The Monitor

November 2005

Upcoming Events

TSRC Meeting November 12, 2005, 9:00 am
DHMC Cafeteria, Hanover, NH

TSRC Meeting December 10, 2005, 9:00 am
DHMC Cafeteria, Hanover, NH

Message from the President:

This month's meeting will be a bit shorter than most, at least the "official" businees portion of the meeting. Naturally, any members and guests who wish to remain afterward to chat are certainly welcome to do so. Also, there will not be an ARES meeting prior to the Twin State Radio Club meeting this month. The reason for both these changes is that Southern Grafton County ARES (SGARES) will be participating in a statewide Simulated Emergency Test (SET) which will begin around 10:00 a.m. and continue throughout the day. Many of our members (myself included) are also members of SGARES and will be participating in this exercise so I would like to wind up the formal portion of the meeting no later than 10:00 a.m. I will try to keep the pace of the meeting brisk so everything can be accomplished that needs to be.

This statewide training exercise is an annual event designed to gauge the preparedness of ARES members and the effectiveness of the organization's plans, policies and procedures. Those of you who are not involved with ARES (Amateur Radio Emergency Services) but who would like to know more about the organization are encouraged to monitor the SET (it will be audible on certain local frequencies) and get a feel for what ARES does and how it does it. Specific frequencies will be made available at the club meeting or can be requested by contacting me directly. My contact information is available elsewhere in this newsletter and on the Twin State Radio Club web site (www.w1fn.org).

On another note, I have been pleased and excited to hear a number of young new amateur radio operators on the air lately. I have had the opportunity to meet and speak with some of them personally and one of these young hams even participated in a public service event that a couple other club members and I helped out with recently. It's great to see these bright young folks taking an interest in our hobby and I'm amazed (and even slightly embarrassed) at the technical knowledge they seem to have. Please help me to make these young hams feel welcome in our club and in our hobby.

As always, my thanks go out to our dedicated club officers, William (N8RPD), Nancy (N1QW), Dave (KE1IW) and our newsletter editor, Mike (K1IH) for their efforts on behalf of our club. I am grateful to them.

I hope to see you all on Saturday, November 12th, for our regular monthly meeting! Please join me at the DHMC cafeteria on the lower level at 9:00 a.m. Arrive a few minutes early if you wish to go through the cafeteria line and grab some breakfast. Finally, everyone present for the meeting will receive a free ticket good for one chance on this month's "door prize".

73,
Charlie Wilber, N1AOK
President, Twin State Radio Club

Cross-band Repeating

With the advent of dual band mobile radios with dual VFOs it became feasible to operate on two bands simultaneously. The common cross-band repeater is a 2m/440 radio that can be configured to take the input from one VFO and transmit that audio out on the second VFO and vice versa. A common way to use this setup is to configure the VHF VFO to operate a normal VHF repeater, then configure the UHF VFO to operate on either a simplex frequency or on a repeater "split" that is not in use in the area. The most important thing to remember when setting up a cross-band repeater is that you are responsible for any potential interference you may cause. This means you will need to insure that even if you don't here any activity on the frequencies you intend to use, you must still check every source available to make certain your chosen frequencies are not already spoken for.

Once the rig is configured you can use a handheld UHF radio (or dual-bander) to work the UHF side of your repeater and by extension work the VHF repeater on the other VFO. This can be especially useful when you would otherwise not be able to work a distant VHF repeater from an HT. Many mobile rigs are capable of this function.

Many HTs on the market are advertised as "cross-band ready". This means they are capable of TX/RX on two different bands, usually 2m and 70cm. This does NOT mean they are repeaters. There are however a few HTs that can in fact perform cross-band repeating. The Kenwood W32a and the Yaesu FT-530 are two such rigs. The one big difference between these two radios is that the Yaesu can perform two-way or one-way repeating whereas the Kenwood is two-way only.

Remote base or "one-way" cross-band repeaters are used when an HT can hear a distant VHF repeater but can't make the input cleanly or at all. In this scenario the HT is set to transmit on a UHF simplex frequency which is picked up by the cross-bander and repeated out on the VHF side as in the original example. The difference is that instead of having the VHF side repeated back on UHF, the cross-bander ignores the VHF input. The HT then listens directly to the VHF repeater's output. This is the "cross-band ready" function described

above. There is a distinct advantage to this setup: when doing two-way repeating the cross-bander will not pick up the UHF input until the carrier drops from the distant VHF repeater. This can make it difficult for the person with the HT who is trying to use the cross-bander when a lot of traffic is happening and the carrier doesn't drop between transmissions. In the one-way scenario, the cross-bander is always available to the UHF transmissions from the HT.

One good example of one-way repeating is what I do at my home. I can hear the W1FN 2m repeater on Moose Mountain clearly from almost anywhere within my home, but I can't transmit cleanly into the input. So, I have an older Yaesu FT8100r on a good dual-band antenna setup for remote base operation. I have it set for simplex operation on 446.250 on the UHF VFO and I have it set to the afore-mentioned repeater on the VHF VFO. With the VHF side active, I invoke one-way cross-banding and that radio is all set. I then set up an HT to transmit on 446.250 and listen on 145.330. I often use a 50mw radio for this purpose since they are so tiny and easy to carry. Also at that power level the rig runs a very long time. An added feature of this setup is that the FT8100r can still operate on the VHF side normally. This means if I am in my shack I can still pick up the mic and use the rig to work W1FN. Interestingly enough the same is true of the FT-530 HT mentioned above.

Any discussion of cross-band repeating would not be complete without mentioning FCC regulations regarding identification. When in two-way or "full" cross-band repeat mode the HT operator sends his call on both his UHF transmissions and also on the VHF repeated transmissions. However the returning signal from the VHF input is retransmitted back on UHF with only the call signs of those operating on the VHF repeater and the VHF repeater's own call sign. To be legal there would need to be a call sign introduced into this UHF signal by the control operator of the cross-bander. There is also the issue of control of the cross-bander. While there are some radios that have remote control capability, most do not. A notable exception is the Kenwood TM-V7A which is DTMF controllable via the UHF input. That radio also is capable of one-way cross-banding and for these reasons is the radio I have in my large "ARES Boom box" that many of you have seen at club meetings.

One final example of an unusual cross-band experience I had last year: A friend of mine in New Jersey has a Kenwood TS-2000. We were chatting on 75m and he asked if I wanted to talk to several other friends on the Morris County OEM repeater. I said sure, so he linked his HF VFO to the VHF VFO and I proceeded to speak with several of my pals in the Garden state while they were driving home from work. Pretty cool.

Cross-band repeating can be extremely useful. It can extend coverage of existing repeaters and it can even be used in place of a conventional single-band repeater in a pinch. And it can be just plain fun. If you have a rig that can do it you should at least learn how to set it up and maybe even try it out sometime. Who knows, you just might need it some day.

73 de N8RPD
William Daugherty
Vice President, TSRC

Crop Walk 2005

MEANINGFUL ENTRY-LEVEL LICENSE PRIVILEGES ARE TOP PRIORITY, ARRL SAYS

The ARRL again has urged the FCC to provide meaningful operating privileges to entry-level Amateur Radio licensees, including access to HF, even if the Commission doesn't want to create a new license class. Commenting in response to the FCC's July 9 Notice of Proposed Rule Making and Order (NPRM&O) in WT Docket 05-235, the League also stood by its stance that the Commission retain the 5 WPM Morse code requirement for Amateur Extra applicants, but do away with it for General applicants.

"Retaining Morse telegraphy as a requirement for only the Amateur Extra class license, in ARRL's view, places Morse telegraphy in a proper, balanced perspective," the League told the Commission October 31, the deadline to comment in the proceeding. Reply comments are due November 14.

The FCC's NPRM&O proposed eliminating the 5 WPM Morse code requirement for all Amateur Radio license classes but denied requests to create a new entry-level license class with limited HF privileges. The League said the FCC needs to finish the job of license restructuring it began in 1998 by reviewing operating privileges for all classes--especially at the first rung of the licensing ladder.

"The elimination of Morse telegraphy, absent a more thorough review of operating privileges in the Amateur Service, will not address the ascertained flaws in the only entry-level license class," the ARRL asserted, referring to the Technician license. "That license class is not attracting or keeping newcomers in its present configuration, and it needs fixing right now."

The ARRL argued that if the FCC will not create a new Novice class license as the League had suggested in its earlier Petition for Rule Making (RM-10867) in the proceeding, it should modify Technician operating privileges instead. The present licensing regime limits Technicians to VHF bands and above, "leaving newcomers to the Amateur Service isolated from their peers holding higher class licenses," the ARRL said. "The Technician class is, for too many, a 'dead end' to what might otherwise be an active, progressive interest in Amateur Radio, technical self-training and incentive-based educational progress in the many facets of the avocation."

The ARRL reminded the FCC that its restructuring plan enjoyed the support of the two Amateur Radio licensees in Congress--Rep Greg Walden, W7EQI (R-OR) and Rep Mike Ross, WD5DVR (D-AR).

Eliminating the Morse requirement for General class applicants "creates an anomaly with respect to the Technician class license," the ARRL noted. "If the telegraphy requirement for the General class license is eliminated, the distinction between the Technician class licensee and the Technician Plus class licensee will have disappeared completely." Therefore, the League contends, there is a logical basis for affording Technician licensees entry-level HF privileges.

Under the ARRL plan, Technicians would have telegraphy and data privileges on 3.55-3.7 MHz, 7.05-7.125 MHz and 21.05-21.20 MHz at 100 W output and on 28.05-28.3 MHz at 50 W output. The League wants the FCC to provide HF phone and image privileges to Technicians on 3.9-4.0 MHz, 7.2-7.3 MHz and 21.35-21.45 MHz at 100 W output, and on 28.3-28.5 MHz at 50 W.

These recommended privileges take into account the FCC's proposal to adopt the ARRL's so-called "Novice refarming" plan in WT Docket 04-140. The ARRL had earlier proposed the same privileges for a reconstituted Novice license.

The time is right to take a look at the operating privileges of Amateur Radio license classes, the ARRL said in its filing, "because the entry-level license class is demonstrably neither attractive to newcomers nor encouraging in terms of retaining the interest of license holders."

To back up its assertions, the League pointed to surveys it conducted in 1992 and 2003. Nearly half of the licensees responding in the latter poll indicated that they were not currently active in Amateur Radio--up 30 percent from the earlier survey. "The number of inactive Technician class licensees is 46 percent," the ARRL noted, adding that more than a quarter of Technicians responding in 2003 said they'd never even been on the air.

The League pointed out that the FCC's proposed across-the-board elimination of the Morse requirement eliminates a simple mechanism for current Technician licensees to obtain HF operating privileges--passing the 5 WPM code exam.

If the FCC does nothing other than eliminate the Morse requirement for the General license, the ARRL commented, it would make no sense to continue to deprive Technician licensees the HF operating privileges that Tech Plus licensees now enjoy.

"To do otherwise is to draw a distinction that is entirely arbitrary," the League concluded.

HAM RADIO HAS ROLE IN FIVE YEARS OF CONTINUOUS ISS HUMAN HABITATION

Five years ago this week, the International Space Station Expedition 1 crew of US astronaut and Expedition 1 Commander William "Shep" Shepherd, KD5GSL, and Russian cosmonauts Yuri Gidzenko and Sergei Krikalev, U5MIR, became the first humans to inhabit the ISS on a long-term basis. Bill McArthur, KC5ACR, who commands Expedition 12, the current ISS crew increment, took note of the occasion when he spoke with reporters this week.

"We've done things that were just inconceivable 50 years ago," McArthur said. "I think that we have demonstrated that human beings can live and work in space, and, given the will, we can return to the moon not just to visit but to stay there permanently and in not-too-distant future, send people to Mars."

Bill Gerstenmaier, NASA's associate administrator for space operations, called the five-year milestone the first leg of a much longer journey "The experiences we're having on station with crews on long-duration missions are teaching us what it will take to send astronauts on longer missions to the moon and into the solar system," he said.

It was on October 31, 2000, that a Russian Soyuz transporter carrying the ISS space pioneers blasted off from Baikonur Cosmodrome in Kazakhstan and docked with the ISS November 2. At the time, Shepherd was only the second US astronaut to go into space aboard a Russian launch vehicle. Krikalev went on to serve as commander of the ISS Expedition 11 crew.

Each of the 12 crews that have lived on the ISS to conduct assembly and research activities has included at least one US radio amateur. McArthur just this week completed the 200th successful Amateur Radio on the International Space Station (ARISS) school group contact. Crews also have gone on the air to participate in such events as ARRL Field Day and scouting's Jamboree On The Air (JOTA) as well as to make casual QSOs. The Expedition 12 crew of McArthur and Russian cosmonaut Valery Tokarev will remain on the ISS until next April.

The initial ARISS gear already was aboard the space station by the time the first crew arrived. The Expedition 1 team installed and activated the VHF gear on FM voice and packet under the US call sign NA1SS and the Russian call sign RS0ISS.

In late 2003, the ARISS program attained another milestone with the installation and checkout of the Phase 2 Amateur Radio gear. A Kenwood TM-D700E transceiver is at the heart of the Phase 2 station, located in the ISS Zvezda Service Module--the crew's living quarters. Crew members now routinely use the Phase 2 station to conduct ARISS school group contacts. ARISS is looking forward to activation of a Yaesu FT-100 HF/VHF/UHF transceiver and a slow-scan television (SSTV) system in the near future.

NASA has been marking the fifth anniversary of continuous ISS human occupancy with special activities and has set up a special Web site <http://www.nasa.gov/mission_pages/station/main/5_year_anniversary.html>.

The largest and most complex spacecraft ever built, the ISS is the result of a 16-nation partnership led by the US. More ISS information and photos are on NASA's Space Station page.

ARISS is an international educational outreach with US participation by ARRL, AMSAT and NASA.--some information from NASA

Disclaimer

Opinions expressed in The Monitor are those of the individual authors and do not reflect the opinions or policies of The Twin State Radio Club, Inc.

CLUB OFFICERS

President: Charlie Wilber, N1AOK	(603) 448-0911
	n1aok@arrl.net
VP: William Daugherty, N8RPD	(603) 469-3005
	william@will-do.com
Secretary: Nancy Maynard N1QW	(802) 295-6080
	Lensmaam@mindpictures.com
Treasurer: David Haseman KE1IW	(603) 675-2678
	David.B.Haseman@dartmouth.edu
Trustee: Dave Landry KA1CRP	(603) 448-5788
	JDLandry@innevi.com
Editor: Mike Maynard, K1IH	(802) 295-2650
	Lensman@mindpictures.com

ELECTRONIC ADDRESSES

*ARRL Website	http://www.arrl.org/
*NH ARRL Home Page:	http://www.nhradio.org/
*Tom Frenaye K1KI-NE Div. Dir.	k1ki@arrl.org
*R. Sterling Eanes, AK1K, NH SM	ak1k@arrl.org
*Dale Drake, AA1QD, NH ACC	aa1qd@arrl.net
Part 97	http://www.arrl.org/field/regulations/news/part97/

Don't forget to check the TSRC Home Page!
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http://www.w1fn.org

Twin State Radio Club, Inc.
PO Box 5078
Hanover, NH 03755