February 2016 PARTicles
The newsletter of PART of Westford, MA – WB1GOF
Celebrating 40 years of public service 1975-2015

President's Column

- *Andy Stewart (KB1OIQ)*

As I write this article, it is between -5 and -10 degrees outside. The car started rather begrudgingly this morning, and the clutch was quite stiff and unresponsive. The low tire pressure light works just fine.

Club activities have been fairly calm over the last few weeks. We're starting to think about warmer days and Field Day. I just realized that I missed the Algonquin Flea Market. Did anybody go? What kind of cool stuff did you buy?

In January, I accomplished my goal of operating CW one hour for each "UTC day" during the SKCC K3Y event. I made about 350 contacts to other SKCC members and earned my "Senator" award. The bands were often unkind, but that caused me to practice using many of the available adjustments on my IC-746PRO, such as RF gain, RIT, filter width, headphones vs. speakers, reduced volume during high static conditions, and the noise blanker to filter out local electrical noise. My most memorable contact was Hawaii on 80m around 0400 UTC one evening, running 100W into a G5RV at 30 feet.

K1P is a special event station that we have operated on Patriots' Day in April for the last several years. If anybody is interested in taking over this special event, please contact Andy (KB1OIQ): kb1oiq@wb1gof.org

I chatted via email to two prospective speakers for the February meeting, but unfortunately neither was able to make it. I hope to get those guys to speak at future meetings. Instead, we'll have a "Show 'n Tell" meeting.

These have been popular in the past. This is your chance to address the club and show off something of interest. People have brought their favorite QSL cards, shown off a homebrew project, demonstrated a new ham radio toy, and so on. If you have something that you'd like to bring or discuss, please send me email: kb1oiq@wb1gof.org.

How many of you have played with those DVB-T USB dongles? They can be used as cheap software defined radio receivers. It is facinating to me the variety of signals that are out there, and how they look on the waterfall of the SDR software. Many signals are digital in nature. Some can be decoded with software, while others require specialized radios to decode. There are also plenty of analog signals, AM and FM broadcast, shortwave, and of course the signals commonly found in the ham bands. Did you know about digital radio mondiale? How about HD Radio? When you see an unrecognized signal, do some research. It won't take long to figure it out. You'll learn something and have fun in so doing.

Spring will be coming soon, and it isn't too early to plan for any enhancements or repairs to your shack. Will you need to replace an antenna that came down in a winter storm? Do you have an idea for a new antenna? In my case, the shack will be moving from a second floor room to a newly renovated room on the ground floor of the house. I'm researching proper grounding techniques and proper ways to bring the coax into the house. I'm interested in both legal and safe techniques, as well as the asthetics. It is amazing how much false technical information is available on the internet. How is one to know the difference?

Elmers! Learn from the collective experience of other hams. The willingness of hams to help each other is a great part of this hobby!

Have a lot of fun, and 73!

Andy (KB1OIQ).

Treasurer's Report

PART Treasury between 15- December '15 & 18-January '16 (As of 19-January '16)

	General Fund	Repeater Fund	Checking Total
Old Balance	$ 3,149.22	$ 3,857.98	$ 7,007.20
Income	$ 480.00	$ 105.97	$ 585.97
Expenses	$ (211.48)	$ 0.00	$ (211.48)
Net	$ 268.52	$ 105.97	$ 258.49
New Balance	$ 3,417.74	$ 3,963.95	$ 7,381.69

PART 2016 Membership as of 12-February '16

	Individuals	(= New for 2016 + Renew for 2016)	Households	(= New for 2016 + Renew for 2016)
Full ($25)*	27	(=1 + 26)	27	(= 1 + 26)
Senior ($15)*	29	(=0 + 29)	18	(= 0 + 29)
Family ($30)*	6	(=0 + 6)	3	(= 0 + 3)
Student ($15)	0	(= 0 + 0)	0	(= 0 + 0)
Associate ($10)	0	(= 0 + 0)	0	(= 0 + 0)
Grand Total*	***62***	**(= 1 + 61)**	**59**	**(= 1 + 58)**

ARRL members:* 55 / 88.7%
(Including ARRL Life members: 9)
NOTE: * Starred lines changed since 15-Jan '16

PART Officers:

President: Andy (KB1OIQ) Stewart
Vice President: Rich (AB1HD) Crisafulli
Secretary: Rick (W1RAG) Green
Treasurer: Alan (W1AHM) Martin
Director-At-Large: Steve (WA1KBE) Rimsa

PART 2015 Membership as of 1-January '16

	Individuals	(= New for 2015 + Renew for 2015)	Households	(= New for 2015 + Renew for 2015)
Full ($25)	47	(=11 + 36)	47	(=11+ 36)
Senior ($15)*	46	(= 7 + 39)	46	(= 7 + 39)
Family ($30)	23	(= 4 + 19)	11	(= 2 + 9)
Student ($15)	0	(= 0 + 0)	0	(= 0 + 0)
Associate ($10)	0	(= 0 + 0)	0	(= 0 + 0)
Grand Total*	***116***	**(= 22 + 94)**	**104**	**(= 20 + 84)**

ARRL members:* 104 / 89.6%
(Including ARRL Life members: 11)
NOTE: * Starred lines changed since 15-Jan '16

With 116 members (104 ARRL, (11 ARRL life)) in 2015, PART has once again surpassed the previous record high water mark of 113 (99 ARRL (9 ARRL Life)), in 2014.

PART's official mailing address is:

PO Box 503
Westford, MA 01886

Our website is: http://wb1gof.org
Our forum is: http://wb1gof.net/forums/
Contact us at: info@wb1gof.org
Follow us on Twitter: www.twitter.com/wb1gof
Like us on Facebook: www.facebook.com/wb1gof

##To pay dues##
PART, P.O. Box 503, Westford, MA 01886-0015

-or-
Club Meeting, Cameron Senior Ctr., 7:30PM, 3rd Tuesday

Renew online by PayPal at: http://www.wb1gof.org/F_join/part_dues.html

ARRL New England Convention at the Holiday Inn Boxborough, Massachusetts
September 9, 10 & 11

Upcoming PART Meetings/Events

February 16th 2016
- PART Meeting. 7:30 -9 p.m. LOCATION: Cameron Senior Center, 20 Pleasant St.

March 5th 2016
- PART monthly breakfast. Westford Regency. 8-10 AM ($15/$9; kids: $8 – see note below)

March 15th 2016
- PART Meeting. 7:30 -9 p.m. LOCATION: Cameron Senior Center, 20 Pleasant St.

April 2nd 2016
- PART monthly breakfast. Westford Regency. 8-10 AM ($15/$9; kids: $8 – see note below)

April 19th 2016
- PART Meeting. 7:30 -9 p.m. LOCATION: Cameron Senior Center, 20 Pleasant St.

May 7th 2016
- PART monthly breakfast. Westford Regency. 8-10 AM ($15/$9; kids: $8 – see note below)

May 17th 2016
- PART Meeting. 7:30 -9 p.m. LOCATION: Cameron Senior Center, 20 Pleasant St.

Monthly PART Meetings and Social Events

- Every Sunday, 8 PM – PART Net on 146.955 repeater
- **Every 3rd Tuesday, 7:30 PM – PART Meetings at Cameron Senior Center**
- Every 1st Saturday, 8 AM, Regency Inn Westford – PART Monthly Breakfast
- Every Wednesday, 6 AM, Owl Diner Lowell – Breakfast

Ham Fleas/Events

Links to hamfest websites (partial)

Cambridge MA Flea at MIT http://www.swapfest.us
Boxborough MA NE ARRL Conv http://www.boxboro.org
Adams MA N BerkshireARC http://www.nobarc.org/hamfest.htm
Dartmouth MA SEMARA http://www.semara.org/flea.htm
Falmouth MA FARA http://www.falara.org
Feeding Hills MA MTARA http://www.mtara.org
Framingham MA FARA http://www.fara.org & http://www.n1em.org
Marlboro MA AARC http://www.qsl.net/n1em
Newton MA Waltham ARA Auction http://www.wara64.org/auction
Rockport MA CAARA http://www.caara.net
S Dartmouth MA SEMARA http://www.semara.org
Wakefield MA Photographica http://www.phsne.org
Westford MA NEAntiqueRC http://www.nearc.net
Whately MA FranklinCARC http://www.fcarc.org/news.htm
Worcester MA WPI ACM http://acm.wpi.edu/swapmeet/

New England Area Ham/Electronic Fleas:

http://web.mit.edu/w1gsl/Public/ne-fleas

2016

6 Feb Springfield VT CVFMA.org @VFW @8-12 Steve N1QDT 802 885 8110
6 Feb Windsor CT VR+C Mus 115 Pierson LN @8AM Indoor John 860 673 0518 +
13 Feb Marlboro MA AARC $5@9A @MS Tim KA1OS 508 916 6136 F+
27 Feb S Burlington VT RANV @HI x14 I89 Mitch W1SJ 802 879 6589 W
27 Feb Augusta ME AARA @Club Calumet Bill K1NIT 207 512 0312 A+
28 Feb Hicksville NY LIMARC @LevitHall Richard K2KNB 516 694 4937 A+
5 Mar Chicopee MA MtTomARA @MooseLodge @8:30 S@6:30 Mary KB1ME 413 222 1990
6 Mar Westford MA Radio @Regency Antique Bruce 603 772 7516

13 Mar Henniker NH CVRC @Comm Sch Donald N1ZIH 603 707 7996 A+
19 Mar Dayville CT ECARA @StJosephCh $3@8A $10/T Peter K1LNX 401 603 1485 +
20 Mar Southington CT @HS $5@8 $20/T John WA1JKR 860 621 8791
25,26 Mar Lewiston ME AARC ME Conv @Ramada @8 Ivan N1OXA 207 784 0350
2 Ap Newton MA PHSNE Photographica Sat Only @AmLegion @9A John 781 592 2553 +
9 Ap Windsor CT VR+C Mus 115 Pierson LN @8AM Indoor/Out John 860 673 0518 +
9 Ap Hampton NH PCARC @MasonLdg $5@8 $10/T@7 Mark K1RX 603 775 0220 F+ 10 April Framingham MA FARA @KeefeTech @9 $25/T Eric KB1PJN 508 310 5913 +
9 Ap LaSalle PQ MARC @RC Legion $5@9 $10/T@8:15 Jim 514 990 1965 W+
10 April Framingham MA FARA @KeefeTech @9 $25/T Eric KB1PJN 508 310 5913
16 April Gails Ferry CT RASON Auction $5@9 S@8 Stan KT1SS 860 376 3770 +
16 Ap S Portland ME PAWA @Am Legion $6@8 $10/T@6:30 Bryce K1GAX 207 415 0498 W+
17 Apr Cambridge MA Flea at MIT Mitch 617 253 3776 +
24 Ap Middletown NY OCARC Bruce K2ULZ 845 391 3620 A+
29,30 Apr Deerfield NH NEARfest XIX @FG Mike K1TWF 978 250 1235
14 May E Greenbush NY EGARA @FireCo $6@8 $6/T@6 Tom KC2FCP 518 272 1494
15 May Cambridge MA Flea at MIT Mitch 617 253 3776 +
4 June Hermon ME PSARA @8 @HS TG@6:30 Jerry K1GUP 207 848 3400
11 June Windsor CT VR+C Mus 115 Pierson LN @8AM Outdoor John 860 673 0518 +
19 June Cambridge MA Flea at MIT Mitch 617 253 3776 +
17 July Cambridge MA Flea at MIT Mitch 617 253 3776 +
13 Aug St Albans VT STARC @VFW $5@8 Arn N1ARN 802 309 0666
21 Aug Cambridge MA Flea at MIT Mitch 617 253 3776 +
28 Aug Adams MA NoBARC @BoweFld 6:30sell 7:30buy Eric KA1SUN 413 743 9975
9,10,11 Sep Boxboro MA FEMARA NE Conv Mike K1TWF 978 250 1235 ***CHANGED DATE***
10 Sept Windsor CT VR+C Mus 115 Pierson LN @8AM Outdoor John 860 673 0518 +
17 Sept Forestdale RI RIAFMRS @VFW $5/Sp@8 Pete AA1PL 401 639 4484 +
18 Sep Cambridge MA Flea at MIT Mitch 617 253 3776 +
14,15 Oct Deerfield NH NEARfest XX @FG Mike K1TWF 978 250 1235
16 Oct Cambridge MA Flea at MIT Mitch 617 253 3776 T+
30 Oct Hicksville NY LIMARC @Levitt Hall Richard K2KNB 516 694 4937 A+
12 Nov Bourne MA FARA @UpperCC VoTech $5@9 $10/S@7 Ralph N1YHS 508 548 0422 +
3 Dec Windsor CT VR+C Mus 115 Pierson LN @8AM Indoor John 860 673 0518 +

Near-term local fleas
NEARC Greater Boston Antique Radio Show XLVII Sunday, 6-Mar'16 ***** Different weekend than usual ***** Buyers $10.00/family, 8:00AM-12:00 noon
(http://www.nearc.net/swapmeetinfo.htm)
Westford Regency Inn
219 Littleton Rd. (Rt. 110)
http://goo.gl/maps/4tyCX

The PART monthly meetings are held at the Cameron Senior Center, 20 Pleasant Street in Westford.

Click here for the address and information.

NE ARRL Boxboro Convention News




Call for Speakers!

- *Phil Temples, K9HI - Program Committee Chair*

Don't just attend Boxboro 2016—BE A PART OF IT! The Boxboro Committee seeks fresh and exciting presentations for this year's ARRL New England Division Convention. (Note the new date!) As a Boxboro speaker, you will have the opportunity to share your subject and knowledge with Amateur Radio operators from around New England, surrounding states, and Canada.

Last year's program included top-notch presentations of both a technical, as well as non-technical nature. This year, we will feature workshops on Friday, a Saturday morning keynote address, and an enhanced Sunday program schedule. It's our hope that Convention attendees will attend the many activities spanning the three-day event.

If you represent a regional club or organization (e.g. YCCC, NEQRP, WRONE, MARS, etc.) we can help facilitate open forums or closed meetings by providing you a meeting space.

Groups who wish to set up information booths should get your requests in early. While the information booths are offered without charge, we ask for some volunteer time in return to assist us with ticket sales and other logistics during the convention.

To register as a presenter, please visit https://goo.gl/Nrwu1g and complete the online form. For the latest information on Boxboro 2016!, please visit http://www.boxboro.org or email or call us if you have additional questions. We look forward to meeting all of you at the convention!

Amateur Radio Classes

The Nashua Area Radio Club is sponsoring a series of licensing classes, directed by PART member Anita, AB1QB.

Upcoming classes include a two-day Technician session Feb 27-28, a two-day General upgrade session Mar 19-20, and a three-day Amateur Extra session May 13-14-15. So far, Anita has had an impressive 100% pass rate from these sessions. For more information, e-mail Anita at ab1qb@arrl.net, or visit the Nashua Area Radio Club web site at www.n1fd.org or on Facebook at https://www.facebook.com/NashuaAreaRadioClub

Amateur Radio News

From eHam.net News:

Eye on Education: Ham Radio Club:

by kxnet.com on February 14, 2016

Bishop Ryan's amateur radio class has entered a week-long, worldwide competition for the first time this year. John Doran stopped by to see how the students enjoyed going over the waves. (John Doran-KX News) For the first time, Bishop Ryan school is getting competitive with their ham radio, entering into the "School Club Roundup" competition. (Joe Ferrara-Ham Radio Teacher) "The idea here is to talk to, to get high schools, middle schools and

universities all over the world on it the same week." (John Doran-KX News) The objective of the contest, which involves every level of schooling, is to see how many people you are able to connect with using a ham radio. Using the radio isn't just as simple as picking up a microphone, however, there's plenty of science and mathematics involved. Students like 8th grader Corbin Okeson know that fitting this in with the rest of their curriculum will one day help land him in a good college. (Corbin Okeson-Bishop Ryan 8th Grader)"It looks really good on degrees. Say you're trying to get a job in engineering and they say, 'oh you took ham radio?' It teaches you a lot and it's going to set me up for life." (John Doran-KX News) Joe Ferrara, the teacher, has seen many students come through his class go on and pursue successful careers. Especially in its inaugural year about 10 years ago. (Joe Ferrara-Ham Radio Teacher) "When we started this we had three kids in our amateur radio class and one is a Navy Seal, one has a PhD in Mathematics and the other has a PhD in optics, so it seems to work." (John Doran-KX News) But what draws students to ham radio is the fascinating ability to instantly connect with people around the globe with no cell phones and no internet.

Prediction Methods in Solar Sunspots Cycles:

by nature.com on February 14, 2016

The Sun is an important source of energy in our life. The sunspots and solar flares have been observed and studied by many researchers. Many models which are developed from the Ohl's Precursor Method1 have yielded varying degrees of success in predicting an upcoming solar activity. In this study, a simplified movable divided-blocks diagram is proposed to explain the underlying physical principle of the Ohl's Precursor Method. Based on the movable divided-blocks diagram, the most promising and interesting regions for statistical evaluation are identified. The strong correlationship between the sunspots activity numbers and the geomagnetic index is numerically calculated and subsequently verified. It is consequently shown from a statistical study of the time-delayed solar events that the electromagnetic pole members to which the sunspots are associated, are moving with a time interval which is determined statistically in this study, toward the Sun's Equator in each solar cycle under the influence of electromagnetic torques which are the higher-orders corrections to the rotating magnetic dipoles. The sunspots, though seem to have occurred randomly on the Sun, have exhibited another regular feature. A butterfly pattern, which is observed in each of the solar cycles over the centuries, has long been a puzzling phenomenon. The butterfly pattern, as shown below, could be inferred from the various projected end-points left by the precessing motion of the magnetic moments under the influence of the electromagnetic torques. The calculated results are compared with the observed sunspot butterfly diagram. The similarity between them is interesting for further investigation and discussion. A recent attention has been focusing on the possible forthcoming new ice-age like climate2, which is based on a mathematical regression model that extracts two principal components in the solar background magnetic field. This effect would have a serious impact in our life. An understanding of the sunspots activity and a long-term planning would help us to better prepare with the changes. The correlation factors are calculated from the solar and geomagnetic data sets with the selected time-windows as implied and chosen from the movable divided-blocks diagram. A statistical study of the time-delayed events, which would eventually produce a reasonable prediction on the timing of the peak in the monthly sunspots numbers in the ascending phase of an upcoming solar cycle, is presented for further investigation.

Riley Hollingsworth, Retired FCC Special Counsel to be on Webcast:

by tom Medlin (W5KUB) on February 13, 2016

Live webcast Tues Feb 16 at 8 PMCT (0200 UTC Wed) on W5KUB.COM. Riley Hollingsworth, retired special counsel to the FCC, will be back with us on the broadcast and answering your questions.

Fine Tuning in Trying Times:

by navhindtimes.in on February 13, 2016

The radio has been an integral part of our lives, since the time it was invented. Through all the wars, floods, earthquakes, accidents, the radio has stood tall as the most reliable means of communication. Today, on World Radio Day, with the theme of 'Radio in Times of Emergency and Disaster', NT BUZZ talks to few radio jockeys across the state to find out the scope for the first modern medium of communication. From the transistors and walkmans, to the music system and now cell phones, all these gadgets come equipped with the series of fine lines that give you music and updates on news, sports and other happenings around you. It is quite rare to come across a person who has not tuned into the radio to listen to the voice of a favourite radio jockey or just for the pure pleasure of listening to music. However, very few realise that this medium is an all important and powerful communication tool during emergencies too. This World Radio Day, February 13, the UNESCO has decided to highlight the use of the 'Radio in Times of Emergency and Disaster'. There have been a lot of examples where the radio had been resorted to, as a means of getting updates, and connecting people during emergency situations. From airing tsunami alerts in Japan and Chile, and information on how to avoid Ebola transmission in Liberia or the weather updates when hurricanes strike in the USA. Closer home in India we had seen the use of the radio in time

of the floods and other calamities. The amateur radio, HAM in Kolkata became a vital lifeline for many people inquiring about family members who were incommunicable during the Chennai floods; while the Mumbai Amateur Radio Society were at work during the Mumbai train bombings, Maharashtra floods, Indian Ocean earthquake and even the Gujarat earthquake providing necessary communication links after other modes of communication failed. “The radio has a much wider reach and nowadays there are various smaller sections of society setting up their own community radios which cater to their specific needs. And with this concept the radio is penetrating more into the rural areas in India, rather than in the urban. The use of radio in emergencies like natural disasters and other such calamities is of utmost reliance, as when all other signals die down, the radio is the only signal that generally works. “So you will have people tuning in to the radio to get updates rather than rely on the cellphones,” says Sachin Chatte, RJ, AIR FM Rainbow. The reach of the radio is so wide, that in fact during emergencies people are told to keep the radio safe and keep a stash of spare batteries.

Solar Activity Remains the Quietest it has Been in More Than a Century:

by dailymail.co.uk on February 13, 2016

We've had smallest number of sunspots in this cycle since Cycle 14. This cycle reached its maximum solar activity in February of 1906. Low solar activity can lead to extended periods of cooling, researchers say. The sun is in the midst of its quietest period in more than a century. Several days ago, it was in 'cue ball' mode, with an incredible image from Nasa showing no large visible sunspots seen on its surface. Astronomers say this isn't unusual, and solar activity waxes and wanes in 11-year cycles, and we're currently in Cycle 24, which began in 2008. We've had the smallest number of sunspots in this cycle since Cycle 14, which reached its maximum in February of 1906. 'With no sunspots actively flaring, the sun's X-ray output has flatlined,' wrote Vencore Weather. 'The number of nearly or completely spotless days should increase over the next few years as we continue to move away from the solar maximum phase of cycle 24 and approach the next solar minimum phase and the beginning of solar cycle 25.' 'The current level of activity of solar cycle 24 seems close to that of solar cycle number 5, which occurred beginning in May 1798 and ending in December 1810,' added an analysis by Watts Up With That.

Ellis County Amateur Radio Operators Lend Hand in Tornado Efforts:

by focusdailynews.com on February 12, 2016

WAXAHACHIE -- Throughout most of the day and into the night on December 26, 2015, Ellis County Amateur Radio club members that are part of the Ellis County Amateur Radio Emergency Service, http://www.elliscountyares.org/, used their communications skills to keep track of tornado activity that came through the county. Hams were strategically placed while storm spotting. They moved where the storm(s) moved keeping a safe distance. The information that was gathered was then passed on to NOAA weather personnel who rely on ham radio operators to report accurate and timely information. Had Internet and cell phones failed, ham radios would still be functional. Guest speakers for the January 21, 2016 meeting were Dave Grieg N3BUO and Gary Pannell WA5FWC. They gave a presentation on antennas, DX logging and programming. Dxing is where ham radio enthusiasts work stations outside their own country. Gary stated, "It’s one thing to talk to South Africa and get a QSL card. (These cards are fun to collect from all over the world and act as written confirmation that there was a contact made.) If I want to send one back that costs $2 to send overseas, which can get quite expensive. If you use a logging system, you can reach a lot more countries with three different modes of communication.” Gary uses a program called N1MM for contesting as well as DXKeeper. DXKeeper is a free, comprehensive amateur logging software that records and manages contacts commonly known as QSOs. He went on to say, "If you really want to be a Dxer, I suggest you work CW (Morse Code). It’s so easy to work and opens the world up.”

Vijayawada Ham Operators Make a Mark at IFR:

by thehindu.com on February 12, 2016

Ham Radio operators from the city played a key role in the synergy that contributed to the grand success of the International Fleet Review (IFR) organised in Visakhapatnam. Members of the IFR Ham Radio Communication team shared their exciting experience. “We were entrusted with the task of providing communication network in all key points during the IFR,” says Arza Ramesh Babu, a Ham radio operator who coordinated with other team members. Mr. Ramesh Babu first identified and mobilised active Ham Radio operators in Andhra Pradesh and Telangana State and constituted a 23-member IRF Ham Radio expert team that headed to Visakhapatnam with personal Ham equipment on February 4. They carted equipment like HF, VHF, Repeater, Software Defined Radios, and antennas and batteries, and established Ham Radio communication links in 11 key points identified by the district administration.

The Curiosity Mars Rover is Leaving a Secret Code In the Dirt:

by techinsider.io on February 12, 2016

There's a fun little "Easter Egg" secret that's literally been leaving its mark on the surface of Mars since 2012. The

Jet Propulsion Laboratory engineers behind the Mars Curiosity rover figured out how to mark their Martian territory with the letters J-P-L, just in case little green men want to know who they're dealing with. On a recent tour of the lab in Pasadena, California, JPL spokesperson Mark Razze said that Curiosity needed to have holes in its six wheels, so that dirt could escape and not clump up inside its wheel wells -- a problem that doomed a previous rover named Spirit. They weren't satisfied with simple, meaningless holes. They wanted the holes to read JPL, Razze explained, and NASA didn't. So they did it anyway, in Morse code. The dots and dashes that the JPL holes leave on the Martian surface should stick around for quite a while, since the thin Martian atmosphere slows erosion by the wind.

Nashville Actor Set for Frequency Reboot:

by moviehole.net on February 12, 2016

"Nashville" alum Riley Smith is set for the lead in The CW's reboot of 2000 movie "Frequency". According to Deadline, the actor plays the role of Frank Sullivan, played by Dennis Quaid in the New Line flick. Written by Jeremy Carver (the "Supernatural" showrunner), the series will center on "Raimy, a female police detective in 2016 who discovers that she is able to speak via a ham radio with her estranged father, Frank Sullivan (Smith), also a detective, who died in 1996. "Seen in 1996, Frank Sullivan has been undercover for two years. The strain of the assignment effectively destroyed his marriage and separated him from his little girl, Raimy, but he gets a new chance at building a relationship with her when she begins communicating with him from 20 years in the future. The two forge a new relationship while working together on an unresolved murder case, but unintended consequences of the 'butterfly effect' wreak havoc in the present day." The original film, which took place in 1999 New York, co-starred Jim Caviezel as the sibling who discovers he can communicate with his [younger] father via ham radio.

This Is The Most Dangerous Way To Listen to the Radio:

by popularmechanics.com on February 12, 2016

Step one: get some jump wires. Step two: put on insulating gloves. Step three: put the jump wires on a radio antenna. AM radio towers are giant beasts thanks to the way AM radio works: amplitude modulation. The more power, the higher the band of the radio. This means that they are essentially radiating out broadcasts with lots and lots of energy, as opposed to FM radio. But just how dangerous are those towers? This Michigan State University Amateur Radio Club demo should give you a rough idea. By attaching a jump cable to the tower, the amateur radio club at the university essentially shorts out the tower briefly. When that happens, the arc of electricity firing off the tower then carries enough strength to actually unleash the audio. There's about 50,000 watts in that tower and briefly in that arc. Hence, all the safety gear on the operator of this temporary unlicensed broadcast.

Scientists Find Evidence of Gravitational Waves Predicted by Einstein:

by foxnews.com on February 11, 2016

After decades of searching, scientists announced Thursday that they have detected gravitational waves -- essentially ripples in the fabric of space-time -- that had been predicted by Einstein. An international team of astrophysicists said that they detected the waves from the distant crash of two black holes, using a $1.1 billion instrument. The Ligo Collaboration was behind the discovery and it has been accepted for publication in the journal Physical Review Letters. "We have detected gravitational waves," Caltech's David H. Reitze, executive director of the LIGO Laboratory, told journalists at a news conference in Washington, DC. Their existence was first demonstrated in the 1970s and 1980s by Joseph Taylor, Jr., and colleagues. In 1974, Taylor and Russell Hulse discovered a binary system composed of a pulsar in orbit around a neutron star. Taylor and Joel M. Weisberg in 1982 found that the orbit of the pulsar was slowly shrinking over time because of the release of energy in the form of gravitational waves. For discovering the pulsar and showing that it would make possible this particular gravitational wave measurement, Hulse and Taylor were awarded the 1993 Nobel Prize in Physics.

US House Subcommittee to Consider Amateur Radio Parity Act:

by The ARRL Letter on February 11, 2016

The Amateur Radio Parity Act, H.R. 1301, was among three bills that the US House Subcommittee on Communications and Technology considered in a Thursday, February 11 "markup" session. Subcommittee members voted to send the measure to the House Energy and Commerce Committee for further consideration.

ARRL News

Enthusiasm, Friendly Faces Abound at Orlando HamCation, Host of 2016 ARRL National Convention

February 13, 2016 - New ARRL President Rick Roderick, K5UR, was among the members of the ARRL team greeting visitors to the **ARRL Expo** at Orlando HamCation on February 12. Friday was opening day for the Orlando **HamCation**, which is hosting the 2016 ARRL National Convention. The event marks President Roderick's inaugural ARRL National Convention appearance since his election in January. The weather has been pleasant,...

"Ham TV" System Used for First Time During ARISS Contact with UK School

February 12, 2016 - The "**Ham TV**" digital Amateur Radio television system onboard the International Space Station was used for the first time ever this week for an Amateur Radio on the International Space Station (**ARISS**) school contact. UK and ESA Astronaut Tim Peake, KG5BVI, inaugurated the system as he spoke on February 11 with students at a school in Rickmansworth, England. The DATV system in the *Columbus* module...

The K7RA Solar Update

February 12, 2016 - All four of the indices we track rose over the past week, with average daily sunspot number rising from 50.6 to 86.6, average daily solar flux up from 105.4 to 117.4, average daily planetary A index increasing from 7.3 to 9.4, and average daily mid-latitude A index up from 5.6 to 6.4.

Predicted solar flux for the near term is 110 and 105 on February 12-13, 105 on February 14-16, 111, 100, 105 an...

Amateur Radio Parity Act Gets Favorable Subcommittee Report

February 12, 2016 - On a voice vote, the US House Subcommittee on Communications and Technology has sent the Amateur Radio Parity Act, **H.R. 1301**, to the full House Energy and Commerce Committee with a favorable report for further consideration. The measure was among three bills the Subcommittee considered during a February 11 "markup" session. The Subcommittee is chaired by Rep Greg Walden, W7EQI (R-OR).

ARRL Headquarters Closed for Presidents' Day

February 11, 2016 - ARRL Headquarters will be closed for the Presidents' Day holiday on Monday, February 15. In addition, there will be no **W1AW** bulletins or code practice.

The March Edition of Digital QST is Now Available

Wednesday, February 10, 2016 - **The March Edition of Digital *QST* is now available at http://www.nxtbook.com/nxtbooks/arrl/qst_201603/.**
This is our annual antenna issue!
• Build a four-band VHF-UHF "contest" antenna
• Use a satellite TV dish to disguise a 2 meter antenna
• Try a 60-meter dipole antenna that also works on 15 meters
• Build a compact 3-band HF antenna
...and much more!

Army and Air Force MARS Communications Exercise Set for February 12

February 10, 2016 - The first quarterly Military Auxiliary Radio System (MARS) US Department of Defense communications exercise of 2016 (COMEX 16-1) is set for February 12. The scenario will be a loss of electrical power, landline telephone and cell service, and Internet. The exercise will get under way at 1200 UTC and run for 12 hours. Individual radio amateurs and Amateur Radio Emergency Service (ARES) groups wi...

ARRL 2016 International DX Contest (CW) is February 20-21

February 10, 2016 - No contest season is complete without the running of our annual ARRL **International DX Contest**. The CW event is February 20-21; the phone event is 2 weeks later on the weekend of March 5-6.

Whether you're new to DXing, new to HF, or even new to CW, this contest offers an easy way for you to join in and have a lot of fun! The contest exchange is short and simple, and many participants here and abr...

Randy Thompson, K5ZD, Stepping down as CQ World Wide Contest Director

February 10, 2016 - Randy Thompson, K5ZD, said February 9 that he will step down as director of the CQ World Wide Contest as soon as his replacement can be found. His **announcement** includes a job description for prospective applicants. Thompson cited increasing professional responsibilities for his decision. Thompson became director of the CQ WPX Contest in 2008, serving through the 2012 contest. He was appointed a...

US House Subcommittee to Consider Amateur Radio Parity Act

February 09, 2016 - The Amateur Radio Parity Act, **H.R. 1301**, will be among three bills that the US House Subcommittee on Communications and Technology will **consider** in a Thursday, February 11, "markup" session. The subcommittee will gather on February 10 for opening statements only. When it reconvenes the next day, its members could vote to send the measure to the House Energy and Commerce Committee for further co...

Virgin Islands Weather Net Founder, Repeater Network Pioneer George B. Cline, KP2G, SK

February 09, 2016 - George B. Cline, KP2G, of St John, Virgin Islands, died on January 11. He was 79. For many years Cline served as a radio dispatcher for St John Rescue, and he was a member of the St John Amateur Radio Club. In 1994, Cline initiated the Virgin Islands Weather Net to provide weather updates and critical weather information for the greater Virgin Islands community.

Icom Donates IC-9100 Transceiver to ARRL

February 08, 2016 - Icom America recently donated an **IC-9100 transceiver** for installation at W1HQ, the ARRL Headquarters station used by employees and volunteers.

The transceiver was provided courtesy of Ray Novak, N9JA, Icom America Senior Sales Manager, and it includes the optional 1200 MHz module. The IC-9100 is an HF through 1200 MHz multimode transceiver that offers two independent receivers. It received an e...

2016 ARRL Field Day is June 25-26

Objective- To work as many stations as possible on any and all amateur bands (excluding the 60, 30, 17, and 12-meter bands) and to learn to operate in abnormal situations in less than optimal conditions. Field Day is open to all amateurs in the areas covered by the ARRL/RAC Field Organizations and countries within IARU Region 2. DX stations residing in other regions may be contacted for credit, but are not eligible to submit entries.

VI0ANZAC to try again

VI0ANZAC from Casey Base in the Antarctic will try to hold another activation this month as bad weather caused the event, part of the Wireless Institute of Australia (WIA) ANZAC 100 program, to be postponed in August

US Hams part of emergency exercise

Jim Linton VK3PC, Chairman IARU Region 3 Disaster Communications Committee says the US National Guard had its Operation Seismos, an earthquake drill February 3-6, and used radio amateurs to transmit messages as it accessed community disaster resources

Japanese Ham Radio satellite launch postponed

ChubuSat-2, ChubuSat-3 and Horyu-4 were expected to launch on Friday, February 12 into a 575 km, 31 degree inclination orbit. This launch has been postponed due to bad weather at the launch site

Skills Night Monday Feb 15

The next Skills Night, hosted by the Chelmsford Amateur Radio Society Training Team, starts at 7pm on Monday, February 15. This free event is open to all

Host a space station contact at your school

The application window, to host an Amateur Radio contact with a crew member on board the ISS, is now open

What goes up, must come down

The tiny Australian balloon PS-58 launched on December 29, went across the equator and ended in the Antarctic

CQ Youth Sprint Feb 20

The Youth Sprint is a fun activity to celebrate the Youth and to promote contacts between young radio amateurs in Southern African countries

Live ham webcast

Live webcast Tues Feb 16 at 8 PMCT (0200 UTC Wed) on W5KUB.COM. Riley Hollingsworth will be back with us on the broadcast and answering your questions

Eye on Education: Ham Radio Club

KXNews TV report on Bishop Ryan School whose students took part in the amateur radio School Club Roundup, February 8-12

TX Factor GB2RS News Podcast

All the very latest Amateur Radio news is now available via the TX Factor GB2RS weekly podcast

Propagation Report from Hannes Coetzee, ZS6BZP

Hannes Coetzee, ZS6BZP, reports that the solar activity is expected to be at low to moderate levels

Repeater Nets

146.955 Nets – There are a number of nets that are regularly scheduled on the 955 repeater.

- Sunday night at 2000/8:00 PM Sunday Night PART Net – every
- Sector 1C Emergency Communications Net – this net occurs the 1st Monday or every month (except when it is a holiday).
  Skywarn and ARES Nets – these nets are spontaneous when local conditions warranted.

NOTE: You can LISTEN ONLY to this repeater audio by linking to this URL:
http://www.radioreference.com/apps/audio/?feedId=10933 (effective 2/2012)

442.450 D-Star Nets – There are a number of nets that are regularly scheduled.

- Sunday 8:00 PM Ozark Mtn D-STAR Net – Reflector 001C
- Tuesday 8:00 PM New England Amateur D-STAR Net – Reflector 010C
- Friday 8:00 PM CanNet D-Star Net – XRF021B

NOTE: The status of the WB1GOF D-Star repeaters can be seen at https://wb1gof.dstargateway.org

Monthly PART Breakfast

Don't forget the monthly PART breakfast the 1st Saturday of each month at the Westford Regency Inn at 8 AM. The full hot & cold buffet breakfast costs about $15 (includes tip) per person, a cheaper, lighter fare is available for adults and children. **NOTE: PLEASE let the folks who are settling the bill with the staff know whether you had a full or continental breakfast!**

Copyright WB1GOF, Robert Schmeichel 2011

Monthly Breakfast Pricing

The adult full breakfast is $11.95 + 18% + 6.25% = $15.00 (rounded up slightly). This price has recently changed. Here is the math for completeness and full disclosure.

Continental breakfast: $9.00 (same price)
Full breakfast: $15.00 (new price)
Kid's breakfast: $9.00(new price effective March 2015)

Copyright WB1GOF, Robert Schmeichel 2013

Repeater Information

Repeater Interference

The 146.955 repeater periodically has had interference to in-progress conversations as well as at random quiet times throughout the day and night. The repeater interference committee needs your help in collecting data. If you hear any type of interference, please report the following info to "**repeater" at "wb1gof.org**":

- Time: When did the event happen?
- Observing location: Where were you? Were you mobile?
- Frequency: Input only (146.355 MHz)
- What you heard: Voices, tones, kerchunking or whatever.
- Signal strength: Either by ear (noisy, quiet or full quiet) or S meter
- Radio: To get an idea of the reporter's radio situation.

* Most important - what direction: How did you determine direction? This is the most essential piece of information. Even if it's an estimate as in "Roughly east" or "from the Northeast" it's useful. NEVER EVER reply or direct any thing to the sick person causing the interference. Because some of us have answered this person, he knows we are aware of him and that is what keeps him doing it. Also since you are communicating with a non IDing station you are operating just as illegally as he is. YOU ARE BROADCASTING! NEVER TALK ABOUT INTERFERENCE on air. NEVER

If you are interested in assisting in helping us identify the sources of interference, contact Terry-KA8SCP.

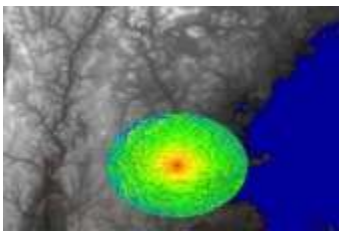
EmComm events and repeater use

Most everyone knows that the 146.955 repeater is used during times of emergency situations, drills and exercises. Skywarn and the monthly EmComm drills are the normal events.

So what does this mean to those that are just looking for regular QSOs with other users? It means that if you are in a regular QSO and there is a significant weather situation that has been getting press/air-time lately, you can expect that if severe weather develops in our area, the folks from Taunton-WX1BOX may interrupt a QSO and ask anyone on frequency what may be happening weather wise. The BOX operator will probably ask for specific information, hail, wind damage, property dame from lightning or wind, etc. Please give him the information he needs or tell him that you've not heard of any such activity. You don't need to tell him it is sunny in Nashua!

There may come a time when an unexpected emergency situation arises. These will significant events that may affect life and property. This is where EmComm activity may step in. Usually an NCS will interrupt a QSO and announce the situation and ask for a QSO to cease or to be "aware" of the possibility of priority calls/traffic. Please make sure you leave breaks between transmissions so stations with traffic can get in between QSOs. If there is enough traffic, it may be necessary for your existing/interrupted QSO QSY to another frequency. You should use your best judgment or check with the NCS on what he feels is best.

If you have any questions, please feel free to correspond with Terry-KA8SCP. All requests for repeater use can be initiated by email to info@wb1gof.org.



Repeater propogation info is available on the PART website. Check out the links to the summit information as well as coverage and plot plans maps for the WB1GOF repeaters. Complete info on the site can be found at this URL.

PART Gear

The PART Quartermaster has lots of great PART-ware for sale including mugs and shirts. You can get information how you can obtain your PART-ware at the monthly club meetings.

Club members are also encouraged to obtain an official PART badge from The Sign Man (http://thesignman.com/clubs/part.html) PLEASE NOTE: Please check with Hugh Maguire-N1QGE, hulin127@verizon.net, if you need a badge.

EmComm

Emergency Communications – The WB1GOF 146.955 repeater is used on the first Monday of every month (except federal/state holidays) for an EmComm Net starting at 1930 local time. If you are interested in being part of the local emergency communications team in your community, feel free to contact any of the following folks:
Terry Stader – KA8SCP, MEMA Region 1 Communications Officer & Town of Westford
Bill Ohm – W1OHM, for the Town of Chelmsford
Darrel Mallory – K1EJ, North Middlesex ARES

- We need radio operators that can pass messages on to the local emergency management directors in several towns in northern Middlesex County.

Skywarn - The WB1GOF 146.955 repeater is also used for reporting significant weather events to the National Weather Service from our local spotters. You can provide valuable information even if you have not attended one of the training sessions. Listen to the Skywarn Net Control Station for reporting criteria, when you have information that qualifies, please advise him with your report.

Situational Awareness – Recently, the Massachusetts Emergency Management Agency has asked the Amateur Radio community to provide situational awareness and disaster intelligence information within your local community via EmComm nets and/or Skywarn stations. Significant events such as widespread power outages can be reported and by agencies such as MEMA to evaluate the scope of a blackout for example. Initially, you should try and contact the EmComm Net Control Stations on the Westford 146.955 repeater to pass this information. More on this new program will be forthcoming.

PART Sunday Night Net – The PART Net each Sunday night is an IMPORTANT part of our regional EmComm function. With each station that checks in from the surrounding communities, we test our ability to communicate vital information to the ham radio community. Sure we announce club info but we can also communicate regional disaster news and serve as a "hub" for news of situations in our communities. The repeater is on a generator, so even if we loose power in the region, an HT with a supply of batteries will reconnect you to other local hams.

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This month's editor: Terry Stader – KA8SCP

PART official mailing address is:
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