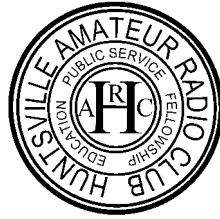


# VOX



## HUNTSVILLE AMATEUR RADIO CLUB

Huntsville, Alabama

Volume 41, Number 3

March, 2001

### Huntsville Amateur Radio Club Information

**Club Officers:**

President,

John Morris, K4XH  
K4XH@aol.comt

Vice President,

Paul Paelian, WB4UEE

Secretary,

Brian Bender, KD4FGL  
kd4fgl@mindspring.com

Treasurer,

Heath Thorson, KC4HRX, 774-3098  
hthorson@hiwaay.net

The club's address is Box 423, Huntsville, Ala. 35804. Meetings are held each Friday night at 7:30 P.M. at the American Red Cross Building, 1101 Washington Street. Dues are \$12.00 per year, family memberships are \$15.00 per year. The club maintains a Web Site at "http://www.harc.net"

The North Alabama Repeater Association operates repeaters on 146.34 / 146.94, 147.78 / 147.18, 223.34 / 224.94 and 448.5 / 443.5. NARA dues are \$16.00 per year and may be sent to NARA at P.O. Box 18941 Huntsville, AL 35804-8941.

The club's packet radio interest group, HUNTSPAC, maintains an extensive packet network for the Huntsville area. Dues for use of this network are \$15.00 per year, and can be paid through the HARC Secretary-Treasurer listed above.

The club's ATV special interest group, TVATV operates an ATV repeater. It's input frequency is 439.25 MHz and its output is 421.25 MHz. A voice coordination repeater is operated with output frequency of 145.33 MHz, input 600 kHz down.

The Vox is published the third Friday of each month except for August. Editor of the Vox is Frank Emens, W4HFU, 3714 Lakewood Circle, Huntsville, Ala. 35811 or femens@hiwaay.net. Material of interest to the HARC membership should be submitted to the editor by the second Friday of the month of publication.

"Vox", Vol 41, Nr 3, Mar, '01

A Newsletter published monthly except for August by the Huntsville Amateur Radio Club, P.O. Box 423, Huntsville, AL

### From the Prez

Remember Old Timer's Night is Friday February 23. Bill Richardson W4LRE will lead the pack. This should be lots of fun. Come on out!

The 911 tour February 9, was a real delight. Ernie Blair, WA4BPS and Chris Reed, KF4MMF did an excellent job of showing us the structural integrity and the many capabilities of the 911 facility. The building is designed to withstand a level five tornado and there is back-up for everything. Without a doubt the 911 facility has everything possible to defeat Murphy's Law.

Paul Paelian, Vice-president/Program Chairman and I are working on future programs. This is what we have lined up for March: 1. March 2, Demonstration of Transceiver ICOM 706MKIIG 1.8mhz through 440mhz, by John Morris, K4XH. 2. March 9, Packet Radio by Tim Cunningham, W8DEU 3. March 23, Collins Radio night by Butch Schartau, K0BS. We are asking all you Collins collectors to bring your Collins Radios to show. 4. March 30, Auction Night

Programs we hope to have in the future include: History of Radio and Ham Radio, How SSB started, QRP, Field Day, Heathkit Night, PSK 31, and the Sun Spot Cycle. Anyone who would like to present any of these programs, or knows someone who would, please don't hesitate to let Paul or me know. Any suggestions for future programs will be welcomed.

73, John Morris K4xh

### UO-40 (Phase 3D) News

Many of you may be confused about what you have read in the recent Amateur Radio magazines about AO-40 being in some sort of trouble. You should be aware that our local VOX is about 2 months ahead of the game with the most accurate information available on this satellite. You can always say you read it in the VOX even though some of the magazines paint a much different picture. They have dead lines they have

to meet much like the deadlines that Frank, W4HFU, gives us in the VOX. Although, Frank, is much more tolerant when we are a little late with our articles.

AO-40 is alive and still working since it was restarted on Christmas evening. The ground controllers are volunteers who have dedicated their time and effort to put this satellite into service. They have jobs and family responsibilities like many of us. This satellite is a major undertaking and requires a great deal of their time and effort. My hat is off to those dedicated individuals. They are not paid for their effort, except in accomplishment.

AO-40 continues to transmit telemetry data on the 2401.323 MHz down link. Currently, AO-40 is in a seasonal limitation, which will naturally end in April. The controllers are working to de-spin the satellite. Something happened to AO-40 in December to make the spin rate increase. This occurred after it was boosted deeper into space in early December.

When the spin rate is under control, the ground controllers can begin testing and controlling the satellite. Keep in mind, this may not happen any earlier than the end of April. When AO-40 was launched, it was projected to take at

### CAVEC Amateur Radio License Exams

Exam sessions are held the first Saturday of each month unless a holiday causes the session to be delayed for one week.

Upcoming sessions are:

Saturday, March 3

Saturday, April 7

For information contact:

Larry Frost, KR4GU, 379-3582

Or

Don Tunstill, W4NO, 536-3904

least 10 months before being made available to the general Amateur community. The controllers need to re-orient the attitude of the spacecraft for a better angle to the Sun. The Sun sensors were designed to make this task easier. However, the attitude of the spacecraft does not allow the Sun sensors to see the Sun. It is kind of like a ship stuck in the sand at low tide. We just have to wait for the tide to come back and help us. In this case, we are waiting for the seasonal movement of the Sun to come into view of the Sun sensors. That will happen in late April. In the mean time, we have to rely on measuring the Sun angle with solar radiation. This is not a trivial task since it is the measurement of the amount of Sun hitting the various solar panels as AO-40 is spinning.

Stay tuned for more information next month on  $\hat{o}$ As AO-40 Spins $\ddot{o}$ . This is the Amateur Radio production of a Soap Opera.

*Tim, N8DEU AMSAT Area Coordinator  
n8deu@amsat.org*

**From the Treasurer**

Hello to all members. I hope everyone had a good Christmas and a happy New Year. My holidays were also good except for eating to much food. Anyway, we had a good joint meeting with

NARA on Jan. 12, 2001. Our attendance was a little over 50. We have received lots of dues in the mail in response to our membership drive as well. All checks received will be entered in to the database and deposited in the bank. We have a lot of work ahead of us in the processing but it is really fun. I have been treasurer since June 1997 and have enjoyed it very much. My wife, Tera, is a big help in entering items in the database as well as assisting me in processing payments. Anyway, take care and don't worry about the checks because they will be clearing soon.

*73 Heath Thorson (KC4HRX)*

**SUNSAT SO-35 Falls Silent**

The ground controllers at the Electronic Systems Laboratory at Stellenbosch University, report the last communication from SUNSAT SO-35 took place on 19-JAN-01. They have performed several tests and suspect irreversible, most likely physical, failure on this satellite and do not believe it will be back in operation.

SUNSAT has been in orbit for nearly 2 years providing some exciting communications for Amateurs around the world. For many of us, including myself, it offered the ability to communicate through Amateur Satellites using

only a dual-band FM handheld with a rubber duck.

SUNSAT brought us high-resolution imaging contributing new standards in the field. SUNSAT also allowed for many APRS experiments in demonstrating that you could use APRS as a remote traveler from anywhere in the world using only an HT. This satellite could easily be heard with a scanner on 145.825 MHz as it passed over our area.

We will really miss SUNSAT SO-35 on the Amateur bands.

*Tim, N8DEU AMSAT Area Coordinator  
n8deu@amsat.org*

**Back To Basics**

My nephew came to me for some help with a school project this weekend. He wanted to know how to build a crystal radio. I guess many of us built them as children and I owe my life long fascination with radio to the fun I had with crystal rigs at a young age.

I guess I told and showed my nephew more than he really wanted to know about the little sets and we got him one working using a diode, but after he left I continued to play around with the ability to pick up radio waves out of the air with hardly anything at all.

While reading some messages on the 80 meter Warbler in the shack, I gath-

HARC ACTIVITY CALENDAR FOR March, 2001						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25	26 Christian Fellowship Net 2100 on 145.33	27 ATV Net 2000 Check In 145.33	28 Southeast Linked Re- peater Net1900 on 147.240	1 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	2 HARC Meeting Demo of Icom 706MKII XCVR. John Morris, K4XH	3 CAVEC Exams, 0900 at Red Cross  Hamfest, Cave City, Ky
4	5 Christian Fellowship Net 2100 on 145.33	6 ATV Net 2000 Check In 145.33	7 Southeast Linked Re- peater Net1900 on 147.240	8 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	9 HARC Meeting APRS / Packet Radio, Tim Cunningham, N8DEU	10 Hamfest - Kerbel AR Service, Knoxville, TN
11	12 Christian Fellowship Net 2100 on 145.33	13 ATV Net 2000 Check In 145.33	14 Southeast Linked Re- peater Net1900 on 147.240	15 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	16 HARC Meeting Vox and Social Night	17 Kennehoochee ARC Hamfest, Marietta, GA
18	19 Christian Fellowship Net 2100 on 145.33	20 ATV Net 2000 Check In 145.33	21 Southeast Linked Re- peater Net1900 on 147.240	22 EMERGENCY NET on 34/94 @ 1930 Skywarn Net on 147.24 @ 2000	23 HARC Meeting Collins Radio Night, Butch Schartau, K0BS	24
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ered up a high impedance earphone, some 22 gauge wire, a diode, some pyrite fragments, some aluminum foil, tape, cardboard, a toilet paper roll tube, etc and went to playing. In no time I had the best crystal radio I ever built in my whole life . . . I was proud of myself.

Now I know crystal rigs are simple and not really much of an electronic wonder anymore, but in just a few minutes, using fairly common materials and a bit of natural mineral as a detector, I had constructed a radio receiver that I could tune from around 900 KHz up to about 1800 KHz . . . It picked up two local AM stations, another couple of AM stations and prize of them all radio Japan. I even heard a local ham on SSB splattering around on the high end of the band spread.

Yeah, I know all the theory about how electromagnetic waves travel, how they are produced and how they are detected, but this is fascinating stuff when you really think about it. Grabbing that tiny bit of electricity out of the air and manipulating it to reproduce the human intelligence it contains, is pretty

heady stuff.

Anyway, doing some of the simplest things again, that are a part of our hobby, sometimes lets one again see what fascinating things we are playing with here.

No need for me to have to relate the details of putting together such a receiver, there are many, many articles on-line about building everything from the simplest to the most complex crystal sets.

Another fascination to me is to think that all these natural phenomenon are as old as the Universe, but look how many million years it took creatures to learn to do something with them.

*Richard Matthews, WA4NWW*

### APRS News

This month I will discuss 2 services that are available to the APRS community. These services are WHOIS and EMAIL. APRS continues to grow very strong throughout the country, so we can expect to see more new features as it advances.

The WHOIS server is now active on APRS thanks to John Gorkos, AB000,

near Overland Park, KS.

The WHOIS server works much like a call book server on the packet BBS network. All you have to do is send a message addressed to WHOIS and put the call sign for the station you are seeking information in the message text. Within a short period of time you should see a message appear on your screen with the operators name and QTH. Would you believe your message travels all the way to Kansas and all the way back in a short period of time on 1200 baud packet? Trust me, it really works well, thanks to our local APRS server hosted by the friendly folks over at GigaParts. The best part about APRS, unlike traditional BBS packet, is you do not have to connect to a BBS or know any call signs. In the APRS world, you simply blast your data out into the open air and it magically arrives at its destination.

I was talking on the repeater the other day and forgot the name of the person on the other end of the conversation. It was just a mild case of going brain dead. Then it occurred to me, that I could type a message on my Kenwood TMD-700

mobile using the microphone. I sent the message to the WHOIS address and queried the call sign in question. In a few seconds, the name and location of the operator was on my screen. All of this took place while I was still in QSO with the other station. On the next round, I could echo the other persons name with confidence and they never knew I went brain dead. This was a quick way out of an almost embarrassing situation, thanks to the technology of APRS at my fingertips.

The EMAIL server is another popular service on APRS. This allows you to send an email message from your APRS station. I have used it many times with my TH-D7A handheld to send messages while on the move. To send an email message from your APRS system you need to address your message to EMAIL. In the message text, type the email address of the person you are sending the message followed by a space, and then type your message. It really works great, so give it a try.

The power of APRS simply amazes me when I am traveling. It allows my friends and family to track me via the Internet and also allows me to email them from my handheld in the car or on the street. Just recently, while I was at the San Diego airport I whipped out my TH-D7A and sent a few messages from my handheld back to Huntsville to W4GPS, KF4LFQ, and K4JCH. All my messages made the trip in short order while I was standing in front of the airport waiting for my bus. All of this took place on 1200 baud APRS packet. If you thought 1200 baud packet was slow, think again. APRS has breathed new life in those old dusty 1200 baud TNC's.

There is no longer any need to wait to get back to the shack and play HAM radio anymore. APRS makes it very convenient no matter where you are located.

There will be a presentation on APRS at the Club meeting on Friday, 09-MAR-01, at the Red Cross building. So mark your calendar and come on down and check it out. We will be talking about APRS in the recent Huntsville Rocket City Marathon, APRS in general, and have some equipment on hand for you to view. We anticipate a big crowd, so come early to get a good seat. There are so many things in APRS to discuss that this will surely lead to ongoing APRS presentations in the future.

*Tim - N8DEU n8deu@amsat.org*

### **From The ARRL Letter**

The next two items are from the ARRL Letter Volume 20, Number 6, February 9, 2001

#### **>>Indian Hams Put Available Ham Technology To The Task**

Hams assisting with earthquake relief operations in the Indian State of Gujarat are even taking advantage of the UO-14 amateur FM satellite as they continue providing communication from the stricken region. Hams within the quake zone and those keeping touch from the outside also have found themselves caught up in the human tragedy. The death toll from the quake now is estimated at up to 50,000 and could rise higher. More than 600,000 were left homeless.

Bangalore-based Guru Rao, VU2GUR, and Sandeep Shah, VU3SXE, a Gujarati Bangalorean engaged in relief work in Gujarat have been using UO-14 to touch bases. "Guru and Sandeep were quick to seize the opportunity and roped in the amateur satellite UO-14 to maximize all possible communication routes," said Raj Kumar, VU2ZAP, another Bangalore ham who's been following the Amateur Radio effort.

While some telephone service in the earthquake zone has been restored, Amateur Radio was the primary link to the outside world in the immediate aftermath of the January 26 earthquake.

Another Bangalore amateur, Chandru Ramachandra, VU2RCR—a former UNESCO official—drove his SUV to Bhuj, 1700 km distant. Carrying a medical team and some 400 kg of gear and supplies, he set up a station to establish a link between Bhuj and Bangalore. As of a few days ago, 18 amateurs from the State of Karnataka were handling communication regarding placement of doctors and medical supplies as well as health-and-welfare inquiries into areas where the telephone system is still out.

"This has become a practical exam showing our capability and preparedness in disaster management," said Bangalore Amateur Radio Club President Lion Ajoy, VU2JHM.

Most of the earthquake-related traffic continues to be handled via HF on 40 and 20-meter SSB, although some VHF FM links have been established for local work in Gujarat.

Horey Majumdar, VU2HFR, says hams in Calcutta, where he lives, have been able to locate and pass along information about the well being of several individuals. "However, the best option would have been to have our own team from Calcutta at Bhuj," he said. Majumdar says handling some of the H&W inquiries has been tough. In one case, the information he got via ham radio from the quake zone was not good news. "It was extremely difficult for me to convey to their family that this person, his wife and 7-month-old daughter didn't make it," he said. "There must have been thousands of families like this."

Late word from Prem Manani, VU2XMX, in Gandhinagar, the capital of Gujarat, is that reliance on amateur communication has ended with the restoration of normal communication channels, although he said some stations were still in action at the request of the Indian government. "The untiring job done by all hams was appreciated by one and all in the government," he said.

#### **>>LF Signals Crossing The Pond, But No QSO Yet**

While efforts to complete a transatlantic LF QSO still have not been successful, things have been looking up lately

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in the nether reaches of the radio spectrum. Amateur Radio activity in the vicinity of 136 kHz has resulted in several recent "sightings" of signals from the UK here in North America. The first such signals were heard in the US in late January and early February. A report that the AMRAD WA2XTF 136-kHz beacon in Virginia had been heard in the UK turned out to be in error, however.

The most recent report came February 6 from Sandy Sanders, WB5MMB, in Oakton, Virginia, who says he was able to copy Lawrence Mayhead, G3AQC, and "dashes" from Jim Moritz, M0BMU, in the vicinity of 136 kHz. Sanders' monitoring station is in a three-story office building.

Such weak LF signals are not actually heard but seen. Reception of weak LF signals typically is done using spectrographic software. Signals are transmitted using dual-frequency CW—or DFCW

(<http://www.qsl.net/on7yd/136narro.htm>)—or very slow-speed CW, also known as "QRSS." LF enthusiast Dexter McIntire, W4DEX, says that in DFCW the dot and dash elements are sent with the same duration in time being separated by frequency, making it easier to identify a signal from weak-carrier QRM.

From his QTH in coastal North Carolina, McIntire also has copied G3AQC on 136 kHz, possibly marking the first time an amateur LF signal from the UK has been heard and verified in the US. He also received M0BMU's LF transmissions for a possible distance record.

"My best reception of M0BMU, Jim Moritz, occurred at 0100 UTC on the 31st of January," McIntire said. For LF reception, he ties together both legs of his 160-meter dipole and tuned the antenna for resonance with a small ferrite-core inductor. Moritz estimated his effective radiated power at 1 W.

McIntire's reception of M0BMU might have set a new distance record. He calculated the distance at nearly 6394 km, and Moritz figured it at 6371 km—apparently edging out what's believed to be the record of 6311 km set by VA3LK and IK1ODO.

Mayhead said he'd been receiving "excellent signals" from John Currie, VE1ZJ, and Larry Kayser, VA3LK, so he decided to run his own series of beacon tests with the idea of encouraging sta-

tions in North America to listen.

McIntire says that on January 27, he captured some of G3AQC's DFCW transmission—including the letter "Q"—and sent him a screen shot, which Mayhead confirmed as his. On a subsequent evening, W4DEX copied G3AQC's entire call sign.

"I think that we can reasonably claim that these events constitute the first sighting of a UK station in the US," Mayhead concluded. He estimated that his setup generates an ERP of about 350 mW.

For a while, it had been thought that an Amateur Radio Research and Development Corporation (AMRAD) WA2XTF experimental 136-kHz beacon in Vienna, Virginia, had been spotted in the UK. John Sexton, G4CNN, had reported copying the AMRAD experimental beacon on 136.750 kHz on February 5 and 6, momentarily raising the excitement level at AMRAD. That turned out not to be the case. Sanders announced this week that it was determined the signal heard in the UK was about 5 Hz high and did not have a characteristic "chirp" that distinguishes the WA2XTF beacon.

Like several other countries in Europe, the UK has an amateur band at 136 kHz. Experimental amateur operations have been authorized in Canada; the AMRAD beacon in the US is licensed under the FCC's Part 5 experimental rules.

In October 1998, the ARRL petitioned the FCC to create two amateur LF allocations at 135.7-137.8 kHz and 160-190 kHz. The FCC has not yet acted on the request.

McIntire is among those who'd like to see a new LF band become reality. "I'm champing at the bit to transmit on 136 kHz!" he said.

### **From The Editor's Wastebasket**

As this is being written, we are still working on a hitch in the process of transferring a copy of the membership database from Heath to me for use in making mailing labels. This issue may end up having to be mailed with the same list version as last month's Vox. For that reason, we ask that you please don't panic if your mailing label is not up to date yet. We promise to have all hitches, bugs and glitches out of the system by next month.

I saw the item by Richard Matthews, WA4NWW on crystal receivers on the

QRP-L mailing list and, being interested in back-to-basics sort of things, I asked him for permission to reprint it here. It reminds me of an informal contest we had at HARC many years ago where the winner was the member who logged the most distant station on a simple diode receiver. Most of thought in terms of AM broadcast band, but the winning team, Bill Christian, K4IKR and Joe Sturbois, WB4RIU, built a 20-meter diode receiver and coupled it to Bill's umpty element 20-meter beam up beaucoup feet on Cave Hill and copied Radio Moscow. Some of you may remember a very sophisticated passive diode receiver built for Hi-Fi enthusiasts to couple to their Hi-Fi systems. That was before AM Broadcast became a wasteland of talk shows and not much else. There was actually music available being broadcast.

I hope the FC comes through with an amateur LF allocation soon. That seems like a great new area for Ham experimentation and a good way to do some fun experimentation.

You should get this in time to to remind you to show up for Old Timer's night on February 23. Don't miss it. It is also a good time to get your dues cleared up if you haven't done so yet.

*73, Frank Emens, W4HFU*

### **March Hamfests:**

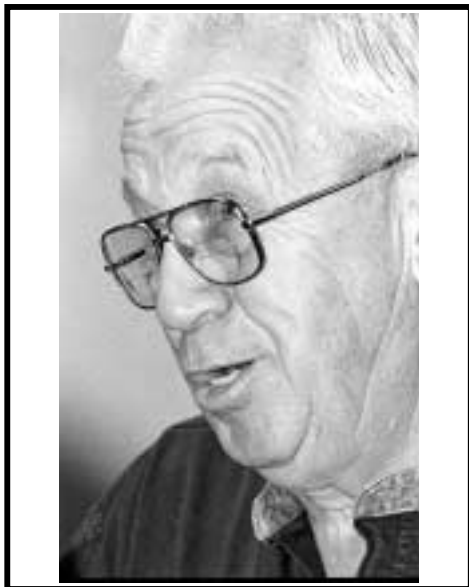
March 3, 2001 Mammoth Cave ARC, Cave City Kentucky, Contact: Jim Erskine, KD4GNN 270-528-3956 or [cominghomemag@msn.com](mailto:cominghomemag@msn.com)

March 10, 2001: Kerbel AR Service, Knoxville Tennessee, Contact Paul Baird, K3PB, 865-986-9562

March 17, 2001: Kennehoochee ARC, Marietta Georgia, Contact Margaret Durham, KB4QKW, 770-077-4405 or [mjanewalls@aol.com](mailto:mjanewalls@aol.com).

March 31, 2001: Lincoln Trail ARC, Elizabethtown, Kentucky, contact Leon Priest, N4TFK, 270-351-4721, or [n4tfk@qsl.net](mailto:n4tfk@qsl.net), or <http://www.qsl.net/w4bej>.

*73, John Farr, KC4ZXX*



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