

Old Logbook Reveals Interesting Contacts

by Ernie Wall, NC4EW

Under the heading of It's a small world, I found an interesting listing in my log book while transferring QSO information from an old paper log to one of those new electronic logging programs.

On May 19, 1990, I had talked with Coast Guard radio station NMN while participating in the Armed Forces Day activities. This operation is a joint effort between military radio stations and the amateur community to celebrate Armed Forces Day. Each service transmits within its assigned band and listens in the others' service.

I logged four quick contacts that morning. One was with military station AIR, the Air Force communications station at Andrews Air Force Base in Maryland. Another contact was with Coast Guard communications station NMH located at Alexandria, Virginia. What had caught my interest was two QSO's with Coast

Guard communications station NMN located at Portsmouth, Virginia.

One QSO was on phone and the other CW with the operator identifying as "Chris." Thinking this might be a long shot, I checked with K4HC, Chris Thompson, and sure enough "Chris" was indeed 2nd Class Petty Officer ((Radioman 2 (E-5)) Chris Thompson assigned to the Portsmouth Coast Guard radio station NMN in 1990. One of Chris' duties was to participate and supervise the Armed Forces Day communications activities.

The equipment used to conduct these QSO's was as you might imagine just a little different from each other. The NMN setup consisted of a Collins 651S-1 receiver covering 30 KHz to 30 MHz. The transmitter was a Collins HF-80 capable of 10 killowatts output. Chris did mention they may have had it throttled down to only 1 kilowatt.

Their receiver was local to the NMN radio room with the transmitter remotely controlled over a microwave link thirteen miles distant. The antennas in use were Near Vertical Incident Skywave verticals. My equipment consisted of a Kenwood TS-520S transceiver, (100 watts out), an ICOM R-71A auxiliary receiver, and using a forty meter half wave dipole antenna up about forty five feet. The two QSO's occurred about thirty minutes apart with the first being on phone before NMN switched to CW.

I don't remember anything of the contents of the QSO's other than I was thrilled to have worked a "real" professional operator on CW. Armed Forces Day communication activities are held each year usually one week before Armed Forces Day so as to avoid conflict with the Dayton Hamvention. This year the Armed Forces Amateur/Military Crossband Communications Test will be conducted on May 12th beginning at 0800 hrs. local time and extending until May 13th at 2000 hrs. local time.

If you have HF privileges you might wish to give this fun activity a try. Information on upcoming activities for 2007 can be found at www.netcom.army.mil/mars. This will take you to an Army website where you need to click on the Armed Forces Day Activities in the upper left hand portion of the page. This will open a document giving the participating military stations, the frequencies, and times they will be on the air. The military frequencies will be just outside of the ham bands, and the military stations will announce where they will be listening in the ham bands for QSO's. All transmissions will be voice or digital format as the military has dropped CW as a communications tool.

The stations will exchange QSL cards and a certificate is available for amateurs who copy a special message from the Secretary of Defense sent now by digital format.

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NEXT MEETING

The next meeting of the Greensboro Amateur Radio Assoc. will be April 23, at the Golden Corral Steak House off Wendover Ave, near Sam's Club. The program will be on QSL's.

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Ernie Wall, NC4EW, holds his log showing contacts.

http://www.w4gso.org

Engineering Report by Engineering Chairman Carlton, O'Rork, N4DFA



should have had another training session repeater site.

Additionally I have had discussions his.

response over the air and a power/bandpass filter which he made to eliminate some problems we were having. He has said for the moment we may keep

By the time this article is printed some them in line, but he will eventually need second per month and by the Fall when members of the engineering committee them back, especially the SWR/watt device.

We may be able to purchase the with Arch regarding cable, wiring, power/bandpass filter from him, though connections to equipment, etc. at the he says it may not be needed when the club has the new duplexer in place. has repaired, replaced and substituted

I mentioned at the last monthly meeting with Arch regarding electronic equipment, that I reset the repeater clock, a day or so parts, etc. that Arch has belonging to the late as they moved the time up to March club and several items that Arch has built and I forgot about it. This is very important and added to our VHF repeater which are to the many functions of the controller that basically all appears to be going well with depend on the correct time, such as giving announcements, change over into other These are the SWR/wattage voice modes at certain times of day or after Nets and things of that nature. I did the reset over the phone and apparently got it to within about 5 seconds slow of accuracy. However, that should be offset by the fact cover the many varied functions as the that the internal clock gains about one one on our VHF!

it has to be reset again, it should be pretty close to dead on!

It should be noted by the Club that Arch many, many parts in our four machines, most of which he has absorbed the cost of and is not asking for the return of!

Other things are in the works, but out Repeaters both VHF and UHF. The UHF Repeater is off by 10 minutes, but only several announcements such as Good Morning, Good Aftrenoon and Good Evening are affected by this as the Controller on the UHF Machine does not

Logbook from page 1 A little further down the log ...

On February 14, 1979, I was tuning the fifteen meter band (21.295 MHz) when I came upon a QSO between a station in Tehran, Iran (EP2LI) and a Florida station with some unusual traffic.

The Greensboro Amateur **Radio Association**

President: John Doggett, KI4BMS Vice-President: Chris Thompson, K4HC Treasurer: Ernie Wall, NC4EW Secretary: Greg Spencer, KG4UQV Financial: Al Allred, K4ZKO Engineering Chairman: Carlton O"Rork, N4DFA Operations:Roy Smith, N4BYU Members at Large: Clark Doggett, KG4HOM Tom Forrest, N4GVK Appointed Positions: News letter editor and Webmaster: Tom Forrest N4GVK

"The Feed Line" is ©2007 by the Greensboro Amateur Radio Association and published monthly. Our address is P.O. Box 7054, Greensboro, NC 27417. The purpose of the newsletter is to provide the club and prospective members information about the club and amateur radio in general. Material and information should reach the editor by the first Friday of the month for the next edition of the newsletter. Opinions expressed in "The Feed Line" do not necessarialy represent the views of the officers, directors, editor or members of the Greensboro Amateur Radio Association. Material may be reproduced, provided proper credit is given to GARA.

The EP2LI operator (Mike) was reporting the takeover of our embassy in Tehran with the taking of the embassy staff as hostages. Mike was in contact with W4RHE, Charles Watters (Orlando), who was relaying the news of the embassy situation by telephone to the State Department in Washington.

Messages involved the safety of the Ambassador, William Sullivan, and the FCC's communication facilities were destruction of secret documents. Mike tuned into the fifteen meter QSO, after was operating from a "safe house" with being notified by Watters, only his station emergency radio gear and antennas. maintained the contact with EP2LI.

He stated in his messages the embassy communications gear had been blown up Jimmy Carter was kept abreast of the by the communications team and he had relocated to the safe house in an effort to notify the State Department. Mike closed down EP2LI when house to house searches by radical groups where getting close to his location.

He said the armed groups were holding Americans and confiscating "arms and radios". Mike signed off with,"It is best that I vacate my present location."

I continued to monitor the frequency for some time but heard nothing more from

EP2LI. This QSO had lasted for four hours (6:30 A.M. to 10:30 A.M. local time) with great propagation between North Carolina, Orlando, and Tehran.

A news report printed later in the week (Greensboro News and Record, February 16) highlighted W4RHE's operation giving him full credit for providing this valuable communications service.

Although the State Department's and

The newspaper article did state President developing events as he and Secretary of State Cyrus Vance flew to a conference in Mexico. After the event ended W4RHE wondered if the FCC would site him with a violation for conducting non Amateur related communications over the ham frequencies.

To my knowledge he never heard a word concerning this most unusual QSO, other than a thank you from official Washington.

GARA Meeting Minutes



Regular Meeting Minutes March 26, 2007

PM.

The minutes from the last meeting were approved.

Ernie Wall, NC4EW, gave the financial report stating that we are in good shape even though the last feedline mailing fee's were higher due to the length of the newsletter.

Al Allred, K4ZQK, reported that we are close to the forecast at this time.

Carlton O'Rork, N4DFA, talked about the repeater time update for daylight savings time.

He also said that we will have to replace the duplexer at some point but it should last a while longer as its performance will degrade slightly as time goes by. No one makes a duplexer for the amateur frequencies so we will have to get one custom made for us.

The meeting was called to order at 7:15 line and website report and stated that he needs more articles. Tom also said that he received great feed back on the last newsletter.

> John Doggett, KI4BMS, spoke about the Summerfield founder's day event on May 19. We need to have good attendance if possible. He also spoke about needing more volunteers for the Highland games on May 5th. Contact Jon Matlock, KE4IAM, if you can help.

> Alan Bradley, KD4IUN, spoke about the Wrangler soccer tournament on May 26 & 27 and the need for more volunteers for that event also. If you can help at the soccer tournament contact Allen Bradley, KD4IUN.

> Allen also spoke about the possible move of the meetings to the natural science center. Roger Joyner, W4AYO, from the science center as our guest at the meeting and he spoke about some of the requirements that the club would need to

Tom Forrest, N4GVK, gave the feed meet and also some of the benefits that the club would get if we move our meetings there.

> Chris Thompson, K4HC, made a motion that was seconded by Charles Lyons, NT1J, to have the Board of directors investigate moving the meetings to the science center. This was voted on and passed. Allen will go to the Science Center and speak to the management. We still need operators to use the station at the Science Center.

> Jim Hightower, W4JLH, said that Bill Lundy is looking for riders for the annual trip to Dayton leaving on May 17th.

> Chris Thompson, K4HC, gave the program about the Soft Rock Software Defined radios, that some of us are building. He also stated that given the good response to this we may have some more hands on build sessions in the future.

> The meeting closed at 8:30PM. Respectfully submitted by Greg Spencer KG4UQV, secretary

Board of Directors Meeting, April 9, 2007

The meeting was held at the Natural science Center so that we could do some in depth research about holding our monthly meeting's there.

The meeting started at 7:50 PM after a tour of the Natural Science Center. Those present at the meeting were John Doggett, KI4BMS; Chris Thompson, K4HC; Al Allred, K4ZKQ; Carlton 'O'Rork, N4DFA; Ernie Wall, NC4EW; Clark Doggett, KG4HOM; Roy Smith, N4BYU, and Greg Spencer, KG4UQV.

We met with Glen Dobrogosz the director of the Science Center, about the requirements of using the center and also the benefits that the club would get from the center. We came away with a positive feeling about the possibility of using the center.

Al Allred said that the finances are right in line with expectations. We discussed making a "welcome package" for new members Which would include a welcome letter, a repeater control sheet, a copy of the club by laws and an up to date member

list. After some discussion this was voted on and passed.

Carlton 'O'Rork reported about about the duplexer issue with the repeater and that Arch has given him the required specifications that we would need if we should order one. There was a discussion about ordering one to have on hand in case the one on the repeater stops functioning. We have also found some more sources for duplexers.

Chris proposed that the engineering chairman contact all of the sources and inquire about price and availability, Clark seconded and the motion passed.

Tom Forest N4GVK is stepping down from the engineering committee due to a heavy workload with his Photographic business and the feedline/ website duties.

Chris said that the April meeting would be on "QSL" cards.

The meeting closed at 9:15 PM.

Ham Happenings NEWS briefs

Ray Ballance, KI4BVD (SK), lost his battle with cancer on March 21. Ray had been licensed since 2003 and was the father of Gary Ballance, KF4DWV and grandfather of Matthew Ballance, KG4WCU. Our thought and prayers are with the Ballance family during this time.

Unlicensed Broadcaster Fined

Another unlicensed broadcaster has been dinged for \$10,000 by the FCC. This time the recipient of the order to pay is Junior Lahens Charles of Tampa, Florida.

The FCC says that Charles failed to respond to a Notice of Monetary forfeiture issued to him on February 2nd for operation of an unlicensed radio transmitter. As a result of his ignoring the FCC and based on the information the FCC has before it, the agency has ordered Charles to pay the full amount within 30 days of the orders April 2nd release. (FCC)

http://www.w4gso.org

ARRL Is Robust as It Nears 100

by James Careless

established the American Radio Relay League in 1914. Morse Code was king. Long-distance telephone calls were too expensive for the vast majority of Americans, and commercial broadcast radio didn't exist.

Some 93 years later, most modern "ham" operators use voice rather than Morse. Nearly everyone can afford longdistance phone calls and commercial radio has become senior partner in a media world that includes television and the Internet. Nevertheless, the ARRL is thriving, with 150,000 dues-paying members and a staff of 100 full- and parttimers.

The League continues to publish its long-running "QST" magazine, hosts a detailed Web site at www.arrl.org and plays a big role in aiding government and other emergency responders during natural and manmade disasters.

But isn't amateur radio on its way out?

"There are almost five times as many 'hams' today as there were in the 1950s," said Allen Pitts, ARRL's media and public relations manager. "The number of amateur radio license holders in the U.S. has gone from 144,000 back in 1955 to 653,452 in February 2007. Predictions that the Internet, computers, cell phones and other developments would be the end of amateur radio were obviously mistaken."

Beginnings

In 1914, "ham" radio operator Hiram Percy Maxim, inventor of the "silencer" for handguns, was trying to send a message from his 1 kW station in Hartford, Conn., to one in Springfield, some 30 miles away. Although Maxim's station had a range of 100 miles, "some peculiar transmission condition ... made direct ground-wave radio communication between Springfield and Hartford difficult if not impossible," wrote Clinton D. DeSoto in a history of the ARRL, "200 Meters & Down," published in 1936.

To bridge the gap, Maxim arranged with

When amateur radio enthusiasts a ham in Windsor Locks — between his station and the one he was trying for each in Springfield — to "relay" his message. Maxim transmitted in Morse Code to Windsor Locks, who then retransmitted his message to Springfield.

> "The feat done, Maxim sat back in his operating chair, puffing his familiar pipe and pondered more," DeSoto wrote. Eventually, Maxim realized that a national

out-performing government and commercial stations representing investments of hundreds of thousands of dollars."

Soon after, the ARRL marked Washington's birthday on Feb. 22, 1916 by relaying a message through its member stations across the United States. "The Pacific Coast got the message 55 minutes after it started at 9XEl; the Atlantic Coast,



Photo courtesy Henryk Kotowski, SM0JHF/VU3HKE and ARRL

'Angel of the Seas' Bharati Prasad, VU4RBI, operates a demonstration at the Science Center near Port Blair, Andaman Islands in the Bay of Bengal, to introduce amateur radio to local navy cadets. Emergency contact among the Andaman and Nicobar Islands was maintained by groups of hams following the 2004 tsunami.

association of hams that could relay messages across the country, station to station, could be of profound social benefit. From this inspiration, and with the help of the Radio Club of Hartford, the ARRL was born.

"By August 1914, more than 200 relay stations had been appointed, from Maine to Minneapolis and Seattle to Idaho," DeSoto wrote. By the end of 1915, "Amateur stations were accomplishing what were in those days unbelievable feats in transmission and reception. With homemade equipment, often not exceeding \$100 in total cost, and in the despised 200-meter region, they were frequently

60 minutes after; New Orleans and Canada each had it in 20 minutes," wrote DeSoto.

This early success proved how effective, fast and useful amateur radio stations could be in relaying messages nationwide and to other countries. For an unpaid volunteer radio network to deliver such performance in 1916 was unprecedented.

Making a difference

Any time disaster hits, proponents say, amateur radio operators are there to help, backed by a wealth of fixed and portable radio systems. This is why local authorities

Continued on facing page

In the aftermath of Hurricane Katrina,

"Over 200 amateur radio operators from

35 states and Canada were processed and

deployed to the field" from Montgomery,

Ala., wrote Greg Sarratt, ARRL Alabama

section manager. More served at refugee

centers and other locations around the

country. "Amateurs in the field and at

Montgomery worked long hours each day,

working many consecutive days with no

turn to hams when regular channels of communication fail, as was the case during 9/11 and Hurricane Katrina.

Providing emergency communications is a big part of the Amateur Radio Service and written into the FCC's reasons for its creation. Besides making a difference during disasters, ARRL members help



promotional logo for Amateur Radio Emergency Services, a program of the ARRL.

enhance homeland security. In fact, they've been doing so since the beginning.

The year was 1915. The United States officially was neutral at this stage of the Great War, and the U.S. Secret Service was keeping an eye out for foreign nationals who might be violating its neutrality while on American soil.

Some of their suspicions were focused on the German-owned Telefunken radio station WSL, which was based at Sayville on Long Island. Secret Service Chief W.J. Flynn was sure that the station was feeding intelligence back to Germany, but was unable to find proof. He had an inspiration: Why not ask a ham to listen in on WSL's broadcasts? So Flynn recruited ARRL member Charles E. Apgar, who lived in Westfield, N.J., to listen in. Using a homebrewed recorder consisting of a Dictograph and a telephone receiver diaphragm, Apgar recorded WSL's transmissions between 11 p.m. and 1:30 a.m., then rushed the recordings to the Secret Service for analysis.

"It soon became apparent that the station was sending information concerning Allied and neutral shipping to submarines at sea," wrote DeSoto. Based on this evidence, the U.S. government seized WSL and interned its top managers.

The ARRL today

Given its rich past, it is not surprising that the ARRL puts a lot of emphasis on radio history. This is one of the reasons it

still runs an amateur station. W1AW, in its headquarters in Newington, Conn. Dubbed the Hiram

cell phones and other developments would be the end of Amateur radio were obviously mistaken. Allen Pitts, W1AGP

Predictions that the Internet, computeers,

Percy Maxim Memorial Station, in honor of the man whose call sign was W1AW, this station maintains both antiques and the newest digital computerized equipment in working order, and broadcasts using both.

Local legend has it that Maxim's ghost haunts W1AW, albeit in a friendly way.

Still, today's ARRL is nothing if not modern. Most members have long traded in their Morse Code keys for microphones and computers, and have done their best to stay at the leading edge of RF technology. This, proponents say, is why hams are such a resource during disasters. They provide an unmatched combination

of equipment and experience to government authorities, for free.

time off." After 9/11, he said, hundreds of hams came from as far as Texas, California and Canada to New York to provide emergency communications. In particular, hams provide a communications lifeline for the American Red Cross and its teams.

As for the future? "Whenever Americans need us, we'll be there," said Pitts. "No matter how times change, the fascination of radio remains undimmed for our 150.000 members."

This article appeared in Radio World newspaper March 28, 2007. Used with permission

New Guilford Co. ARES Coordinator Comments

by John Doggett, KI4BMS **Guilford County EC**

As the newly appointed ARES already accomplished. coordinator, I would like to take the time to thank everyone who has supported me thus far. I would also like to express my upcoming meetings and I already have a gratitude and appreciation to Dave Collins great deal of ideas for activities for group for his remarkable leadership and members. enthusiasm while he was the EC.

have some pretty big shoes to fill, but I open to any suggestions as to how to do would like ARES members to know that so. I am more than willing to do my best to encourage the growth of the group. Aditionally offer current members with members for providing me with such an informational and entertaining meetings exciting opportunity, and I promise that that will interest all who are involved. the upcoming year will be an eventful

For the five years that Dave Collins was the Emergency Coordinator, he made great strides to increase awareness about ARES, and I plan to build on what he has

I am extremely excited about plans for

I hope that ARES continues to I know it goes without saying that I strengthen under my leadership, and I am

> Again, I would like to thank all of the one.

http://www.w4qso.org

Software Defined Radio Project

by Chris Thompson, K4HC

Vice President, GARA

The Software Defined Radio project announced a few meetings ago, and the subject of last



moth's club presentation, has been a great success in my opinion. Many members expressed interest in the project at the outset, and several Next on my list is th e RX/TX transceiver for 80

Chris, K4HC

and 40 meters. A bit more complex, but with a little patience, I'm sure I'll have a fun little transceiver working in short order.

As a recap, the SoftRock Lite series of receivers, kitted by Tony Parks, KB9YIG, are available from him for \$10, with versions for 160, 80, 40, 30 and 20 meters. These are simple, crystal controlled receivers that receive a 48 khz or 96 khz swath of bandwidth (dependent on the sample rate of your computer sound device) and pass it as quadrature sampled audio to your computer for demodulation, filtering and processing. Tony also kits the SoftRock RX/TX 1 watt output transceiver covering 160, or 80/40 or 40/30 meter bands for \$32. This is a great way to introduce yourself into the world of Software Defined Radio.

The whole concept of Software Defined transceiver for around \$20 Radio has fascinated me ever since I learned about the Flex-Radio SDR-1000, that was first presented in a 4 part series in QEX, the experimenter's journal of the ARRL. This has matured into a fully assembled commercial product, and costs around \$1500. Flex-Radio has just announced their next generation transceiver series, the Flex-5000 on their website.

A Software Defined Radio (SDR) can be thought of as minimal hardware, of us have built and maximum software. This is quite a tested the receivers. departure from traditional radio design, where all of the demodulation, filtering and signal processing is handled in a computer rather than in the radio. The modes able to be received are only dependent on the capabilities of the software package you are using.

> It has been truly amazing how well a \$10 receiver works, even when coupled with the cheap onboard sound device in my desktop PC. As with most things, there are several aspects that can be optimized to provide greater performance. As the sound device is such an integral part of the receiver, improving this with a higherend sound card will result in greater sensitivity and dynamic range.

> Tony has provided tremendous support and service to this project. He is retired, and apparently has taken on the design and kitting of this series of radios to keep himself busy. He recently announced a probable release of a CW only SDR



Photo by Chris Thompson, K4HC | GARA

sometime in the near future.



If you are at all interested in Software Defined Radios and learning how this all

works, I would recommend that you join the very active Yahoo group on the SoftRock radios.

The web address is: http://groups.yahoo.com/group/softrock 40/

Other web sites that have more information include:

The Flex-Radio website: http://www.flex-radio.com

The High Perfomance SDR Project: http://hpsdr.org/

The ARRL Technical Information Service pages:

http://www.arrl.org/tis/info/sdr.html



Top, Greg Spencer, KG4UQV, works on his kit; left, completed kit in Altoids tin and below the small board waiting for all the parts.



Photo by Chris Thompson, K4HC | GARA

Civilian Space Traveler Arrives at ISS

NEWINGTON, CT, April 11, **2007** -- Less than a day in space, civilian space traveler Charles Simonyi, KE7KDP/HA5SIK, is already making contacts with the earthbound ham radio community from NA1SS. The billionaire software pioneer and aviator arrived April 10 at the International Space Station with the Expedition 15 crew of Russian cosmonauts Fyodor Yurchikhin, RN3FI, and Oleg Kotov. Yurchikhin, Kotov and Simonyi launched in a Soyuz spacecraft two days earlier from Baikonur Cosmodrome in Kazakhstan. Amateur Radio on the International Space Station (ARISS) International Chair Frank Bauer, KA3HDO, says he's received several reports that Simonyi has been making contacts, including some the evening of April 10 with stations in Hawaii and the US Northwest.

"Expect Charles to be on the air more during his mission on ISS," Bauer says. "The ARISS International team has provided him pass times to support these contacts."

Ron Hashiro, AH6RH, in Honolulu was among the lucky ones. He tells ARRL that after putting out a blind call April 10 at around 0400 UTC on 144.49 MHz FM simplex, he spoke not only with Simonyi but with Expedition 14/15 Flight Engineer Suni Williams, KD5PLB.

"I mentioned to her that I had listened to her earlier contact with the school in India and it was a thrill to speak with her directly," Hashiro recounted. "She said that Hawaii was her favorite place and had some relatives in Hawaii."

Then, Hashiro says, Williams said there was someone else interested in talking with him, and Simonyi came on a few minutes later.

"I welcomed Charles to ham radio and asked him if he was the author of the "Hungarian notation" of Windows programming, which he acknowledged," said Hashiro. He told Simonyi that he was involved in Windows programming more than 20 years ago, and was glad to meet its creator.



(L-R) Charles Simonyi, KE7KDP, Oleg Kotov and Fyodor Yurchikhin, RN3FI. [NASA Photo]

out a call for other stations, and Ray Nawrocki, NH6RZ, responded and spoke with Simonyi for a few minutes. Hashiro deemed the occasion "a fabulous and eventful evening."

Simonyi reportedly also contacted Scott Avery, WA6LIE, in California during one of the April 10 ISS passes.

Simonyi to Do Ham Radio Maintenance

A Hungarian-American flying under contract with the Russian Federal Space Agency, Simonyi paid a reported \$25 million for his space adventure. During his stay aboard the ISS, he'll speak with four schools via Amateur Radio, including Puskás Tivadar Távközlési Technikum (HA5KHC) in his native Hungary and three schools in the US, under the auspices of the ARISS program.

In addition, he'll do some maintenance on some of the ham radio gear on the ISS as well as some testing to isolate an antenna problem, and he'll reprogram the Phase 2 NA1SS transceiver to correct a configuration problem.

Simonyi also will conduct some research before returning home April 20 with the Expedition 14 crew of Michael Lopez-Alegria, KE5GTK, and Mikhail Tyurin, RZ3FT, who have been in space Hashiro said he asked Simony to put since last September. Williams is

scheduled to return home this summer on the shuttle Endeavour.

Crew Handover Under Way

NASA reports that the Expedition 14 and 15 crews have begun handover activities and are working together to complete standard tasks. The Expedition 14 crew will continue its maintenance tasks and exercise activities.

Since the first station element -- the Zarva cargo module -- was launched, the ISS has orbited Earth 48,000 times, NASA notes. That's 1.26 billion miles or the equivalent of traveling to Mars and back 20 times.

Frequencies in Use for **ARISS General QSOs**

Voice and packet downlink: 145.80 MHz (worldwide)

Voice uplink: 144.49 MHz for Regions 2 and 3 (The Americas, and the Pacific)

Voice uplink: 145.20 for Region 1 (Europe, Central Asia and Africa)

All frequencies are subject to Doppler shifting.

Area Activities

FOURTH MONDAY – at 6:30 PM, the **Greensboro Amateur Radio Association** have their regular monthly meeting at the Golden Corral on Landview Dr., off W. Wendover Ave. Please plan to gather at 6:30 PM for dinner. The meeting is scheduled to start at 7:15 PM

CLUB NETS:

SUNDAYS – weekly at 9 PM, the GARA News and Information Net. This net features NewsLine and is on the 145.150, W4GSO repeater. Roy Smith, N4BYU is always looking for net controls. Contact him if you would like to help.

THURSDAYS – The **Guilford County ARES Net** meets on the 145.150 repeater (100 Hz. tone) at 9 PM.

TUESDAYS – at 8 PM, the **2 Meter SSB Net** meets on 144.225 Mhz. USB. Chris Thompson, K4HC is the net control station.

WEDNESDAYS – **The Guilford Amateur Society** holds their weekly net on the 145.250, W4GG repeater with an 88.5 Hz. tone. Jim Hightower, W4JLH is the net control.

TUESDAYS – at 8:30 PM **The Triad SkyWarn Net** meets on the 147.225, K4ITL repeater, no tone required.

Greensboro Amateur Radio Association P.O. Box 7054

Greensboro, NC 27417



Web: www.w4gso.org



OTHER ACTIVITIES :

FIRST MONDAY – **The Guilford County A.R.E.S.** monthly meeting is held at 1002 Meadowood St. off W. Wendover Ave, in the EMS building, beginning at 7 PM.

THIRD MONDAY – at 6:30 PM **The Guilford Amateur Society** holds their monthly meeting at the Greensboro Police Western Sub Station at 300 Swing Rd in the community room. Refreshments at 6:30 PM and the business meeting begins at 7 PM.

SATURDAYS – at the K&W Cafeteria on Big Tree Way, hams get together for **Saturday Breakfast** at 7:30 AM. Talk-in is on the 145.150, W4GSO repeater, with 100 Hz. tone.

THURSDAY & FRIDAY – at 11 AM, Greensboro Hams get together for lunch. Thursday lunch group is meeting at the K&W Cafeteria off Big Tree Way and a Friday lunch bunch is at the K&W Cafeteria off South Holden Road. Talk-in is on the 145. 150, W4GSO repeater with a 100 Hz. tone.

EVERY FRIDAY – at 8 PM (approximately) Greensboro Hams get together for coffee at Guilford College (summer location till Daylight Savings time changes)

The Official Publication of GARA