



# Di-Dah-Dit

Official Newsletter of the Parkersburg Radio Klub  
1733 Gihon Rd. Parkersburg, WV 26101

## AMATEUR RADIO COMMUNITY MOURNS LOSS OF COLUMBIA ASTRONAUTS

The flags of the United States, the ARRL and the International Amateur Radio Union (IARU) are flying at half staff at ARRL Headquarters as the Amateur Radio community has joined the rest of the world in mourning the loss of the seven shuttle Columbia astronauts. Through the Space Amateur Radio EXperiment (SAREX) and, more recently, the Amateur Radio on the International Space Station (ARISS) programs, amateurs have enjoyed a special relationship with the astronaut corps, many of whom are licensees. Three of the Columbia astronauts were Amateur Radio operators, and the ARISS program is a joint effort of ARRL, AMSAT and NASA.

"The ultimate in public service was just given by these astronauts," said ARRL President Jim Haynie, W5JBP. "It's a sad thing that's occurred, and our thoughts are with the families of the astronauts who died doing what they loved. They were part of us."

Haynie, who was in Florida last weekend for the Miami Tropical Hamboree, said the news of the Columbia incident cast a pall over the festivities. "You could feel it in the crowd," he said. Haynie led those attending the ARRL forum in a moment of silence in remembrance of the lost crew members.

The STS-107 crew, headed by Commander Rick Husband, included Pilot Willie McCool, Mission Specialists Kalpana "KC" Chawla, KD5ESI; David Brown, KC5ZTC; Laurel Clark, KC5ZSU, Michael Anderson, and Payload Specialist Ilan Ramon, the first Israeli astronaut.

"The world has lost seven great heroes," said ARISS International Chairman Frank Bauer, KA3HDO, a NASA employee, in extending condolences to the families and

friends of the STS-107 crew. Bauer said the Columbia catastrophe "clearly demonstrated the challenging and sometimes sobering aspects" of human spaceflight.

"Our quest for space must continue despite these tragic losses," he said.

ARRL and the ARISS Team received condolences from all over the globe. AMSAT-NA President Robin Haighton, VE3FRH--one of two Canadian ARISS representatives--expressed his great sadness at learning of the Columbia disaster. "AMSAT has always been a strong supporter of the shuttle program and of ARISS," he said "Their understanding of the risks taken on this and other missions did not prevent them from performing at the highest level and, unfortunately, paying the ultimate price," he said of the lost crew.

Ken Pulfer, VE3PU, the other Canadian delegate to the ARISS International Team, said he was overwhelmed by the tragedy, both in sympathy for his US friends and because he had met so many of the astronauts himself. It was Pulfer who convinced the Canadian government to establish an astronaut corps of its own. "My condolences go out to all Americans at this time," he said, calling February 1 "a sad, sad day indeed."

ARRISS International Secretary Rosalie White, K1STO, recalled meeting "KC" Chawla at an ARISS meeting at Johnson Space Center. "Kalpana was intelligent, quiet--a professional scientist with a genuine smile," she said. She also noted that Laurel Clark had done some "terrestrial SAREX QSOs" from W5RRR at Johnson Space Center with students in Kansas and New Mexico. The "terrestrial" SAREX QSOs took place at a time when the de-

mand from schools for radio contacts with astronauts was high but the number of scheduled shuttle flights was very low.

Built in 1981, Columbia was the oldest shuttle in NASA's fleet and was the first to carry Amateur Radio. Retired astronaut Owen Garriott, W5LFL, became the first ham to operate from space in November 1983. Thousands heard W5LFL, and hundreds had direct QSOs with him on 2 meters. Refurbished in 1999, Columbia was on its 28th space mission. Columbia carried no Amateur Radio gear on its last mission into space, however.

## AMATEUR RADIO'S PUBLIC SERVICE STORY IS NOW AVAILABLE ON VIDEO!

An updated Amateur Radio Today video now is available for free downloading from the ARRL Web site <<http://www.arrl.org/ARToday/>>. The MPEG-format file is 70 Mbytes.

Narrated by former CBS News anchorman Walter Cronkite, KB2GSD, Amateur Radio Today showcases the public service contributions made by hams throughout the country. Highlights include ham radio's response on September 11, 2001, ham radio's part in helping various agencies respond to last year's wildfires in the Western US, and ham radio-in-space educational initiatives. Directed by Dave Bell, W6AQ, Amateur Radio Today was written by Alan Kaul, W6RCL. The production team included Bell and Kaul as well as Bill Pasternak, WA6ITF, and Bill Baker, W1BKR. The editor was Keith Glispie, WA6TFD.

Amateur Radio Today is an ideal presentation for clubs, government meetings, civic organizations and any other venue where you want to vividly illustrate what Amateur Radio has to offer the public. The video runs just six minutes and is available in several formats. The digital version of Amateur Radio Today is available in MPEG video format, which can be played by Windows Media Player, Apple QuickTime or RealPlayer software. It can be run from the CD or copied to your hard drive (not included).

This copyrighted program is not intended for broadcast use (including over-the-air, cable or Internet) and may not be reproduced or distributed without permission. You also can order Amateur Radio Today on CD-ROM and VHS tape. The CD-ROM version also requires that you have software that can play MPEG files installed on your computer.

## **HOLLINGSWORTH PREACHES COURTESY, COMMON SENSE**

FCC Special Counsel Riley Hollingsworth told those attending his forum at the Richmond, Virginia, Frostfest February 9 that Amateur Radio enforcement still has a long way to go, but that amateurs can do a lot through peer pressure to head off problems before they become enforcement issues.

"Enforcement is no substitute for courtesy and common sense," Hollingsworth declared. "More courtesy would go a long way. Hollingsworth again suggested that amateurs "operate so that listeners will be impressed with Amateur Radio," not offended or turned off by it. He said awareness of Amateur Radio is on the rise in the wake of media attention since September 11, 2001, and, more recently, with ham radio assistance in the search for debris from the shuttle Columbia. He pointed to 20 and 75 meters as the current enforcement hot spots as well as the bands where the least courteous operating practices are found--some of which he described as "a disgrace" to the Amateur Service.

Off-the-air peer pressure, he said, is an effective tool to provide guidance to amateurs who may be unaware of how they sound to others on the air. The reactions of some hams when they confront interference--or perceived interference--can be

worse than the original interference--whether or not it's deliberate. "Don't over-react," Hollingsworth advised. "The best reaction is no reaction whatsoever."

"You have to always be aware of your image and be willing to protect it," he told those gathered in the packed forum. "You can't shoot yourself in the foot." More than 1000 attended the Richmond Frostfest, sponsored by the Richmond Amateur Telecommunications Society  
<<http://www.rats.net/>>.

The use of new technology and on-the-air experimentation also sometimes brings controversy to the amateur bands, Hollingsworth said, and may prompt an occasion for the FCC to revisit its current Part 97 Amateur Service rules. Hollingsworth pointed to the use of so-called "enhanced SSB," where experimenters have been attempting to achieve full-carrier AM-like high-fidelity audio in that mode. Hollingsworth said the presence of the enhanced SSB experimenters has led to complaints to the FCC--as many as 20 per week--that these signals are taking up excessive bandwidth.

Hollingsworth told his Richmond audience that deliberately operating a wideband mode in a crowded spectrum is "shortsighted and rude," may be ignoring the "minimum bandwidth necessary" rule. If its use isn't accompanied by courtesy and common sense, he said, it will lead to pressure on the FCC to revise the Amateur Service rules.

The "Emission Standards" section of Part 97--specifically §97.307(a) and (b)--requires amateur transmissions to not occupy "more bandwidth than necessary for the information rate and emission type being transmitted, in accordance with good amateur practice" and to "not cause splatter" on adjacent frequencies.

Hollingsworth said the bandwidth of a given signal is not easily determined by the average amateur transceiver--even one equipped with a band scope of some sort. He pointed out that the problems with apparent splatter can be aggravated by the use of a noise blanker on the receiving end. "Just because it sounds wide doesn't mean it is wide," he said, adding that he'd prefer the amateur community come up a way to accommodate such experimentation, because "a government solution will be worse than the problem."

## **ISS CREW COMMENTS PUBLICLY ON COLUMBIA, DIGS IN FOR POSSIBLE LONG STAY**

The members of the all-ham crew onboard the International Space Station said this week that while they grieve the loss of the shuttle Columbia crew, human space exploration must continue and they're ready to spend up to a year in space if necessary. The ISS crew made its first public comments since the February 1 shuttle disaster in two news conferences this week.

"My first reaction was pure shock," Expedition 6 crew commander Ken Bowersox, KD5JBP, told reporters February 11, when asked about how he felt when he heard the news that Columbia and her crew were lost. "I was numb and could not believe that it was happening." During serial briefings February 12 with CNN, ABC, CBS and NBC, Bowersox and his crew reiterated their resolve to stay the course, remaining in space for up to a year if necessary.

Bowersox said that once it became unlikely that there were any survivors from the Columbia catastrophe, "we discussed all of the different options for how it would affect us." He said he was confident that the crew would have a way to get home. "We've got a Soyuz vehicle parked right outside," he said.

Pettit--who had played chess via radio and e-mail with Columbia pilot Willie McCool during the Columbia STS-107 science mission--said he's hoped the crew somehow had made it safely to the ground. He said the magnitude of the tragedy hit him when the ISS crew realized that there were no survivors. "I'm the type that likes to grieve quietly and in private," he said February 12.

Budarin said he's comfortable with staying in orbit as long as necessary, now that NASA has indefinitely grounded the shuttle fleet. The Russian cosmonaut told a CBS reporter that he has experienced seven months in orbit before aboard Mir, and that he's hoping for a good landing back on Earth--whether via the US space shuttle or the Russian Soyuz escape vehicle that's attached to the space station.

Bowersox said the crew was happy to stay aboard the ISS. "We like it aboard space

station," he said. "We're going to enjoy however many months we have to stay on orbit." Bowersox said February 12 the crew did not feel isolated and had plenty of contact with family and friends and that, while not operating at peak efficiency, the crew members would continue to move forward with the "serious tasks" ahead of them. "We'll be working through that grieving process for the rest of the time we're here, I think."

Pettit, the Expedition 6 science officer, said the crew's work schedule has suffered from the effects of the Columbia tragedy. "But now, it looks like we'll have plenty of time to finish all that we have remaining on our task list," he added.

Pettit said that cutting the crew size would hurt scientific research because the crew would spend a lot more of its time just maintaining the ISS. But, he pointed out, research into how humans cope physiologically in space would continue and would make the risk of human spaceflight worthwhile. "This is a matter where you can decide as a society can decide to lead the way, step aside or follow," Pettit told NBC News anchorman Tom Brokaw. Space exploration is "an investment in your future, and, as such, you can't let a setback stop your exploration activities."

The Expedition 6 crew has been aboard the ISS since November and was scheduled to return to Earth aboard the shuttle Atlantis in March. Unmanned Progress cargo rockets, including one that docked February 4, are providing fuel and supplies. On February 11, the crew used the Progress to boost the stations' orbit by about six miles (the ISS is approximately 250 miles above Earth). The crew reportedly has sufficient provisions to last at least until June. A Soyuz taxi crew is scheduled to visit the ISS in April to drop off a new Soyuz capsule and return the one now attached to the ISS.

The crew has not used the NA1SS onboard ham station since the last Amateur Radio on the International Space Station (ARISS) school contact in January. The next scheduled ARISS contact is set for February 21, with students at Oregon State University.

## NEW LEAGUE BROCHURE TARGETS KIDS

A colorful, new, kid-tested ham radio brochure is available from ARRL Headquarters. "Leap into Amateur Radio" aims at an elementary school audience and introduces youngsters to the hobby.

"Amateur Radio is an exciting hobby that lets you meet new people of all ages--and have a great time!" the full-color, tri-fold flier emphasizes. "Getting started is easy!"

Field and Educational Support Team Leader Mary Lau, N1VH, headed the team that produced the flier. She cited two objectives in its design. "There was a desire to specifically target 8 to 11 year olds," she said, "as well as the need to supply a youth-oriented handout to replace the Archie's Ham Radio Adventure comic book that is no longer published."

The brochure is comprised of colorful graphics, photos of kids operating and several boxes of basic text explaining what Amateur Radio is and does. There's also space on the back for local clubs or organizations to affix their contact information, so that children and their families can get more information about the hobby. The back panel also includes a blurb about ARRL and gives its e-mail address.

On the "What is Amateur Radio" page right inside the tri-fold brochure is a brief explanation of what Amateur Radio is. "Anyone can be a ham--no matter what age, sex or physical ability," the flier points out. Accompanying the text are photos of youngsters--a boy and a girl--on the air. Fully open, the flier presents four capsules of information about Amateur Radio:

\* How ham radio and wireless technologies fit into lives that include cell phones and the Internet.

\* The several modes hams use to communicate with each other--including voice, computer, and even telegraph key.

\* The various types of operating activities available--including public service and the Amateur Radio on the International Space Station (ARISS) program.

\* How simple it is to get started in Amateur Radio and whom to contact.

Assisting in the project were ARRL Educational Program Coordinator Jean Wolfgang, WB3IOS; Educational Correspondent Marjorie Bourgoin, KB1DCO, and Field and Educational Services Assistant Linda Mullally, KB1HSV.

After assembling the material for the flier and putting together a prototype, Lau and her staff got the brochure into the hands of a number of area youngsters for some product testing. The children offered a few ideas to make the handout even more appealing, she said. Arizona-based graphic artist Cameo Hill did the final layout and design.

"Leap into Amateur Radio" will become available in mid-February--free of charge and in limited quantities of up to 25 fliers--to any Amateur Radio operator or amateur club. Lau said the only cost will be for shipping. The brochure is now available as an Acrobat PDF file via the ARRL Web site  
<<http://www.arrl.org/FandES/ead/materials/Leap-into-AR.pdf>>.

To order copies of the brochure, interested clubs or individuals should contact Linda Mullally, KB1HSV, [lmullally@arrl.org](mailto:lmullally@arrl.org), 860-594-0292.

## FCC LAUNCHES "CONSUMER-FRIENDLY" ELECTRONIC COMMENT FILING SYSTEM

The FCC has launched "ECFS Express," an updated electronic system that the Commission says will make it easier for at least some members of the public to file comments on FCC proceedings. ECFS Express is a simplified version of the popular Electronic Comment Filing System (ECFS), but it is not available for all FCC proceedings.

ECFS Express is accessible from the FCC home page <<http://www.fcc.gov/>>. Users just click on the "File Comments" logo--which is on the left-hand side of the page about one-third of the way down under the words "Filing Public Comments." To comment, users click on a topic, fill in their

personal information, write their comments and hit "SEND."

"ECFS Express will highlight the proceedings most likely to generate consumer interest," the FCC said this week in a Public Notice. "The topics will change periodically as new issues emerge."

The downside is that if the particular issue you want to comment upon is not listed among the ECFS Express topics, you'll have to use the "expert version" of ECFS to comment, the FCC said. At the moment, the ECFS Express list includes no Amateur Radio-related petitions. The FCC says the original Electronic Comment Filing System--which includes all docketed FCC proceedings--will remain accessible on its Web site <<http://www.fcc.gov/e-file/ecfs.html>>.

## HIGH SPEED MULTIMEDIA HAMMING COULD BE THE NEXT BIG THING

High-speed multimedia hamming via the "Hinternet" could be the next big thing for Amateur Radio. That's the hope of the ARRL High Speed Multimedia (HSMM) Working Group, which is adapting the highly popular IEEE 802.11b Part 15 wireless Internet protocol to Part 97 amateur operating.

"We expect it to be nothing less than revolutionary!" says John Champa, K8OCL, who chairs the ARRL HSMM Working Group--a subset of the League's Technology Task Force. The Working Group's new "High-Speed Digital Networks and Multimedia"

page <<http://www.arrl.org/hsmm/>> recently premiered on the ARRL Web site.

Champa's team is calling the specific techniques, software and hardware involved "the ARRL 802.11b protocol" to distinguish it from the unlicensed, commercial protocol. Systems employ direct-sequence spread spectrum techniques and operate in the 2.4 GHz range. The term "Hinternet" (ham + Internet), Champa says, is a user-friendly way to refer to the development of high-speed Radio Local Area Networks (RLANs) capable of simultaneously carrying audio, video and data signals.

"The development of the ARRL 802.11b protocol will significantly enhance Amateur Radio, especially with respect to emergency communication and support of public service activities," Champa predicted. He and his HSMM Working Group colleagues also expect that it will attract many technically oriented users of the Internet and wireless LANs to get their amateur tickets.

In addition to emergency communication, Hinternet applications could include two-way streaming video, full-duplex streaming audio, Voice over Internet Protocol (VoIP) applications such as eQSO, EchoLink, iLink and IRLP, and digital voice. As on the wired Internet, communication can be point-to-point, point-to-multipoint and multicast at high bandwidth.

"An emergency volunteer equipped with a laptop or a wireless PDA (personal digital assistant) with a microphone and a small video camera now has the tools to be a mobile set of eyes and ears in the midst of a

communications emergency," says Working Group member Kris Mraz, N5KM.

In Michigan, the Livingston County HSMM Experimenters Team already has three HSMM access points--called "APs" in the commercial world--and about a dozen stations on the air centered on 2437 MHz. Another group of Amateur Radio 802.11b enthusiasts has recently organized in the San Antonio, Texas, area.

Although other amateur allocations also would be appropriate for Hinternet operation, the use of 2.4 GHz was an easy choice, since Part 15 WiFi (wireless fidelity) devices already operate in that part of the spectrum, and inexpensive commercial equipment is widely available. Acting on an ARRL petition, the FCC has proposed elevating amateurs to primary at 2400 to 2402 MHz.

The ARRL publications catalog now includes the book 802.11 Wireless Networks: The Definitive Guide

<<http://www.arrl.org/catalog/?category=&words=802.11>> by Matthew S. Gast. The book covers the topics of creating and administering wireless networks.

Champa says that taken in a nationwide context, the meaning of the term Hinternet goes deeper than just an amalgamation of words. "In nautical terms the word hinterland is 'the land beyond the coast,'" he said. "And so it is with us. 'The Hinternet' is the radio net beyond the Internet."

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