
- [j] = 9600 bps downlink includes images and science data
- [k] = 4800 bps GMSK
- [l] = 9600 bps GMSK
- [m] = 1200/4800 BPSK (FUNcube on ESEO)
- \* denotes Store and Forward (flying mailbox) capability
- # denotes digipeater that also allows APRS
- \$ denotes provisions for capturing pictures in orbit
- 3. AO-7 is available only when it's in sunlight. It may not be functional on each pass.
- 4. L uplink is switchable by command station; not operational simultaneously. Normal operation is U/v.
- 5. The Region 2/3 voice uplink frequency listed for ISS is to be used over North & South America. The Digital frequency is usable worldwide.
- 6. To activate SO-50, transmit briefly with a 74.4 Hz CTCSS tone.

AMSAT gratefully acknowledges the assistance of N0JY, N8HM, W5PFG, KO4MA, W1EME & N1JEZ in compiling this information.



**THE RADIO AMATEUR SATELLITE CORPORATION**  
**WWW.AMSAT.ORG**

## TECHNITE AT BLACK CREEK COMMUNITY CENTRE

It was back to school Thursday, June 6th at the Black Creek Community Centre thanks to Mike VE3MPA. About 16 people gathered at 7pm to talk antenna construction. Henry, VA3OV had help with the project from Phil,VE3ACK. Thanks to Dennis VE3XC for the photos.



L. to R. Mike,VE3MPA,Terry, VE3TOB, Mike VA3MEI and Phil VE3SFX.



L. to R. Denis, VE3KVE, Roy, VE3OQP, John, VA3WM, David ,VA3DPG, John,VE3HWE, David,VE3RNF, Dale,VA3LFR and HenryVA3OV.

## ARRL FIELD DAY 2019 REPORT

Saturday June 22 at 2:00PM to Sunday 23, 1:59PM.

NPARC is organizing a Field Day event to demonstrate our capability to operate in an emergency environment following the ARRL Field Day rules.

The band conditions and operators availability will dictate the number of radio stations we can reasonably field this year. The preliminary plan is below.

|   |                             |                             |
|---|-----------------------------|-----------------------------|
| I | CW station                  | 40 & 80 M                   |
| I | SSB station                 | 20, 15, 10 M (40, 80, 160M) |
| I | Digital station PSK31 / FT8 | 40, 20, 15, 10M             |
| I | Satellite station           | VHF/UHF                     |
| I | GOTA                        | All Bands                   |

We plan to use battery power and solar panels. I have access to 2 large batteries capable to power the CW, SSB and Satellite stations. We have additional available batteries for the Digital and GOTA stations. We still needs couple generators for back up power.

Antennas are also available: R7 Multiband vertical, shorty 40/80 folded dipole, Windom OCF dipole, multiband dipole 20/40/80. Will build a 6M, 20M and 160M dipole. If you have one of these antennas, bring it along for a good workout. If you have a favourite super antenna, we will very happy to use it.

NPARC has two club radio that will be used FT847 for satellite and VHF. Also we have an IC7200 for digital and SSB.

Band captains for the digital, satellite and GOTA stations have signed up already. We are looking for band captains to setup and run the CW and SSB stations.

Each radio stations should preferably be manned by a radio operator and a logger. To maintain continuity in the exercise we would need a minimum of 16 volunteers throughout the 24 hours. Volunteers are needed to setup antennas, tents, shelters and radio stations on Saturday morning from 10:00AM on. Start time is at 2:00PM on Saturday afternoon until 1:59PM Sunday afternoon. Then we will proceed in the tear down, pickup and return materials to storage.

Contact John VE3HWE at "[jeagle@rogers.com](mailto:jeagle@rogers.com)" or Henry at "[va3ov@bell.net](mailto:va3ov@bell.net)" to register your participation in this yearly event.

This is the time to operate HF. Try a new mode or a new band. Share your experiences with other club members. Everybody is welcome. Henry, VA3OV.

## PARTY BALLON TAKES QRP TRANSMITTER ALOFT

A Toronto Radio Amateur, using a low cost party balloon and an electronics board designed and built in Turkey for \$100 is currently flying a balloon around the world, gathering valuable wind current data at a fraction of the cost of similar commercial ones. This balloon, launched from Toronto on Feb. 28<sup>th</sup>, unbelievably is on its 5<sup>th</sup> circumnavigation of the globe. It communicates using a network of small satellites designed and built by Amateurs to get the data back from the roaming balloon. Google

**U3B24** was launched by Dave VE3KCL on Dec. 18, 2019 and flew a complete circumnavigation in just over 10 days.




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## World Scout Jamboree Gearing Up for Significant Amateur Radio Presence

ARRL April 30, 2019

Amateur Radio will play a role in this summer’s 24th World Scout Jamboree in West Virginia, the first World Jamboree held in North America since 1983. The Jamboree has chosen the theme “Unlock a New World.” Thousands of Scouts and Scout leaders from some 200 countries are expected to attend. The Jamboree’s Amateur Radio Exhibit will use the call sign **NA1WJ** — North America’s 1st World Jamboree. It will be on the air during the event, July 22 until August 2, at the Summit Bechtel Reserve, hosted by Canada, Mexico, and the US. Amateur Radio testing is expected to begin as early as July 14. Operating frequencies will be posted in real time via **Facebook** and **Twitter** or via an **NA1WJ email group**.

“The goals of the Amateur Radio station at the World Scout Jamboree are to introduce Amateur Radio to Scouts and Scout leaders through hands-on participation in two-way communication with other stations across the globe. This activity will also serve as the Amateur Radio voice of the Jamboree.

## OVER 2 ME... Feedline Editor Denis VA3ONO

Once again, thanks to outgoing President Steve, VA3FLF and his team. As a relatively new ham I have been very fortunate that the club has had several dedicated executives in the few years I have been a member. Hopefully NPARC will prosper for years to come.

If you missed Dana Shtun's presentation at the May General Meeting you missed a very interesting speaker. His long-time, Six Metres And Down, column in The Canadian Amateur magazine is one of my favourites. Dana is an extremely knowledgeable ham and his remarks were well delivered and enlightening. If you read his piece in the May/June RAC magazine hams are branching out beyond the six metre 'magic' band into microwave communication. According to Dana, experimentation in the GHz section of our frequency allotment is growing across Canada. And THz or submillimeter radiation could possibly be the next new frontier for amateurs.

At the May meeting there was an obvious difference of opinion regarding the club purchasing, specially priced Yaesu Fusion repeaters and how to proceed to upgrade our old VHF/UHF equipment. Not having the technical expertise, I wished more time was set aside for an open discussion. As mentioned in the club minutes the vote passed and two repeaters and the necessary Yaesu accessories totalling approximately \$3,500 will be purchased before the special pricing expires at the end of June. For the record, I voted for a motion to purchase one unit but against the purchase of two repeaters because I felt the information put forth from hams in the audience left me with more questions than answers. Amateurs who spent their careers designing, installing and repairing high power commercial two-way radio systems had reservation about the Yaesu line of amateur repeaters.

And finally for those wondering about the mystery photo published here last month. It's a closeup of paint peeling on the exterior wall of the gun shed at Butler's Barracks in Niagara-on-the-Lake. The circle is a raised knot in the wood. This is a local Canadian National Parks on the Air location.

