Northeast HamXposition

September 10, 11, & 12
2021

ARRL New England Division Convention

Our 37th Convention

Best Western Royal Plaza Hotel & Trade Center
Marlborough, Massachusetts

P. Northeast HamXposition 2021
Fred Kemmerer, AB1OC
Creating a Strong Future for Amateur Radio as ARRL New England Division Director

There is much that needs to be done to create a strong future for Amateur Radio and the ARRL. The following are major areas that I plan to focus on as Director:

- Bring new people into Amateur Radio by collaborating with clubs across New England and the ARRL
- Create opportunities for STEM learning in schools and colleges through Amateur Radio
- Create positive public and agency support for Amateur Radio to protect our spectrum and our rights
- Ensure effective, open, 2-way communications between the ARRL and its members
- Establish the New England Division as a leader in providing world-class Amateur Radio programs
- Promote and protect on-air activities such as DXing and Contesting that so many Hams (including this one) enjoy

We need a Director who is Collaborative, Innovative, and Action-Oriented to accomplish these goals. I hope that you will support me as your choice to fulfill this important mission.

“One Director Can Make a Difference”

Learn more at elect.ab1oc.org
It's been one heck of a year! Back in 2019, the last time we had the Convention, our biggest worry was how do we grow Ham Radio. We all know what happened next ...

So here we are in 2021. The pandemic is subsiding, though aspects of it will be with us for a long time to come. But we do have some time now to turn our attention back to the Convention and the Hobby.

A lot has changed. After many years at Boxboro, we have moved to a new venue a few miles down the road. There were several reasons, but one big one is that we wanted a place where the Convention could grow in attendance. The Best Western Marlborough has, among other things, lots of parking, and a large convention center.

We aren’t using the full convention center this year, but we have our sights on it for what I said in 2019: HamXposition is regional in scope, officially covering New England as the Division Convention, but also drawing lots of people from the Hudson Division, from Eastern Canada, and from farther afield.

Our new brand, the Northeast HamXposition, is gaining traction as well. I’ll reiterate what I said in 2019: HamXposition is regional in scope, officially covering New England as the Division Convention, but also drawing lots of people from the Hudson Division, from Eastern Canada, and from farther afield.

As for growing the Hobby, the Convention Committee is working on that as well. The program introduced in 2019 by the Nashua ARC was a huge hit. It has been upgraded and expanded this year. It’s something for both the seasoned ham and the newcomer. In fact, our entire program, one of the best in the hamfest world, is even bigger and better this year, and likewise has something to offer for the seasoned ham, the newcomer, and the merely curious alike.

So, now you know some of the things the Committee is doing. You can help, too. Spread the word. Let your friends know about HamXposition, especially your non ham friends who might “catch the bug.” There should be plenty to keep them enthralled. And remind everyone that we’re now in Marlborough. We have our spot reserved many years out.

And above all, enjoy HamXposition 2021. And when the weekend is over, start thinking about HamXposition 2022, and 2023, and 2024, ....

73 — Mike, K1TFW, President
NESMC
New England Spectrum Management Council

is a proud sponsor of the
Northeast HamXposition 2021

WE INVITE YOU TO ATTEND OUR ANNUAL MEETING

SATURDAY SEPTEMBER 11th
2:00PM
in the Salon B

NESMC provides frequency coordination for amateur repeaters in New Hampshire, Maine, Massachusetts and Rhode Island.

Our Meeting is Open to All
You do not need to be a member to attend our meeting.

www.nesmc.org
The New England FEMARA Scholarships

This is why we hold the convention.

Your donations and all proceeds from the convention go to the FEMARA scholarship fund, which helps students attend a college or trade school of their choice. The ARRL Foundation administers the perpetual fund. Each year the foundation scholarship committee meets to carefully review hundreds of applications received from remarkably talented young men and women. The foundation receives cash and stock donations from hams and their families worldwide which include bequests from living wills and trusts. Please consider helping this great undertaking. When you donate to the foundation, please specify the FEMARA New England Fund!

The wonderful hams listed below are recent recipients of the FEMARA scholarships. If you know a worthy student, or are one yourself, you can apply online at http://www.arrl.org/scholarship-application.

2021 Winners ($2000 each)
- Michael Cullen, K6MAC, Newbury, RI, tech
- Samuel Gerhard, KC1NWR, North Providence, RI, tech
- Sarah Hull, W1SJH, Hancock, NH, tech
- Simon Page, KC1FJD, York, ME, tech

2020 Winners ($2000 each)
- Yettive S. Crestohl, K1YTV, Marblehead, MA
- Joseph F. Murray, KC1EGK, Braintree, MA
- Edward G. Rifolfi, KC1CMF, Kittery, ME
- Bahnou Hazel Upton, KB1OIS, Mont Vernon, NH

2019 Winners ($2000 each)
- Yettive S. Crestohl, K1YTV, Marblehead, MA
- Brent Field, KB1VNC, Lancaster, NH
- Theodore Parker, N1HW, Ripley, ME
- Bahnou Upton, KB1OIS, Mont Vernon, NH

See the full list at: <http://hamxposition.org/scholarships>
Radio station WBZ in Boston is celebrating its 100th anniversary! Work the special event stations commemorating WBZ.

Event starts at 9:00 AM EDT September 17 and ends at 11:59 PM EDT on September 19.

Details at https://nediv.arrl.org/wbz100/

W1W W1B W1Z WB1Z

---

20% Off!
Your Entire Purchase With This Coupon
Offer Valid 9/10/21 through 9/18/21 Only
Limit One Coupon Per Customer

Electronics Plus
“Electronic Accessories for the Home and Hobbyist”

www.electronicsplus.com
480 King Street (Rt. 110)
Littleton, MA 01460
(978) 486-3375
Mon-Fri 9-5, Sat 9-3
sales@electronicsplus.com

NTE Electronics • Philmore • Velleman • Eclipse Tools
Uniden • Cobra • Wilson CB Antennas • Plus Much More!
HamXposition 2021 ~ Schedule

Friday, September 10
Flea Market 12 noon — 5 pm (setup at 9 am)
Skywarn Training: 1 pm — 4 pm
DX/Contest Dinner: Cocktails 6, Dinner 7 — 9:30 pm
  Adrian Ciuperca, KO8SCA: a recap of his recent
  DXPedition and IARU Contest activities/activations
  from the Market Reef and Aland Islands.
  Door Prizes!
Movie: starts at 9:30 pm

Saturday, September 11
Flea Market and Exhibit Hall: 9 am — 5 pm
Forums: 9 am — 5 pm
Convention Banquet: Cocktails 6, Dinner 7 — 10 pm
  Phil Erikson, W1PJE HamSCI and Haystack
  Door Prizes!
Movie, Storytelling, Jam Session: all start at 9:30 pm

Sunday, September 12
Flea Market and Exhibit Hall: 9 am — 1 pm
Forums: 9 am — 1 pm
Grand Prize Drawing: 1 pm

W1A Special Event Station: Corporate Room
  Friday: 6 pm — midnight
  Saturday: 9 am — midnight
  Sunday: 9 am — noon
  Three operating positions (two remote)

DXCC Card Checking
  Available in the hallway outside Exhibit hall.
  Please use the application and fee process found on the
  ARRL DXCC web site prior to submitting your cards.
New England Amateur Radio is a non-profit 501(c)3 organization to promote education and growth of amateur radio as a STEM activity, as a communications hobby, and as support for emergency preparedness and public service.

NEAR provides educational assistance, exam services, and license classes to clubs, scouts, public service, and schools.

Are you a teacher or have had teaching experience? Would you be interested in learning to teach amateur radio classes and activities? Consider joining the NEAR Educational Team.

You can also help by making a tax-deductible donation to help our mission. Send PayPal donation to: info@ne1ar.org

Scan me with your smartphone to go to www.ne1ar.org
FEMARA thanks the following individuals for their support:

**Moonbounce Donations (≥ $50)**

- AA3HD Anthony Baker
- AB1OC Fred, and AB1QB Anita Kemmerer
- AF1R Leandra MacLennan
- K0HNL Daniel E Busse
- K1DP Domenic Padula
- K1UAJ John Gotthardt
- KB1OIQ Andy Stewart
- KC1KGS Barbara Irby
- KC1LNQ Yuri Botnar
- KC1OXG Robert Bosaz
- NJEO Joel Curneal
- W1DYJ Larry Banks
- W1FDR Bob Ravenstein
- W2JIG Tim Schmoyer

*Our apologies if we missed listing your name.*
Ham Radio Education for All Ages!

Non-Profit STEM Education Center, Amateur Radio Training Center, and Maker Space.

Two fully-equipped radio rooms, meeting rooms, science labs, kitchenette.


Courses, workshops, maker space, public telescope nights, rocketry.

Conveniently located at 16 Tech Circle, Natick, near rt. 9, 30, and 27.

www.NESciTech.org
<table>
<thead>
<tr>
<th>Room</th>
<th>Salon A</th>
<th>Salon B</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>SJ/L Moncrief</td>
<td>High Altitude Balloons</td>
</tr>
<tr>
<td></td>
<td>Keynote address: “Growing Amateur Radio”</td>
<td>Fox Hunting</td>
</tr>
<tr>
<td>10:00</td>
<td>AJRS Crew</td>
<td>AMAT</td>
</tr>
<tr>
<td></td>
<td>Contact: Planning, Execution &amp; Learning Along the Way</td>
<td>Getting Started with Amateur Satellite</td>
</tr>
<tr>
<td>11:00</td>
<td>DMR Without Code Plugs and Hotspots</td>
<td>Youth Forum, NE Sci-Tech</td>
</tr>
<tr>
<td></td>
<td>Growing Your Club Through Emerging &amp; New Ham Development</td>
<td>New England CBP Forum</td>
</tr>
<tr>
<td>12:00</td>
<td>A4R Forum</td>
<td>Practical Portable Radio Operation</td>
</tr>
<tr>
<td></td>
<td>Can You Hear Me Now?</td>
<td>Intro to the Mind/NA</td>
</tr>
<tr>
<td>13:00</td>
<td></td>
<td>FCE Radio Exposure Rules and Compliance</td>
</tr>
<tr>
<td></td>
<td>A Brief History of Amateur Radio and the YCCC Forum</td>
<td>Ten Meters for Teds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Room</th>
<th>Seminar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Northeast HamXposition 2021</td>
</tr>
</tbody>
</table>
An educational amateur radio club for all ages. Join today!

Headquartered at New England Sci-Tech
16 Tech Circle, Natick MA

Mission: to encourage people to pursue interests
in amateur radio, electronics, astronomy,
and other STEM activities.

Meetings in person and online, two radio rooms,
linked repeaters, educational activities and speakers,
weekly radio shop talk, license classes and exams.

www.STARS.radio
<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Salon A</th>
<th>Salon B</th>
<th>Seminar</th>
<th>Duchess</th>
<th>Princess</th>
<th>Marlborough</th>
<th>Sudbury</th>
<th>Southborough</th>
<th>Sterling</th>
<th>Westborough</th>
<th>Wayland</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00</td>
<td>Salon A</td>
<td>The History and Current Values of Telegraph Keys</td>
<td>New England Spectrum Mgmt Council Meeting</td>
<td>YCC Forum Continues</td>
<td>NTS Meet and Greet</td>
<td>CW Academy</td>
<td>New England QRP Forum Continued</td>
<td>Tech in a Day continued</td>
<td>C7) Go Kit Strategies</td>
<td>W4J New England ARES SEC Presentations and Panel Discussion</td>
<td>VE Session II continued</td>
<td>W3) NE ARES Academy: Intro to NEBMS continued</td>
</tr>
<tr>
<td>15:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18:30</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NE QRP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td></td>
<td>Meet &amp; Greet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td>Meet &amp; Greet</td>
<td>Vendors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21:30</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td>Vendors</td>
<td>Night &amp; Build-A-Thon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td>Night &amp; Build-A-Thon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td>Night &amp; Build-A-Thon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0:00</td>
<td>Sala B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>MEER</td>
<td>Night &amp; Build-A-Thon</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Upcoming Ham Radio License Classes!

Tech in 4 days or a weekend – ONLINE – tell your friends!
General in 4 days or a weekend – ONLINE – time to upgrade?
Amateur Extra in 8 classes – Sundays, 7-10 pm, ONLINE – you always wanted to get AE.
Morse Code in 6 classes – Mondays, 7:30-8:30 pm, ONLINE, FREE with other course.
Become a Volunteer Examiner (VE) – 6:30-8:30 pm, pick a date - 9/26, 10/24, 11/14. We also offer exams in person or online – nescitech.org/exam/.

Conveniently located at 16 Tech Circle, Natick, near Routes 9, 30, and 27.

www.NESciTech.org
<table>
<thead>
<tr>
<th>Time</th>
<th>Room:</th>
<th>Salon A</th>
<th>Salon B</th>
<th>Seminar</th>
<th>Duchess</th>
<th>Princess</th>
<th>Westborough</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td></td>
<td>The World's Greatest Coastal Station</td>
<td>Around the world with Pico Balloons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td>Cybersecurity for the Radio Amateur</td>
<td>Communications support for the DoD; how you can make a difference</td>
<td>Modeling with TLW, YW, &amp; HFTA</td>
<td>Adventures in Home-Brew SDR Design</td>
<td>Kite launched antennas for field operations</td>
<td></td>
</tr>
<tr>
<td>11:00</td>
<td></td>
<td>MARS member meeting (closed)</td>
<td>Eyesight &amp; the Aging Ham or Tinkerer</td>
<td>JS8Call for EMCOM and QSOs</td>
<td></td>
<td></td>
<td>VE Session III</td>
</tr>
<tr>
<td>12:00</td>
<td></td>
<td>APRS Golden Packet</td>
<td>Intro to the Minuteman Repeater Association</td>
<td>History of the Vacuum Radio</td>
<td>Software Defined Radio</td>
<td></td>
<td>EDUCOMM, Education Through Communication</td>
</tr>
<tr>
<td>13:00</td>
<td></td>
<td>Prize Drawings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Friday, October 15th & Saturday October 16th 2021
DEERFIELD NH Fairgrounds.

www.near-fest.com  www.forum.near-fest.com
GRAND PRIZE – ICOM 7300 – Drawing Saturday 2 PM
Winner does NOT need to be present to win.

[ Spring 2022 dates: May 6th & 7th 2022]
Northeast HamXposition Through the Years

Prior to becoming an official convention, FEMARA held a picnic and hamfest. In 1958 it was held at Norumbega Park in Newton and in 1959 at the New Ocean House hotel in Swampscott. In 1960, the hamfest became the official ARRL New England Convention.

The 1969 event was interesting: Two weeks before the convention, the New Ocean House hotel burned to the ground. The convention staff went into overdrive and managed to move to the Park Plaza hotel in Boston, retaining the original convention dates.

<table>
<thead>
<tr>
<th>#</th>
<th>Year</th>
<th>Dates</th>
<th>Location</th>
<th>Admission</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1960</td>
<td>May 1</td>
<td>New Ocean House, Swampscott</td>
<td>$3 adv / $4</td>
</tr>
<tr>
<td>2</td>
<td>1961</td>
<td>Apr 8,9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1962</td>
<td>Apr 7,8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1963</td>
<td>Apr 27,28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1964</td>
<td>May 9,10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1965</td>
<td>Apr 24,25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1966</td>
<td>Apr 22,23,24</td>
<td>Prudential Center, Boston</td>
<td>$3 / $4</td>
</tr>
<tr>
<td>8</td>
<td>1967</td>
<td>Apr 22,23</td>
<td>New Ocean House, Swampscott</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>1968</td>
<td>Jun 1,2,3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>1969</td>
<td>May 24,25</td>
<td>Park Plaza Hotel, Boston</td>
<td>$3.50/$4.50</td>
</tr>
<tr>
<td>12</td>
<td>1973</td>
<td>Sep 29,30</td>
<td>Dunphy's Resort, Hyannis</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>1976</td>
<td>Sep 10,11,12</td>
<td>Statler Hilton, Boston</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>1978</td>
<td>Oct 14,15</td>
<td>Sheraton, Boxborough</td>
<td>$4 / $5</td>
</tr>
<tr>
<td>15</td>
<td>1980</td>
<td>Oct 3,5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>1982</td>
<td>Oct 2,3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>1984</td>
<td>Sep 29,30</td>
<td></td>
<td>$6</td>
</tr>
<tr>
<td>18</td>
<td>1986</td>
<td>Oct 18,19</td>
<td></td>
<td>$6 / $7</td>
</tr>
<tr>
<td>19</td>
<td>1988</td>
<td>Oct 1,2</td>
<td></td>
<td>$7 / $8</td>
</tr>
<tr>
<td>20</td>
<td>1990</td>
<td>Oct 13,14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>1992</td>
<td>Oct 3,4</td>
<td>Host Hotel, Boxborough</td>
<td>$7</td>
</tr>
<tr>
<td>22</td>
<td>1994</td>
<td>Oct 1,2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>1996</td>
<td>Oct 4,5,6</td>
<td>Boxboro Woods Holiday Hotel</td>
<td>$7 / $8</td>
</tr>
<tr>
<td>24</td>
<td>1998</td>
<td>Aug 29,30</td>
<td>Holiday Inn, Boxboro</td>
<td>$6 / $8</td>
</tr>
<tr>
<td>25</td>
<td>2000</td>
<td>Aug 25,26,27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>2002</td>
<td>Aug 23,24,25</td>
<td></td>
<td>$8 / $10</td>
</tr>
<tr>
<td>27</td>
<td>2004</td>
<td>Aug 13,14,15</td>
<td></td>
<td>$10 / $12</td>
</tr>
<tr>
<td>28</td>
<td>2006</td>
<td>Aug 25,26,27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>2008</td>
<td>Aug 22,23,24</td>
<td></td>
<td>$15</td>
</tr>
<tr>
<td>30</td>
<td>2010</td>
<td>Aug 27,28,29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>2012</td>
<td>Aug 24,25,26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>2015</td>
<td>Aug 21,22,23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>2016</td>
<td>Sep 9,10,11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>2017</td>
<td>Sep 8, 9, 10</td>
<td>Boxboro Regency Hotel and Conference Center</td>
<td>$18</td>
</tr>
<tr>
<td>35</td>
<td>2018</td>
<td>Sep 7, 8, 9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>2019</td>
<td>Sep 6, 7, 8</td>
<td></td>
<td>$18</td>
</tr>
<tr>
<td>37</td>
<td>2020</td>
<td>Nov 6, 7</td>
<td>Virtual Banquet</td>
<td>Free</td>
</tr>
<tr>
<td>38</td>
<td>2021</td>
<td>Sept 10, 11, 12</td>
<td>YOU ARE HERE!</td>
<td>$18</td>
</tr>
</tbody>
</table>
Across Eastern and Central Massachusetts, we have 22 FM repeaters on all bands – 10M to 33cm

Includes 2 D-STAR repeaters, 2 Yaesu System Fusion capable repeaters, 4 IRLP nodes (two with Echolink), and APRS Digi
DIPOLESUSA.COM

COME VISIT US!
WE’RE AN OUTDOOR VENDOR
3” SOLIDS NYLON INSULATORS
4 FOR $5
10 FOR $10
100% AMERICAN MADE DACRON ROPE
5/32” 100’ $7
5/32” 250’ $20
3/16” 100’ $10
3/16” 1000” $70
COME SIT WITH US!
LOOK FOR THE TWO WITH TENTS & BANNERS!
Friday September 10

AFTERNOON (1:00 PM-4:00 PM)  Salon B

SKYWARN Training ~ Rob Macedo, KD1CY
SKYWARN is a volunteer program with between 350,000 and 400,000 trained severe weather spotters. These volunteers help keep their local communities safe by providing timely and accurate reports of severe weather to the National Weather Service. Learn the basics of thunderstorm development; fundamentals of storm structure; identifying potential severe weather features; information to report; how to report it; basic severe weather safety.

EVENING (6:30 PM- ~9:30 PM)  Salon A/B

DX / Contest Dinner — Special Guest Adrian Ciuperca
Join your fellow hams for a delicious DXCC/Contest dinner on the first night of the convention! Accompanying us will be Adrian Ciuperca, KO8SCA, who will recap his recent DXPedition and IARU Contest activities/activations from the Market Reef and Aland Islands.

Adrian is a keen DXer with DXCC 317, 9BDXCC, IOTA and a passionate contest who competed in WRTC 2018 in Wittenberg, Germany. He usually operates in the contests as a guest operator from various superstations such as K1LZ, LZ5R, K2LE, K1TTT or NR4M.

EVENING (9:30 PM start)  Seminar Room

Movie Night — CONTACT (1997)
Dr. Ellie Arroway, after years of searching, finds conclusive radio proof of extraterrestrial intelligence, sending plans for a mysterious machine.
Stars:  Jodie Foster     Matthew McConaughey     Tom Skerritt
Director: Robert Zemeckis
Based on the novel by Carl Sagan
RFinder
POINT AND CLICK RADIO
DMR WITHOUT CODE PLUGS

THAT WORKS...

...ANYWHERE ON EARTH

SEE IT AT OUR BOOTH!
and at RFINDER.NET
SATURDAY September 11

KEYNOTE ADDRESS (9:00 AM–9:50 AM) Salon A

Amateur Radio ~ Bob Inderbitzen, NQ1R

There will be a moment of silence for the events of 9/11/2001 before the presentation.

There is no shortage of new ham radio licensees each year—about 30,000. But only a few ever become active. Bob will share stories, perspective, and ARRL initiatives intended to develop more active, involved, and engaged radio amateurs.

Bob Inderbitzen, NQ1R, is the Product Development Manager for ARRL, The National Association for Amateur Radio®, and has been on the ARRL HQ staff for 30 years. He advances, with his staff colleagues, ideas that lead to new and improved ARRL membership programs, services, and products.

ALL DAY (10:00 AM–5:00 PM) MARLBOROUGH ROOM

New England QRP Forum
Schedule T.B.D.

ALL DAY (10:00 AM–5:00 PM) SUDBURY ROOM

Tech In A Day ~ Bill Poulin, WZ1L

Bill Poulin, WZ1L, and members of the Cape Ann ARA will once again offer “Tech in a Day” at HamXposition. This program has served the local community in getting newly excited people to become licensed amateurs. The program will conclude with a dedicated Volunteer Exam session.

ALL DAY (10:00 AM–5:00 PM) WESTBOROUGH ROOM

VE Testing ~ Bruce Anderson, W1LUS
(No appointment necessary)

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>10 am — 1 pm</td>
</tr>
<tr>
<td>II</td>
<td>1 pm — 5 pm</td>
</tr>
<tr>
<td>III</td>
<td>Sunday: 10 am — 1 pm</td>
</tr>
</tbody>
</table>

Saturday 10 AM Sessions

10:00 AM — 10:50 AM Salon A

An ISS Crew Contact: Planning, Execution & Learnings Along the Way ~ Fred Kemmerer, AB1OC

Prepare to blast off for an Amateur Radio experience of a lifetime! The ARISS program provides a way that Amateur Radio operators can work with schools and youth groups to talk to an astronaut on the International Space Station (ISS) using Amateur Radio. Fred will share all
CALL SIGN HATS AND SHIRTS. BADGES. NOVELTY TEES. ALL THINGS LOGOED.

HELP YOUR CLUB RAISE SOME MONEY

Refer us to companies who use uniforms and promotional products — Your club will get a portion of that back!

GOLD MEDAL IDEAS
847-478-0041
info@goldmedalideas.com
www.goldmedalideas.com

Congratulations, Marty Sullaway, NN1C!
Yankee Clipper Contest Club
2021 Youth Scholarship Recipient

The YCCC scholarship is managed by the ARRL Foundation. For application information for this and other ARRL scholarships see www.arrl.org/scholarship-descriptions
the steps needed to secure, prepare for and perform an ISS contact along with a
school or youth group. Topics covered include proposal development to secure a
contact, education planning around Amateur Radio and other STEM activities,
and preparing and testing an Amateur Radio Ground Station to communicate
with the ISS. The talk includes video from actual ISS contacts made between
schools and astronauts on the ISS.

**10:00 AM — 10:50 AM Salon B**  
**Fox Hunting ~ Alan Hicks, KD1D**  
Alan will present on locating hidden transmitters for hams. He’ll discuss "fox"
transmitters and radiolocation methods for fun, radiosport and practical appli-
cations. RF fox hunting is fun, provides us with physical and mental exercise, and
teaches us how to locate sources of interference like repeater trolls, stuck trans-
mitters and unlicensed operation on our ham bands.

**10:00 AM — 10:50 AM Duchess**  
**High Altitude Ballooning: Going to the Edge of Space**  
**Max Kendall, W0MXX**  
Max will introduce high altitude balloons and then describe his experiences in building, launching, and recovering them. (Max is a youth member of the New England Sci-Tech Amateur Radio Society.)

**10:00 AM — 10:50 AM Princess**  
**AMSAT and Satellite Status ~ Burns Fisher, WB1FJ**  
Burns’ presentation will talk about what is currently going on with AMSAT, in-
cluding the new on-line membership portal and on-line distribution of The AM-
SAT Journal, as well as the current state of AMSAT satellites and new satellites
that they are working on.

**10:00 AM — 10:50 AM Southborough**  
**ARES Track: Bootcamp ~ Peter Stohrer, K1PJS**  
Pete will give you all the essential information you need to get started in the
Amateur Radio Emergency Service® (ARES®). Pete is a broadcast engineer, NH
Section Manager and ASEC, and a former EC.

**10:00 AM — 10:50 AM Sterling**  
**ARES Track: Emergency Field Power~ Alan Bradford, AE1H**  
Alan will help you make good decisions about how to power your station in the
field, or without access to mains power. He will cover batteries, generators, dis-
tribution, safety, and more.
ARES Track: Getting Started with Winlink RMS Express: Marcia Forde, KW1U
Winlink Express is a versatile digital messaging tool in most ARES member’s "toolboxes." It allows email to be sent and received via HF and VHF radio, but also for digital text messages to be sent between stations directly, and much more.

ARES Track: SKYWARN Refresher ~ Rob Macedo, KD1CY
For those with Skywarn training, but in need of an update and refresher, Rob will present an overview of the SKYWARN program including a severe weather recap video. He will also discuss the Voice-Over-IP Hurricane Net and its role with WX4NHC, the Amateur Radio station at the National Hurricane Center.

Saturday 11 AM Sessions

Growing Your Club Through Elmering & New Ham Development
Fred Kemmerer, AB1OC
Fred will share some success stories showing how a focus on Elmering and skills development for experience and new hams can bring new energy and new members to your club. He’ll share programs that have proven successful and use this forum as a place to exchange ideas on Elmering and ham development projects and activities that are working.

DMR Without Code Plugs and Hotspots
Bob Greenberg, W2CYK
Bob will share the latest developments from RFinder labs.

DXing with DXLab ~ Dave Bernstein, AA6YQ
Dave will describe the freeware DXLab Suite and its support for DXing.

Youth Forum ~ New England Sci-Tech ARS
What do today’s amateur radio youth care about? Come and find out what’s on the minds of nine youths in this captivating panel discussion.

Getting Started With Amateur Satellites
Robert Hayes, KB1SWZ
Bob will share tips for the beginner to get started with the “easy” FM satellites.
Schedule Details

SATURDAY, September 11

11:00—11:50  Southborough
ares Track: HF Propagation for EmComm
Anita Kemmerer, AB1QB  Anita will present a simplified, non-technical approach to HF propagation for Emcomm, as well as discussing some practical antennas.

11:00—11:50  Sterling
ares Track: Right-Sizing ARES: Dave Colter WA1ZCN
Dave, former NH SEC and original editor for ARRL’s ARES training courses will talk about significant challenges ARES faces in providing communications for our served agencies, and present some ideas on how we can improve.

Saturday 12 Noon Sessions

12:00—12:50  Salon A
ARRL Forum ~ Fred Hopengarten, K1VR, and Phil Temples, K9HI
New England Division Director Fred Hopengarten and Vice Director Phil Temples will discuss current affairs at the League’s board followed by a Q&A session. Bring your questions!

12:00—12:50  Salon B
Can You Hear Me Now? Update ~ Joe Reisert, W1JR
Joe will describe how hearing affects ham radio communication, how our hearing works and how to fix it if it needs repair.

12:00—12:50  Duchess
Practical Portable Radio Operation ~ Mindy Hull, KM1NDY
With the availability of lightweight lithium batteries, portable operations is an increasingly mainstream and accessible pursuit of the amateur radio hobbyist. The excitement of radio field operations no longer needs to be relegated to official Field Days, with structured "On-the-Air" programs such as the Summits On The Air (SOTA) and Parks On The Air (POTA) providing endless and timeless remote communication opportunities. Portable radio is also where the outdoorist meets the amateur operator, requiring a complementary but different skill set from its participants than that acquired in the home station. Mindy will provide you with the information you need to enjoy this aspect of the hobby.

12:00—12:50  Princess
Introduction to NanoVNA ~ Greg Algieri, WA1JXR
Greg will explain how the NanoVNA works, what’s inside, and how to use it for Amateur Radio applications.
Schedule Details

SATURDAY, September 11

Saturday 1 PM Sessions

1:00—1:50 Salon A
**ARRL Section Manager & Affiliated Club Coordinator Forum**
**Mike Walters, W8ZY**
Mike, W8ZY invites SMs and ACCs to brain-storm on ideas. Mike is the new Manager of Field Services at ARRL Hq.

1:00—1:50 Salon B
**A Brief History of Amateur Radio and the Women Who Contributed** ~ **Jules Hojnowski, KD2FOU**
Though fewer in number than the men, women have contributed a great deal to Amateur Radio since the beginning. In this talk, Jules will highlight some of the notable women who found their place in the hobby.

1:00—5:00 Seminar
**YCCC Forum**
**Ken Caruso, WO1N, and Charlie Morrison, N1RR, Moderators**
Yankee Clipper Contest Club meeting and mini-presentations
1:00 Greetings and Business Meeting
1:30 Contesting Activities for Young People, Helping to Create the Next Generation of Contesters ~ **Fred Kemmerer, AB1OC**
Fred will share some contesting activities he has employed that have helped to get young people to begin participating in Amateur Radio Contests. He will share activities that have proven successful and use this forum and panel discussion as a place to exchange ideas to encourage young hams to try contesting, have fun, build their skills and beat the old timers at their game. The panel of youth contesters will be available for questions and answers and offer their opinions on what has worked for them to improve their contesting skill and the future of contesting as they see it.

Youth Contesters Panel
Moderator: **Marty Sullaway, NN1C**
Contesters: **Abby Finchum, AB1BY, Brayden Ebare, KC1KUG**
3:00 Building an entry level, multi radio contest station **Jeff Demers, N1SNB**
Jeff describes his quest to build a HF contesting station that is stealthy and capable. Jeff’s station goals included SO2R capability, mode flexibility, high power capable and covering all HF bands. Join Jeff’s talk to hear of some of the lessons from his journey and how this effort enhanced his enjoyment of the hobby.

4:00 Why Join the YCCC? **Ken Caruso, WO1N**
Ken will talk to the YCCC value proposition. What does joining the YCCC have to offer? Ken will review its community presence, activities and history. Membership applications will be entertained during the entire meeting. Stop by and join up!
**Schedule Details**

**SATURDAY, September 11**

**1:00—1:50 Duchess**  
**Ten Meters for Technicians ~ James Surprenant, AB1DQ**  
With Solar Cycle 25 starting to pick up, the 10 meter band is expected to become a hotspot of DX activity over the next few years. Technicians may be surprised to learn how easy and affordable it is to construct a 10 meter-only HF station to take advantage of their 28.3-28.5 MHz allocation and take part in the DX fun!

**1:00—1:50 Princess**  
**FCC RF Exposure Rules & Compliance ~ Dan Brown, W1DAN**  
Dan will discuss the FCC's RF exposure rules and how you check and achieve compliance painlessly.

**1:00—1:50 Southborough**  
**ARES Track: Tactical Message Handling ~ Dave Colter WA1ZCN**  
Dave will show you how to be an effective verbal communicator. Surveys have shown that nearly all disaster traffic on ham radio is verbal, not written, so it pays to be as proficient as possible.

**1:00—1:50 Sterling**  
**ARES Track: Lessons From the Big Ones ~ Paul Silverzweig, W1PJS**  
Paul has responded to a number of national-scale deployments, including Katrina and Puerto Rico. He has some useful stories and ideas to share that everyone can benefit from, whether you plan to deploy afar or in your back yard.

**1:00—2:50 Wayland**  
**ARES Track: Introduction to NBEMS ~ Don Rolph, AB1PH**  
Don will present the basics you need to get started with the Narrow Band Emergency Messaging System—a staple in many ARES member's "toolbox."

---

**Saturday 2 PM Sessions**

**2:00—2:50 Salon A**  
**The History and Current Values of Telegraph Keys ~ Tom Perera, W1TP**  
The invention of the Electric Telegraph revolutionized communication and led to the development of all forms of digital technology and the internet. Messages that would have taken days or months to deliver could be sent in a fraction of a second. As with all revolutionary technological advances, controversies arose about who was the first to invent this technology. Manufacturing companies competed with each other for the lucrative telegraph key market and military customers demanded specialized technology.
Schedule Details

Saturday, September 11

2:00—2:50 Salon B
New England Spectrum Management Council Meeting
Bob Demattia, K1IW
New England Spectrum Management is the VHF-UHF frequency coordinator for Maine, Massachusetts, New Hampshire, and Rhode Island. Members and non-members are welcome to attend this annual meeting.

2:00—2:50 Duchess
NTS Meet & Greet ~ Marcia Forde, KW1U
Marcia, KW1U, hosts this forum providig an opportunity for NTS folks and anyone interested in message handling to get together, meet face-to-face and exchange information on activities, thoughts and ideas regarding traffic nets and message handling in general

2:00—2:50 Princess
CW Academy ~ Bruce Blain, K1BG
CW Academy has trained an estimated 5,000 students in the past few years in the art of CW and telegraphy. If you want to learn Morse code, or improving your Morse skills is of interest, this talk is for you!

2:00—2:50 Southborough
ARES Track: Go Kit Strategies ~ Steve Davidson, NA1T
Steve Davidson, NA1T will get you started an effective kitting philosophy that gives you the ability to respond with exactly what you need for any given deployment - and not forget any key items! Steve has deep experience and knows the gear (he's a former HRO store manager!)

2:00—2:50 Sterling
ARES Track: ARESMAT -- An Essential ARES Tool
Dave Colter, WA1ZCN
Dave Colter, WA1ZCN will talk about ARESMAT, ARRL's basic tool for mutual aid responses. In an era with increasing storm hazards and a shrinking and aging ARES membership, ARESMAT will become more than an option. Learn how to make it work for your group, and for all the other groups around you.

Saturday 3 PM Sessions

3:00—4:50 Duchess
YL Gathering Sponsored by YLRL & WRONE
Anne Manna, WB1ARU and Barb Irby, KC1KGS
This presentation will be an opportunity for women who are hams, interested in becoming hams, or curious about what women hams do, to learn more and meet one another.
Schedule Details

**SATURDAY, September 11**

**3:00—3:50 Princess**

*Introduction to Spy Radios ~ Mike Crestohl, W1RC & Tom Perera, W1TP*

Join Tom and “Mister Mike” as they present some of the covert “spy radio” equipment used during the Second World War. Actual equipment from their collections will be demonstrated and on display.

**3:00—4:50 Southborough**

*New England ARES Update Forum*

ARES leadership from around the New England Division will talk about what’s going on in their areas, challenges they face, and solutions they’re implementing. The new two-hour format will allow everyone plenty of time for meaningful discussion.

---

**Saturday 4 PM Sessions**

**4:00—4:50 Princess**

*Amplitude Modulation ~ Tim Smith, WA1HLR*

A traditional forum at Boxborough/HamXposition for 23 years, Tim will discuss using the AM mode in the hobby today. A lively and entertaining presentation by the dean of AM operation.

---

**Saturday 5 PM Sessions**

**5:00—6:00 Seminar**

*ARRL Director Candidate Debate*

Join us for a lively presidential-style debate between the three candidates vying for the job of ARRL New England Division Director. The debate will be moderated by Don Arthur, K1DCA.

---

**Saturday Evening Sessions**

**6:30 PM—~9:30 PM Salon A/B**

*GRAND BANQUET ~ Special Guest Speaker: Phil Erickson, W1PJE*

Dr. Erickson will discuss HamSCI’s latest ionospheric science investigations and will also highlight research in his group at MIT’s Haystack Observatory.

**7:00—11:30 Marlborough**

*New England QRP Meet & Greet, Vendor’s Night & Build-a-thon*
SUNDAY September 12

09:00—9:50 Salon A
The World’s Greatest Coastal Station ~ Ed Moxon, K1GGI
A century ago, the early 1920s were a pivotal era in radio as the technology that pioneered wireless communication prior to WW1 gave way to a wave of American inventiveness. Riding the crest of developments, in 1921 the Radio Corporation of America launched ship-to-shore station WCC in Chatham Massachusetts, on Cape Cod. This program recaps the early advances that led RCA to boast that WCC was “The World’s Greatest Coastal Station.”

09:00—9:50 Seminar
Around the World with Pico Balloons ~ Mike Hojnowski, KD2EAT
Pico balloons are designed to reach float altitude in the jet stream, and ideally circumnavigate the globe. They can be aloft for months at a time and can be tracked with either APRS or WSPR. Mike will talk about Pico balloons—how to build and track them.

Sunday 10 AM Sessions

10:00—10:50 Salon A
Cybersecurity for the Radio Amateur ~ John Tarbox, WA1KLI
With many hams now setting their stations up for remote operation via the internet it is important to take measures to ensure that they are not accessed by unauthorized users or otherwise hacked. John will explore security steps that hams can take.

10:00—10:50 Salon B
Communications Support for the Department of Defense: How You Can Make a Difference ~ Tom Kinahan, N1CPE
Tom will introduce the Army and Air Force Military Auxiliary Radio Service (MARS) programs. He’ll explain how they are different from the past, and focus on what MARS is today.
Modeling with TLW, YW & HFTA ~ Larry Banks, W1DYJ
Larry has always been interested in understanding antennas. He’ll cover the use of three applications: TLW, YW, and HFTA, from the ARRL Antenna Book. Larry will help you to start modeling your own antenna systems.

Adventures in Home-Brew SDR Design ~ Derek Rowell, AK1WI
Derek will describe his multi-year project to develop the hardware and software for a stand-alone SDR system using the “Teensy” family of microcontrollers from PJRC. In particular, it uses the Teensy Audio Library structure, hence its name “AudioSDR.” The software is now freely available from GitHub.

Kite-Launched Antennas for Field Operations
Mike Pittaro, KJ6VCP
Kites are excellent portable antenna supports when paired with the right antenna. Mike will talk about kites, antennas, and how to put them together for QRP and field operations, including practical guidelines for real world situations.

VE Testing III ~ Bruce Anderson, W1LUS

Sunday 11 AM Sessions

MARS Members Meeting (closed) ~ Tom Kinahan, N1CPE
Military Auxiliary Radio System meeting for Army and Air Force MARS members only.

Eyesight and the Aging Ham or Tinkerer ~ Adrian Zeffert, AB2IX
As we age our eyesight changes. But there’s no need to think you are ready for the rubbish heap, or cannot build an electronics kit, or continue stamp collecting, work on model trains, or see the dials on your HF rig. Adrian will address the natural aging of our eyes and how to correct them with glasses, lenses, magnifiers, eye drops, corrective surgery and lighting.

JS8Call for EMCOM and QSOs ~ Aaron Addison, KF1G
Aaron will introduce you to JS8Call--a weak signal mode that leverages the power of FT8 to pull data from below the noise floor and combines it with the ability to have keyboard to keyboard QSOs, powerful directed and stored messages.
**11:00—11:50  Princess**

**Giant Antennas of the Navy ~ George Allison, K1IG**

George will introduce us to the U.S. Navy's specialized communications systems requiring enormous antennas for receiving and transmitting. The dimensions of these antennas are measured in miles, not meters, and transmitter power is measured in megawatts. Although these antennas are huge, hams will recognize their designs. If you have a few thousand acres of available land, maybe you'd like to build one.

---

**Sunday Noon Sessions**

**12:00—12:50  Salon A**

**APRS Golden Packet ~ Tim D'Apice, KA1YBS**

Tim describes a group of dedicated amateurs who meet up every third Saturday of July along the Appalachian Trail for some ad-hoc portable repeater fun, as they demonstrate the ability of data traveling thousands of miles without the aid of cell phones or even a power grid. Hang on for the ride!

---

**The 2022 Big E, will have a ham radio booth in ‘The Better Living Center!’**

We're looking for support from the New England clubs and hams. Have you ever thought of the possibility of demonstrating ham radio at a state fair that attracts over 80,000 people per day? 1.6 million people in 2019!

<table>
<thead>
<tr>
<th>The fair has &quot;State&quot; days which will bring in a lot of people from each state for that day. We want clubs/hams from each state to man the booth on those days</th>
<th>The booth will need to be manned from 10 am through 10 pm September 16 through October 2, 2022</th>
</tr>
</thead>
</table>

This has the possibility of being HUGE for New England Clubs. The Question is: "Will you be part of it?"

Join the group we have specifically for this event: [https://groups.io/g/ProjectBigE](https://groups.io/g/ProjectBigE)
12:00—12:50  **Salon B**  
**Minuteman Repeater Association ~ Jason Peardon, W1HFP**  
Jason will introduce one of New England’s largest linked repeater networks, followed by a raffle drawing.

12:00—12:50  **Seminar**  
**History of the Vacuum Radio ~ Louis Tramontozzi, KA1HIH**  
Louis will talk about radio development in the early part of the century. An antique radio buff, Louis will also talk about restoring antique radios.

12:00—12:50  **Duchess**  
**Software Defined Radio ~ Charles Miller, KC1JUO**  
Ham radio and Software Defined Radios are fundamentally similar and complementary. Charles will present an overview of his ham radio "journey" and include a demonstration using software defined hardware.

12:00—12:50  **Princess**  
**EDUCOMM: Education Through Communication ~ Joe Fairclough, WB2JKJ**  
Joe has been involved with the JHC “22 Crew” for forty-one years. He describes how you use Amateur Radio as a teaching tool at a school near you.

1:00—2:00  **Salon A**  
**Prize Drawing & Convention Wrap-up**

Thank you for attending
FEMARA Incorporated

FEMARA Inc. is a Massachusetts non-profit corporation that sponsors and runs the ARRL New England Division Convention. The group, which has been in existence for over 36 years, began as a consortium of area radio clubs. FEMARA is qualified under IRS 501(c)(3). Donations to FEMARA are deductible as allowed by IRS regulations.

Our goals are twofold; to offer the richest and most diverse ARRL Convention in the country, and to support the ARRL Foundation’s scholarship program.

73,
Bob DeMattia - K1IW
President, FEMARA, Inc.

FEMARA Officers

President . . . Bob DeMattia - K1IW
Vice President . . . Mike Raisbeck - K1TWF
Treasurer . . . Joyce DeMattia - K1IWW
Clerk . . . Ken Caruso - WO1N

Convention Committee

General Chair, Exhibitors . Mike Raisbeck - K1TWF
Vice-Chair, Operations . Bob DeMattia - K1IW
Program Chair . . Phil Temple - K9HI
Website, Information Sys, Ticketing Ian MacKenzie - KB3OCF
Youth Chair . . . Bob Phinney - K5TEC
Special Event Coordinator Fred Kemmerer - AB1OC
Special Event Station Marty Sullaway, NN1C
& Gerry Hull, W1VE
Flea Market, DXCC Dinner . Ken Caruso - WO1N
Publication Editor . . Larry Banks - W1DYJ
ARRL Exams . . Bruce Anderson - W1LUS