DELTA AMATEUR RADIO CLUB

SPARKS

P.O. BOX 750482 MEMPHIS, TN 38175-0482 / VOL. 16 / JULY, 2004



Welcome to the Delta Amateur Radio Club!

Visit our home on the web at: http://www.deltaclub.org

W4BS REPEATER SYSTEM 146.82, 147.36, 224.42

443.2 & 145.03 packet

JULY 2004 CLUB MEETING

DATE: July 13, 2004 (2nd Tuesday - be there)

PLACE: Ellendale Church Of Christ, 7365 Highway 70,

Memphis, Tn. (2 miles east of Hwy. 64-Stage Rd.)

TIME: 7:00 PM

PROGRAM:

VE TESTING: Don't forget the monthly Volunteer Examiner testing session. Registration begins at **5:30 P.M.** and testing begins promptly at 6:00 P.M. Please remember to bring **two** forms of identification and **copies** of any existing licenses or CSCE's you might have. Please be on time for registration, as you will not be allowed to enter the testing session after 6:00 p.m. This is to allow our volunteer VE team to finish in time to attend the club meeting. For more VE testing information contact...

Joan Thorne, KN4PM, VEC Phone: 901-737-5795 E-mail: joant@mem.net

Please Remember: Deadline for Reports and Articles for the next issue of SPARKS is Friday, July 23th. All articles MUST be in to me by the deadline in order to be published in the next issue. Please forward all articles and items of interest to:

paulsonrj@bellsouth.net

PRESIDENT'S CORNER

To all of the Delta Amateur Radio Club Members:

Writing this before Field day, so I can just hope that we will have a good turn out, good weather, and many contacts. The Shelby County Ares Group is going to be asking members in each of the county's clubs to become active with the Ares Group. If you do not want to. or can not attend their meetings, they are asking all amateur operators to join in drills and training. As we all know, in the event of an emergency or a disaster, the community will need to depend upon our expertise for their communications needs. would be very beneficial to us, and those who will be looking to us, to have the knowledge of how operations should be run and what the agencies we may serve are obligated to provide us and what we are provide them. Contact Barbara, KE4BUU, for more info,

at our next meeting,

The Mid-night Bike Ride, or Mid-night Bike Tour as they called it, that was put on for an by Senior Services, had great weather. The riders numbered over 1000, and even though we had a couple of hams that did not show, amateurs again shined in their effort. There was one rider injured, not seriously, when she hit the handle bar with her chin. When there is another event that amateur operators are utilized, I hope that more of our club members will be able to participate.

73, Ned, KA4BLL

Delta Amateur Radio Club Board Meeting Minutes June 1, 2004

Meeting called to order at 7:08 pm by Ned, KA4BLL

Tommy, KD4TJO was not present at the meeting. Ned, KA4BLL took minutes in his absence and forwarded them to Tommy after the meeting via email.

Members in attendance: Ned KA4BLL, Randy W4RMV, Bill KG4VAW, Roger K4KCU, and Tom K4TTA.

Bill, KG4VAW read the treasurer's report. Tom K4TTA moved to accept to report, and Roger K4KCU seconded. The motion passed.

Old Business:

Ben KU4AW, will be having a Field Day Planning meeting at his home on June 2, 2004 at 7PM. He still has no volunteer for the GOTA Station. (GET ON THE AIR) This Station's Chair "ham" needs only to hold a Tech License.

Ben KU4AW will have the program at this month's meeting.

New Business:

There was no new business.

Tom, K4TTA made a motion to adjourn and Bill, KG4VAW seconded.

Meeting Adjourned 7:18 PM.

Minutes submitted by Ned Savage KA4BL

Delta Amateur Radio Club Membership Meeting Minutes June 8, 2004

President Ned Savage, KA4BLL called the June General Membership Meeting for the Delta Amateur Radio Club to order at approximately 7:10 pm local time with 30 members and guests present.

Ned, KA4BLL called for introductions of all present.

Bill, KG4VAW read the treasurer's report to the membership. There was no Secretary's report or reading of the minutes because he goofed and didn't bring the minutes with him...again.

Program: Ned introduced Tommy, KD4TJO and Darrell, KE4DHF to present the program on Field Day. Ben, KU4AW is Field Day Chairman but was at a meeting of the Mayor and Board of Aldermen in Bartlett and could not be at the meeting. Tommy and Darrell presented a slide show, which laid out the plans for the DARC Field Day 2004. There will be a CW station, two HF Phone Stations – one for contesting and one for casual operating and hopefully a PSK31 station. No volunteer for a GOTA station captain at this time. They will set up in tents and the Gazebo and operate on a generator, donated by Rick, KE4NTI even though he can't be at FD. There will be no air-conditioned buildings as we are trying to bring back the Field Day of a few years ago where we operate with only the things that might be available to us at a moment's notice. The program ended with a

few photos of past Delta Club Field Days.

Old Business:

There was no old business.

New Business:

There was no new business.

Meeting adjourned at approximately 8:30 pm.

Respectfully submitted:

Tommy, KD4TJO Secretary

VEC REPORT June 8, 2004

The June VE Session met in the hallway of the school building due to the heat of the summer months. The May session did seem to be a bit warmer and so we were relatively comfortable this month.

We had 4 people test taking 6 elements and passing 4. Helping with the session were the following VE's: Bill KC4SXT, Doc AG4KM, Francis WA4ZYN, Ned KA4BLL, Ray N4ARH, Rick KE4NTI, Richard AI4BN, and Tom N4TV (nursing a wounded shoulder - good to see you Tom).

Congratulations to:

Heidi Fletcher KI4FWS Technician Suresh Kagoo N9GSA Extra Class Marvin Woods AI4FT Extra Class (previously KI4FOA)

73, Joan KN4PM ARRL VE Liaison

FROM THE ARRL WEBPAGE

IOWA HAM IS BPL INTERFERENCE "POSTER CHILD"

The ARRL has weighed in on behalf of Iowa amateur and ARRL member Jim Spencer, WOSR, of Cedar Rapids, who has suffered severe broadband over power line (BPL) interference for more than two months. A formal complaint to FCC Enforcement Bureau Chief David H. Solomon calls on the Commission not only to order Alliant Energy's BPL field trial system to shut down but to fine the utility \$10,000 for violating the Communications Act of 1934 and FCC Part 15 rules. Alleging "ongoing harmful and willful interference to one or more licensed radio stations," the ARRL asked Solo mon to intervene "on an emergency basis." ARRL CEO David Sumner, K1ZZ, who signed the letter of complaint, said Alliant Energy has been aware since March 30--the date it installed Amperion BPL equipment in Spencer's neighborhood--that the BPL system was causing harmful interference.

"It's simply unacceptable for Alliant Energy to continue to cause interference while they're trying to solve the problem," Sumner said. While the utility has been cooperative, mitigation efforts have been only marginally successful. The BPL system continues in operation, Sumner notes, despite repeated requests to eliminate the interference or shut the system down.

The complaint cites the Commission's own Part 15 rules prohibiting harmful interference from the operation of an unlicensed intentional, unintentional or incidental radiator to a licensed radio service. "If harmful interference is caused, the radiator may not operate," the complaint says. "There is simply no room for interpretation that would lead to such harmful interference being permissible for any period of time--certainly not 10 weeks."

The letter of complaint summarizes and culminates a complaint notes. The BPL partner companies' best series of exchanges and actions in an unsuccessful effort to resolve Spencer's BPL interference. Sumner said the League got specifically involved in Spencer's case after United Power Line Council http://www.uplc.org President William R. Moroney invited the League in mid-March to keep his organization in the loop on any cases of BPL interference that were not being satisfactorily addressed. When Spencer's case arose, Sumner said, the League considered it "a good place to start."

Among other approaches, Alliant Energy has tried notching out the HF amateur bands. After notching attempts in late May, Spencer--a retired engineer and former Collins Radio employee--still reported "significant levels" of BPL interference on some bands and power line noise on 160 meter and 80 meters.

An Amperion contractor indicated that the notching--or "power masking" remains a "beta procedure" as well as "somewhat labor intensive." The contractor, Tom Luecke, indicated to Spencer in early April that he had cranked down the BPL system's gain "a notch below where I would like to have them" on three units closest to Spencer's home.

Although claiming Amperion's equipment to be FCC Part 15 compliant, "We are not a radio silent technology, nor do we claim to be," Luecke conceded. "Put another way, you can hear our signal, but we strive not to interfere with ham operators on the ham bands." He said his company has a good track record with the amateur community and "would like to think that the majority of apprehension about Amperion's technology lies in misinformation."

Sumner said UPLC representatives have made goodfaith efforts to persuade Alliant Energy to comply with the FCC rules. Spencer "has cooperated fully and patiently" with Alliant Energy's and Amperion's fruitless efforts to eliminate the interference, the

efforts to date notwithstanding, Sumner said, the time had come to say enough is enough.

"The situation in Jim's case is egregious, and it's been going on for 10 weeks," he said. "If this is the best we can expect when a BPL system causes interference, then the only answer is to prevent them from being deployed."

The letter of complaint calls on the FCC to notify Alliant Energy "immediately to cease operation of their BPL devices in accordance with §15.5(c), and to follow up that notification with a Notice of Apparent Liability."

For additional information, visit the "Broadband" Over Power Line (BPL) and Amateur Radio" page on the ARRL Web site. To support the League's efforts in this area, visit the ARRL's secure BPL Web site.

ARRL IN SUBSTANTIAL AGREEMENT WITH FCC ON WIDE-RANGING PROPOSALS

The ARRL told the FCC this week that it substantially agrees with the Commission's proposed wide-ranging changes to Part 97 Amateur Service rules. The League filed comments June 15 in the socalled "omnibus" Notice of Proposed Rule Making and Order (NPRM&O) in WT Docket 04-140, released April 15. The proceeding addresses several largely unrelated Amateur Radio petitions for rule making, including some filed by ARRL. Although the NPRM&O does not take up comprehensive Amateur Radio restructuring, the League said it sets the stage for the FCC to act on a far-reaching restructuring plan. While complimenting the Commission for a well-considered document, the League pointed out that some petitions will have been on the table for between three and four years before the FCC concludes the proceeding.

"It is hoped that other petitions filed subsequent to those addressed in the instant Notice and which are pending before the Wireless Telecommunications Bureau can be more expeditiously addressed," the ARRL commented.

In a significant item related to license restructuring, the NPRM&O recommended adoption of the ARRL's "Novice refarming" plan, spelled out in RM-10413. The League's later license restructuring petition, RM-10867, incorporates refarming--a realignment of HF subbands. Noting that the approaching low point of the sunspot cycle typically means a migration to the "substantially overcrowded 80 and 40-meter bands," the ARRL urged the FCC to act swiftly on the ARRL-proposed band realignments.

"The proposed changes will assist greatly in redistribution of some of this overcrowding," the ARRL told the FCC. The League said its refarming proposals "will benefit all licensees," and it expressed gratification that the FCC agreed with the petition.

Under the now FCC-endorsed ARRL plan, current Novice and Technician Plus(ie, Technician with Element 1 credit) licensees could operate on the 80, 40, 15 and 10-meter General-class CW allocations at up to 200-W output. The plan also would mean changes in the 80, 40 and 15-meter phone bands for General and higher class operators.

benefits of construction projects without unnerestrictions."

Although in opposition to an earlier, broader proposal, the League now says it supports an amendment to permit auxiliary operation on above 144.5 MHz--with the exception of the

The ARRL strongly favors the proposed FCC adoption of a rule to limit the number of applications a licensee may file on a given day for the same vanity call sign. Some amateurs have filed multiple applications for the same call sign on the same day to greatly enhance their chances of getting their first call sign choice.

"This manipulative practice clearly should be discouraged," the ARRL said. "While it is unclear to ARRL why this practice has not been prohibited by Order, it should be prohibited now." The League further suggested the FCC expand the scope of its proposed rule change to preclude the filing of more than one application on a single day for the

same call sign choice(s). The FCC's proposed rule addressed only the first choice. The ARRL further recommended that the FCC dismiss the vanity applications of any violators.

The League advised the FCC against adopting a Quarter Century Wireless Association petition to let amateurs to designate a specific Amateur Radio club to acquire their call sign in memoriam after they die. The ARRL said such as change would effectively give licensees property rights over their FCC-assigned call signs. "Vanity call signs are not assignable, and the Commission's rules do not permit trafficking in call signs," the League commented.

The ARRL praised the FCC for proposing to essentially eliminate its rules prohibiting manufacture or marketing of Amateur Radio Service power amplifiers capable of operating between 24 and 35 MHz. "The proposed amendments are welcome and will enhance amateur use of the 10 meter and 12 meter amateur bands," the League commented. "It will also allow amateurs to enjoy the benefits of construction projects without unnecessary restrictions."

Although in opposition to an earlier, broader proposal, the League now says it supports an amendment to permit auxiliary operation on 2 meters above 144.5 MHz--with the exception of the satellite subband 145.8 to 146.0 MHz--in addition to frequency segments already authorized. Kenwood Communications had asked for the change in 2001 as part of an effort to make legal the use of its Sky Command system, which permits users to operate certain Kenwood equipment remotely via a VHF/UHF handheld transceiver. The ARRL said the proposal would "enhance the development of sophisticated amateur communication systems."

The League said the FCC should retain its rule requiring a public announcement of test locations and times as a means to prevent abuses. The ARRL also called on the Commission to require volunteer examiners and Volunteer Examiner Coordinators,

such as ARRL-VEC, to submit or forward exam session paperwork within 10 days. The FCC proposed eliminating both requirements.

The ARRL proposed in RM-10413 and the FCC supported a rule change to permit spread spectrum (SS) emissions in the 222-225 MHz band. Current rules prohibit SS emissions below 420 MHz. However, the League disagreed with an FCC proposal to also permit SS on 2 and 6 meters.

The League further asked the FCC to make two changes relating to World Radiocommunication Conference 2003 actions to bring the language of Part 97 into line with the international Radio Regulations.

A copy of the League's comments in WT 04-140 is available on the ARRL Web site.

SPACE STATION FIELD DAY 2004 OPERATION POSSIBLE

The crew of the International Space Station-astronaut Mike Fincke, KE5AIT, and cosmonaut Gennady Padalka, RN3DT--could be on the air for Field Day 2004. ISS Ham Radio Project Engineer Kenneth G. Ransom, N5VHO, says he's sent Field Day operating instructions and pass times to the ISS support team at Johnson Space enter for relay to Fincke this week.

"Those instructions state that Mike should be operating as NA1SS, '1 Alfa ISS,'" Ransom said. "Mike was also notified that anytime he is over North If it turns out that the Expedition 9 crew cannot or South America would be a chance to operate." Ransom says that if Padalka gets on the air, he'll identify as RS0ISS and give the same exchange. Fincke and Padalka would use the Amateur Radio on the International Space Station (ARISS) radio gear aboard the spacecraft.

Since most ISS passes over North America will already have occurred by the time Field Day gets under way at 1800 UTC on June 26, the ideal pass times sent to Fincke are for the following day. Here's

the pass schedule for Sunday, June 27--all times UTC: Southern and northeastern US: 0753-0811; Western US: 0927-0947; Northwestern US: 1103-1123; Northeastern US: 1415-1435; Central US: 1551-1611: and Southwestern US: 1727-1743.

"As with any Amateur Radio operation aboard the ISS, the crew gives of their free time to participate, and, as such, may not be available on every pass," Ransom said, adding that it's also possible that "more pressing events" may preclude Field Day participation altogether.

Ransom pointed out that a space walk is scheduled for just a few days before Field Day, and the crew "will still be in the process of getting back to a normal schedule when Field Day is in full swing," he said.

The tentative plan calls for Fincke to be on FM using the standard ISS voice frequencies for contacts in ITU Region 2--144.49 MHz up and 145.80 MHz down. Ransom said that if Padalka also participates, he would operate on the same 2-meter frequency pair, and the Expedition 9 crewmates would likely trade off on passes.

Since ARISS has two radios aboard, it's possible that both Fincke and Padalka could get on the air at the same time. If that happens, one would be on 2 meters while the second would operate 437.55 MHz FM simplex. Ransom cautions, however, that Doppler shift in the 70-cm band is significantly greater than on 2 meters.

participate in Field Day 2004, Ransom says the RS0ISS packet station should be on and available for ground stations to work each other via the packet digipeater using "ARISS" as the alias for the call sign in UNPROTO mode. Frequencies are 145.99 MHz up and 145.80 MHz down.

ARRL Contest Branch Manager Dan Henderson, N1ND, says he was happy to hear that hams aboard

the ISS may once again be on the air for Field Day. "We look forward to seeing lots of reported QSOs with Mike--and perhaps Gennady--during Field Day 2004."

Henderson notes that ISS voice or packet contacts do not count for bonus satellite contact points because the ISS is not an "Amateur Radio satellite," as event rules specify. Field Day has no specific rules relating to ARISS operation because there's no guarantee that the crew will be able to get on the air for the annual exercise.

In 2001, astronaut Susan Helms, KC7NHZ, thrilled Field Day participants by showing up unexpectedly on the air and working several dozen stations. ISS crew members have participated in the event each year since.

ARISS http://www.rac.ca/ariss/ is an international educational outreach with US participation by ARRL, AMSAT and NASA.

FCC SAYS PENDING 40-METER CHANGES WILL ENHANCE SPECTRUM EFFICIENCY

The FCC says pending changes in the 40-meter amateur band as a result of World Radio-communication Conference 2003 (WRC-03) will improve spectrum efficiency. The Commission's remark came in a Notice of Proposed Rule Making (NPRM) in ET Docket 04-139, which seeks public comments on proposed rule changes to complete domestic implementation of various WRC-03 allocation decisions. The NPRM primarily affects Parts 2, 25 and 73 of the FCC's rules.

"We anticipate that administrations in Regions 1 and 3 will in the near future authorize phone emissions in the segment 7150-7200 kHz," the FCC predicted in the NPRM, "and we note the ARRL has requested that the [US] frequency segment for phone emissions be expanded to 7125-7300 kHz." The FCC said authorizing phone in the 7150-7200 kHz segment of the band would permit same-frequency

US-to-DX contacts, resulting in increased spectrum efficiency. Amateurs in the Region 1 countries of Norway, Croatia and San Marino already have been granted access to 7100 to 7200 kHz on a secondary, non-interference basis.

Under the present regime, most amateur stations in Regions 1 and 3 use 7075-7100 kHz for phone. Since the US phone band is 7150 to 7300 kHz, this means most US-to-DX operation requires "split" operation. The band 7000-7300 kHz is allocated to the Amateur Service on a primary, exclusive basis in Region 2, but that is not the case in much of the rest of the world.

Effective next January 1, WRC-03 allocated the band 7100-7200 kHz to the Amateur Service in Regions 1 and 3 on a co-primary basis with broadcasting. After March 29, 2009, 7100-7200 kHz will be allocated to the Amateur Service on an exclusive basis throughout the world, except in some Region 1 and Region 3 countries.

"As such, Amateur Service use of this 100 kilo hertz will be on a de facto secondary basis in Regions 1 and 3 until the broadcasting service vacates the band 7100-7200 kHz at the conclusion of Schedule B in 2009," the FCC noted. "This means that amateur stations in Regions 1 and 3 will shortly be permitted to transmit in the band 7100-7200 kHz, if they can find a frequency that is not being used by an international broadcast station."

The FCC said it doesn't think it needs to update its Part 97 Amateur Service rules until administrations in Regions 1 and 3 implement changes to allow amateurs to transmit in the 7100-7200 kHz segment.

"As a practical matter, we do not believe that the Amateur Service can make use of the band 7100-7200 kHz in Regions 1 and 3 in advance of HF broadcasting stations vacating the band because of the great power disparity between amateur stations and international broadcast stations," the FCC concluded.

The NPRM also addresses the deployment of Earth Exploration Satellite Service-Active (EESS-Active) spacecraft in the 70-cm band. The FCC said it "tentatively" finds that any secondary EESS-Active allocation at 432-438 MHz should be limited to federal government use. The Commission said operation in that allocation "should not cause harmful interference to, nor claim protection from, any other services allocated in the band in the United States, including the Amateur-Satellite service."

Comments in the proceeding are due July 16, with reply by August 2. Interested parties may view the entire NPRM, file comments and view comments filed in ET Docket 04-139 via the FCC's Electronic Comment Filing System (ECFS) http://www.fcc. gov/cgb/ecfs/>.

ARRL SEEKS TO FUND NEW EDUCATION AND TECHNOLOGY PROGRAM INITIATIVES

The ARRL is seeking donations to equip ARRL Education and Technology Program (ETP) teachers to more effectively instruct students in wireless technology and to furnish them with activity kits that convey basic concepts. Instituted in 2001 as "The Big Project," the ETP now boasts nearly 100 participating schools, thanks to the generous support individual donors. The project kits, Hobart says, of ARRL members. In his travels around the US meeting with educators, Program Coordinator Mark Spencer, WA8SME, has learned that Amateur Radio as a catalyst for teaching wireless technology works best in an after-school setting. He's also has discovered that many teachers have been trained to teach science but not wireless technology.

In a June appeal, ARRL CEO David Sumner, K1ZZ, explained that a lot of science teachers "are excited about what students can learn from Amateur Radio, but they are intimidated by this new world of wireless electronics. They want to learn how to teach wireless communications."

ARRL Chief Development Officer Mary Hobart,

K1MMH, puts it another way.

"For some schools," she said, "it's a giant leap to go from zero to ham radio station."

The League has a two-pronged strategy to address the challenge. The first is to debut a pilot ARRL Teachers Institute in August. The week-long seminar will immerse teachers in a curriculum that will have them studying electronics, learning the basics of Amateur Radio and building projects. While generous donations have provided some funding for this initiative, Hobart says the program still needs additional money to make the Teachers Institute a reality. She hopes the ETP can find sufficient funding to keep the institute and the program itself operating through 2005, "so the progress to date doesn't go to waste."

The second part of the plan is to provide participating teachers and schools with simple electronic activity kits that will give students hands-on experience as a stepping stone to deeper involvement in Amateur Radio and wireless technology. Each electronic project kit averages \$350, and more than 60 of them have gone out to 30 teachers and schools. Up until now, their cost has been subsidized by donations from the Newington Amateur Radio League, the ARRL Foundation and have captured the imaginations of the students and teachers alike.

"Next to defending our spectrum," she declared, "inspiring young people is supremely important to the future of Amateur Radio."

Contributions can be made via the ARRL's secure donation Web site

https://www.arrl.org/forms/development/donations/ education/index.html>.

For more information, contact Mary Hobart, K1MMH, 860-594-0397.

PACKET UPDATE

A lot of amateurs are looking into PSK31 as another mode to operate. This mode uses computer software with the sound card on the computer as an interface. Depending on the radio you plan to use the hookups can vary. The ARRL has a great section on the internet for this information. The site is in the technical information section and is just for PSK31. The site has general information for operating PSK31 along with detailed wiring diagrams for different makes of radios. If you need information on PSK31 check the ARRL website. It is www.arrl.org.

James Butler KB4LJV

AMATEUR HARDWARE UPDATE

Many times we need a antenna to plug in the back of a rig just to check it out. Looking to buy a radio at a hamfest is an example. We may just want to plug in to monitor a local signal from a transmitter. This month's project is the COLLAPSIBLE WHIP. It is made out of a surplus magnetic pickup tools that lost it's magnet. I added a connector to the end of the whip which will plug into the center of PL-259 connector. The added advantage of the unit is that since it collapses it is easy to carry. My unit even has a pocket clip so you can carry it in your shirt pocket. The whip has come in handy checking out radios the last few months.



JULY

2004

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				MARA Club Meeting 7:00 PM	2	3
4	5 Betsy, KD4KOM	6	7 Amanda Burnm	8	9	10 Pat, KC4SJD
11 Kay, KA4AEG	Randy, W4RMV Harry, AF4RH	Delta Club Meeting 7:00 PM	14	Nora, W4ZOR Harold, KE4GVB	16	17 Jerry, K4CMZ
18 Ray, AA4UK	19 Dean, N2LAZ	20 Richard, KU4NZ Marie, K4GMT Austen, KG4GKE Joe, WA4OVO	21 Bill, WA4MJM	22	23	24
25 Bill, W4NZP	26 Don, KA4EBU Bill, N4GCF	27 Buddy, WY5AR	28	29	30	31

AUGUST

2004

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
Dana, WI3B				MARA Club Meeting 7:00 PM		
8	9	10	11	12	13	14
Heidi, KC4ZOU		Delta Club Meeting 7:00 PM			Bill, KC4SXT	
15	16	17	18	19	20	21
	Norman, KA4AEF Michael, WB4ZAP	Art, K4SHJ James, KB4SGY	Malcolm, KM4L			David, KC5GGE
22	23	24	25	26	27	28
Comelia Richardson	Suresh, N9GSA Ben, KU4AW	Vicki, KF4DJS Scott, K5SJ Jack, K4BSI	Adam, KE4EYQ			
29	30	31				
	David, KD4NOQ James, AG4KM	Rex, KB2WGP				



CONTEST CALENDAR

Here are some of the contests and special events coming up in the next few weeks...

The following information may be found at http://www.arrl.org/ contests/months/july.html.

n3epa.org/. Canada Day Contest--CW/Phone--sponsored by the Radio Amateurs of Canada (RAC) from 0000Z-2359Z Jul 1. Freque ncies: 160-10, 6 and 2 meters. For more information: www.rac.ca/ opsinfo/infocont.htm.

MI QRP Jul 4th CW Sprint--2300Z Jul 2-0300Z Jul 3 (see Jan *QST*, p 98, or **www.qsl.net**/ migrpclub).

Bahia Independence Contest--SSB/CW--sponsored by LABRE from 2100Z Jul 2-2100Z Jul 3 (SSB) and from 2100Z Jul 3-2100Z Jul 4 (CW). Frequencies: 160-10 meters. For more information: www.labre-ba.org.br.

Venezuelan Independence Day Contest--CW/SSB--sponsored by the Radio Club Venezolano from 0000Z Jul 3-2400Z Jul 4. Freque ncies: 160-10 meters. For more information: http:// radioclubvenezolano.org/ concurso.htm.

DL-DX-RTTY-Contest--RTTY/ PSK--sponsored by the DL DX RTTY Contest Group (DRCG) from 1100Z Jul 3 -1059Z Jul 4. Frequencies: 80-10 meters. For more information: www.dl-dx.de .

DARC 10-Meter Digital "Corona"--RTTY/AMTOR/ PACTOR/PSK31/Clover-sponsored by Deutscher Amateur Radio Club from 1100Z-1700Z Jul 4 (see Nov *QST*, p 110, or **www.** darc.de/referate/dx/).

IARU HF World Championship--1200Z Jul 10 to 1200Z Jul 11 (see Apr *QST*, p 109, or **www.iaru.org/** contest.html).

FISTS Summer Sprint--CW--1700Z-2100Z Jul 10 (see Feb *QST*, p 103, or **www.fists.org**).

ORP ARCI Summer Homebrew Sprint--CW--2000Z-2400Z Jul 11 (see Dec *QST*, p 84, or http:// **2hams.net/ARCI/sumhom.htm**).

UK DX Contest--RTTY, sponsored by the Scottish-Russian ARS from 1200Z Jul 10-1200Z Jul 11 (see June *QST*, p 98, or www. srars.org/ukdxcruleseng.pdf).

The W4BS **Elmer** Shack

Please feel free to contact any of our ELMERS to help you enhance your amateur skills. Anyone wishing to be added to the Elmer list please contact Ned at ka4bll@arrl.net or 363-9607.

K4TTA (Extra) Tom Richardson 386-6268 k4tta@arrl.net (1, 3, 4, 6, 8, 9, 13, 14, 15)

KA4BLL (Extra) Ned Savage 363-9607 ka4bIl@arrl.net (1, 5, 8, 14, MARS, ARES/ RACES, net control, traffic handling, emergency service)

KB4LJV (Extra) James Butler 294-2540 jbutler@bigriver.net (2, 7, 9, 11, 13, 14)

KD4NOQ (Adv) David Campbell 388-6166 kd4nog@bellsouth.net (1,2,3,5,9,10,14, slow scan TV, ATV minor)

KU4AW (Extra) Ben Troughton 372-8031 bktrough@mem.quik.net (2,4, 8, 15)

N9ACQ (Extra) Bill Kuechler 368-0532 wkuechl1@midsouth.rr.com (1, 8, 13)

Codes:

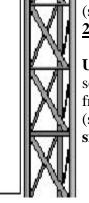
- 1.Antennas
- 2. APRS
- 3. Contestina
- 4. CW Operating
- 5. Direction Finding (fox hunting)
- 6. DXing
- 7. Experimenting/ Circuits/etc.
- 8. HF Phone
- 9. Packet
- 10. Repeater
- Operation
- 11. QRP 12. Satellite
- 13 RTTY
- 14. VHF 15. PSK31
- 16. Computer logging

WA2I QC (Gen) Gary Blinckmann 794-5289 garyblin@midsouth.rr.com (1, 7, 10, 14)

WA4MJM (Extra) Bill Hancock 853-7192 billwa4mjm@aol.com (1, 2, 8, emergency communications, ARES, MARS)

K4DIT (Extra) Ken Gregg 853-7384 kgregg@c-a-c.com (4, 6, 8, 11, 15)

W4GMM (Extra) Ham Hilliard 372-2337 hamh@bellsouth.net (All categories)



12 **JULY 2004** **SPARKS**

World-Wide Mid Summer Six Club Contest, sponsored by the Six Club from 2300Z Jul 16-0300Z Jul 18 (see June *QST*, p 98, or **6mt.com/contest.htm**).

North American RTTY QSO Party--sponsored by the *National Contest Journal* from 1800Z Jul 17-0600Z Jul 18. Frequencies: 80-10 meters, 100 W max power. For more information: **www.ncjweb.com**.

CQ WW VHF Contest--all modes--sponsored by *CQ Magazine* from 1800Z Jul 17-2100Z Jul 18. Frequencies: 50 and 144 MHz bands, except 146.52 MHz (and other national simplex calling frequencies) and repeater frequencies. Please avoid the DX windows and international calling frequencies. For more infor-mation: **www.cq-amateur-radio.com**.

CQC Great Colorado Gold Rush--CW--sponsored by the Colorado QRP Club, from 2000Z-2200Z Jul 18. Frequencies: 20 meters only. For more information: **www.cqc.org/contests**.

RSGB Islands - On-The - Air Contest - CW/SSB --sponsored by the RSGB from 1200Z Jul 24-1200Z Jul 25. Frequencies: 80-10 meters. For more information: www.contesting.co.uk/hfcc/iota.shtml or iotacontest@rsgbhfcc.org.

Russian RTTY WW Contest, sponsored by *Radio* from 0000Z Jul 24-2400Z Jul 25. Frequencies: 80-10 meters. For more information: **www.radio.ru**.

Flight of the Bumblebees--CW--sponsored by the Adventure Radio Society, 1700Z-2100Z Jul 25. Bumblebees are low power portable stations that walk, bike or boat to their sites and sign /BB after their calls. Frequencies (MHz): 7.040, 14.060, 21.060, 28.060. For more information: www.arsqrp.com/ars/pages/bumblebees/bb_rules.html.

ARRL UHF Contest, 1800Z Aug 7-1800Z Aug 8 (see Jul *QST*, p 107.)

North American QSO Party--CW--sponsored by the *National Contest Journal*, 1800Z Aug 7-0600Z Aug 8. (see Jan *QST*, page 98 or **www.ncjweb.com**)

SARL HF DX Contest--SSB--sponsored by the Bloemfontein Radio Amateur Club from 1330Z-1730Z Aug 8 (CW is Aug 29). Frequencies: 80-20 meters. For more information: www.sarl.org.za/public/contests/contestrules.asp#HFCWPHONE.

Ten-Ten International Summer Phone QSO Party--sponsored by Ten-Ten, International, 0010Z
Aug 7-2359Z Aug 8, 10 meters only. Exchange: call, name, state and 10-10 number (if available). For

name, state and 10-10 number (if available more information: **www.ten-ten.org**.

European HF Championship--CW/SSB--sponsored by the Slovenian Contest Club, 1200Z-2359Z, Aug 7. EU to EU contacts only. Frequencies: 160-10 meters. For more information: http://lea.hamradio.si/~scc/euhfcrules-04.htm.

TARA "Grid Dip" Contest--PSK and RTTY--sponsored by Troy ARA from 0000Z--2400Z Aug 7. Frequencies: 80-6 meters, work stations once per band, work Rovers again from new locators. For more information: www.n2ty.org/seasons/tara_grid_rules.html.

National Lighthouse-Lightship Weekend--all modes--sponsored by the Amateur Radio Lighthouse Society from 0001Z Aug 7-2359Z Aug 8. Frequencies (MHz): CW--1.830, 3.530, 7.030, 14.030, 21.030, 28.030; SSB--1.970, 3.970, 7.270, 14.270, 21.370, 28.370. Exchange: Serial number or ARLHS member or lighthouse num-ber, name and S/P/C. For more information: http://arlhs.com/NLLW-2004-guidelines.html .

SPECIAL EVENTS

Green Bay, WI: Green Bay Mike and Key Club, K9EAM. 0100Z **Jun 19**-1800Z **Jul 2**. In celebration of Green Bay's Sesquicentennial. 21.245 14.245 7.245 3.845. QSL. Green Bay Mike and Key Club, PO Box 13351, Green Bay, WI 54307.

La Crosse, WI: Riverland Amateur Radio Club, W9L. 1500Z-2200Z Jul 2. The Grand Excursion recreating the 1854 steamboat expo. 21.280 14.280 7.280. Certificate. Roger Reader, KA9BKK, 526 13th Ave N, Onalaska, WI 54650.

Ashland, OH: Ashland Area Amateur Radio Club, W8O. 1400Z Jul 2-2200Z Jul 3. Ashland Balloon-Fest 2004. 7.275 7.235 3.975 3.935. Certificate. W8RPS, 834 CR 30A, Ashland, OH 44805. www. summermotion.com

Brookings, SD: Brookings Amateur Radio Research Club, W0BXO. 1400Z Jul 2-0001Z Jul 3. The 125th Anniversary of the City of Brookings, SD. 28.450 21.350 14,260 7.260. QSL. W0XO, 307 Third Ave, Brookings, SD 57006. www.qsl.net/ brrc/.

Leavenworth, KS: Pilot Knob Amateur Radio Club, KS0LV. 1700Z **Jul 2**-2400Z **Jul 11**. Lewis & Clark/Leavenworth, KS, Sesquicentennial Celebration. 21.370 14.240 7.262 3.902. QSL. The Pilot Knob Amateur Radio Club Inc, PO Box 632, Leave nworth, KS 66048.

Hannibal, MO: Hannibal Amateur Radio Club, W0MTL. 1400Z-2300Z Jul 3. National Tom Sawyer Van Wert, OH: Van Wert Amateur Radio Club, Days. 21.350 14.250 7.250. Certificate. Robert G. Mitchell, 816 Long Dr, Quincy, IL 62305.

Smithville, TN: DeKalb County Amateur Radio Club, KC4GUG. 1400Z-2200Z **Jul 3**. 33rd Annual Smithville Fiddlers Jamboree & Crafts Festival. 28.425 21.325 14.280 7.275. QSL. Wm Freddy Curtis, 288 Dogwood Cir, Smithville, TN 37166. www. geocities.com/kg4bto1/dekalb_club.html.

Ashland, KY: RiverCities Amateur Radio Association, KA4OIL. 1200Z-1900Z Jul 3. Summer Motion in the Park. 28.350 14.250 7.250 3.950. Certificate. RCARA, PO Box 612, Ashland, KY 41105.

Kingsville, TX: Wild Horse Desert Hams ARC, K5WHD. 0000Z Jul 3-0000Z Jul 4. 100th anniversary of the founding of Kingsville, TX. 28.350

21.350 14.250 7.250. QSL. Pat Allison, KD5TXD, 295 E FM 1118, Kingsville, TX 78363.

Lake Kiowa, TX: Lake Kiowa ARC, K5L. 0001Z Jul 3-2359Z Jul 4. Lake Kiowa July 4th Celebration. 21.250 14.250 14.170 7.072. Certificate. Jim Innis, K5SP, 1005 Kent Dr, Gainesville, TX 76240.

Fort Missoula, MT: Hellgate Amateur Radio Club, W7PX. 1500Z **Jul 3**-0000Z **Jul 5**. Lewis and Clark Expedition and Independence Day. 28.365 21.365 14.265 7.265. QSL and Certificate. HARC, POB 3811, Missoula, MT 59806-3811. http://pweb. amerion.com/k7vk.

Beecher, IL: Hams of Beecher, W9B. 1600Z-2300Z Jul 4. 4th anniversary Welcome Home Beecher Train Depot. 28.340 14.270 14.040 7.270 146.49. Certificate. Gene Backlin, 26811 Greenbriar Dr, Monee, IL 60449.

Thompson, OH: Lake County Amateur Radio Association, N8GB. 1400Z Jul 4-0200Z Jul 5. Heritage of Our Country--Happy Birthday America. 2.1320 7.248. Certificate. George R. Bair, 386 Cedarbrook Dr, Painesville, OH 44077.

W8FY. 1400Z-2000Z **Jul 5**. Holiday at Home--Van Wert County Historical Museum. 14.250 7.250 7.050. Certificate. Van Wert Amateur Radio Club, PO Box 602, Van Wert, OH 45891.

Austin, TX: Naturist Amateur Radio Club, NU5DE. 0000Z Jul 8-2400Z Jul 11. Annual Nude Awareness Celebration-Nude Recreation Week. 28.465 21.365 14.265 7.265. Certificate. Naturist Amateur Radio Club, PO Box 200812, Austin, TX 78720. www. nu5de.org.

Trenton, MI: Motor City Radio Club, W8MRM. 1600Z **Jul 9**-2359Z **Jul 11**. 29th Annual Trenton Mid-Summer Festival. 14.244 14.044 7.244 7.044. Certificate. Motor City Radio Club, W8MRM, Trenton Mid-Summer Festival Station, PO Box 337, Wyandotte, MI 48192. www.W8MRM.org.

Alexandria, VA: Alexandria Radio Club, W4HFH. 1600Z **Jul 10**-0300Z **Jul 11**. Alexandria Radio Club's 50th anniversary (1954-2004). 14.250 14.050 7.250 7.050. QSL. Alexandria Radio Club, W4HFH, PO Box 30721, Alexandria, VA 22310.

Morris Canal, NJ: Nutley Amateur Radio Society, W2GLQ. 1300Z **Jul 10**-2200Z **Jul 11**. First Historic Morris Canal Special Event, from several locations along the canal. General portions of the bands. QSL. Nutley ARS, c/o American Red Cross Building, 169 Chestnut St, Nutley, NJ 07110. QSL for each location; certificate for all. http://hometown.aol.com/ kc2aup.

Westchester, IL: Chicago Suburban Radio Association, N9BAT. 1700Z Jul 10-0100Z Jul 12. Celebrating at Westchester Fest, CSRA's 80th anniversary. 147.225 21.330 14.290 7.260. Certificate. Ray Good, 855 S Kenilworth, Oak Park, IL 60304.

Perkasie, PA: RF Hill Amateur Radio Club, W3AI. 1600Z-2000Z Jul 11. Pennridge Community Day. 14.250 7.250. Certificate. Special Event Station, RF Hill Amateur Radio Club, PO Box 336, Perkasie, PA 18944. www.rfhill.ampr.org .

Northfield, MN: Girl Scouts Greater Mineapolis Council-MN Dreams, KOS. 1400Z Jul 16-2100Z Jul N2SJ. 1800Z-2300Z Jul 18. Camp Ramah in the 17. Sunny Days-Starry Nights Girl Scout Jamboree. 28.450 14.250. QSL. Twila Greenheck, 3333 Owasso Heights Rd, St Paul, MN 55126.

Kane, PA: Kane Amateur Radio Operators, AA3GM. 1800Z Jul 16-1300Z Jul 18. Celebrating the annual Kanefest Festival. 28.355 21.355 14.255 7.255. Certificate. Kenneth T. Frankenbery, 5111 Glenwall Dr, Aliquippa, PA 15001.

Wapakoneta, OH: Reservoir Amateur Radio Association, K8QLY. 1300Z-1900Z Jul 17. Celebrating the 35th anniversary of landing on the moon. 14.250 7.260. Certificate. Walter Vogel, WB8FNB, 14455 CR 66A, St Marys, OH 45885.

Birmingham, AL: Birmingham Amateur Radio Club, W4CUE. 1500Z Jul 17-2300Z Jul 18. Birmingham Amateur Radio Club's 78th anniversary. 28.480 21.360 14.050 14.260 7.250 3.850. QSL. W4CUE, PO Box 603, Birmingham, AL 35201-0603. www.w4cue.com.

Baton Rouge, LA: USS *Kidd* ARC/Baton Rouge ARC, W5KID. 0001 **Jul 17**-2359 **Jul 18**. Museum Ships Weekend Event. General class bands, 14.250 to 14.320; CW QRP subbands. QSL. W5KID, c/o USS Kidd Museum, 305 S River Rd, Baton Rouge, LA 70802. www.lsu.edu/brarc/USS Kidd.htm.

Boston, MA: Raytheon Portsmouth SubSig Amateur Radio Club, K1WEW. 0001Z Jul 17-2359Z Jul 18. USS Constitution Special Event Station for Museum Ships 2004. 14.275 7.225 3.850 146.46. QSL. Eric K. Jamieson, KO1K, 60 Norman Dr, Tiverton, RI 02878. www.qsl.net/k1usn/event.html.

Quincy, MA: USS Salem Radio Club, K1USN. 0001Z **Jul 17**-2359Z **Jul 18**. Museum Ships Radio Event. 14.260 7.260 14.039 7.039. Certificate. Robert Callahan, W1QWT, 56 Acorn St, Scituate, MA 02066. www.qsl.net/k1usn/event.html.

Wingdale, NY: Steve Jacobson Memorial ARA, Berkshires 2004 Amateur Radio program. 28.350 14.275 7.240. QSL. Bernard Umlas, N2NVU, 30 West 34th St, #3A12, New York, NY 10001.

Fremont, MI: Amateurs of Newaygo County, W1B. Jul 20-Jul 24. 14th Annual National Baby Food Festival. General portions of 80, 40, 20, 15 and 10 meter bands. Certificate. Leo Woodward, WD8DCA, 304 N Stone Rd, Fremont, MI 49412.

Wheaton, IL: Six Meter Club of Chicago, W9D. 1600-2359Z daily **Jul 21-Jul 25**. 50th anniversary of DuPage County Fair. 146.37/97 28.437 21.337 14.237 7.237. QSL. ix Meter Club of Chicago, K9ONA, 3021 Downing Ave, Westchester, IL 60154. www.qsl.net/k9ona/.

Various, England: Royal Signals Amateur Radio Society, GB6LOG. 0700Z Jul 21-2359Z Aug 18. 60th anniversary of the liberation of Guam 1944. 21.070 21.056 14.070 14.056. QSL. Mike Humphrey. G0SWY/KF4OFR, 4 Bluebell Rd, Bassett Southhampton, Hampshire, England SO16 3LQ. www.rsars.org.uk.

Corinth, MS: Alcorn County Amateur Radio Emergency Service, W5I. 1800Z Jul 23-1800Z Jul 25. Civil War Interpretive Center, Shiloh National Park. 14.280 7.280. Certificate. ACARES -- Area Promotion Council, PO Box 2158, Corinth, MS 38835-2158. www.arrlmiss.org.

Henlopen State Park, DE: WA3WSJ. 1400Z Jul 23-0000Z Jul 25. Activation of four lighthouses and one lightship in Delaware. 14.270 14.030 7.270 7.030 PSK31 14.070. QSL. Edward R. Breneiser, 775 Moonflower Ave, Reading, PA 19606.

Collingwood, ON, Canada: CERTS/CARC, VE3BPQ. 1200Z-2200Z **Jul 24**. 10th anniversary of Elvis Festival in Collingwood. 28.360 14.180 7.180 3.780. Certificate. VE3BPQ, 248 Birch St, Collingwood, ON L9Y 2V6, Canada.

DeSmet, SD: Lake Area Radio Klub and Huron Amateur Radio Club, WOWTN. 1600Z Jul 24-2200Z **Jul 25**. Annual Little House on the Prairie Pageant. 28.465 21.365 14.265 7.265. Certificate. LARK, PO Box 642, Watertown, SD 57201. www. w0wtn.org.

Warren, OH: Warren Amateur Radio Association, Auto Show. 10 20 40 m. Certificate. Gail Wells, 708 Delaware SW, Warren, OH 44485.

Port Colborne, ON, Canada: Welland County Amateur Radio Club, VE3WCD. 1300Z Jul 31-2100Z **Aug 1**. Canal Days Marine Heritage Festival. 28.350 21.250 14.250 7.250. QSL. Doug Frame, VE3JDF, 895 Lakeshore Rd E, Port Colborne, ON L3K 5V3, Canada

Wingdale, NY: Steve Jacobson Memorial ARA, N2SJ. 1800Z-2300Z **Jul 18**. Camp Ramah in the Berkshires 2004 Amateur Radio program. 28.350 14.275 7.240. QSL. Bernard Umlas, N2NVU, 30 West 34th St, #3A12, New York, NY 10001.

Indianapolis, IN: Indianapolis Motor Speed Amateur Radio Club, W9IMS. 1500Z Jul 31-0300Z Aug 9, weekends of Jul 31-Aug 1 and Aug 7-8 and intermittently on week days. Brickyard 400 (NASCAR). 28.340 21.340 14.240 7.240 3.840 PSK31. QSL. Indianapolis Motor Speedway ARC, PO Box 18495, Indianapolis, IN 46218-0495. www.grz.com/w9ims.

Grand Haven, MI: North Ottawa Amateur Radio Club, W8CSO. 1200Z Aug 5-1600Z Aug 6. Honoring Grand Haven's Coast Guard Festival. 14.240 7.200. QSL. NOARC, Box 44, Ferrysburg, MI 49409. www.ghcgfest.org http://www.qsl.net/ noarc/.

Door Peninsula, WI: Wisconsin Lighthouse Expedition, N9L. 1400-2100Z daily Aug 5-Aug 14. Activation of Wisconsin Lighthouses, including Eagle Bluff Lighthouse (USA-252). 14.270 7.270. Certificate. Jim Martin, W5AZN, 637 Newberry Dr, Richardson, TX 75080-5622. www.w5azn.com

Bernegat Light, NJ: Old Barney Amateur Radio Club, N2OB. 1300Z-2200Z Aug 7. ARLHS Lighthouse #USA-039, IOTA NA-111, USI-NJ001S. 14.280 7.280. QSL. Old Barney ARC, PO Box 345, Tuckerton, NJ 08087. Raindate August 8. http:// www.obarc.org/

W8P. 1200Z Jul 24-1000Z Jul 25. National Packard Burnett, WI: Rock River Radio Club, W9A. 1600Z Aug 6-2100Z Aug 8. 36th Annual Dodge County Antique Power Show. 14.275 7.250. Certificate. Rock River Radio Club, W9TCH, PO Box 26, Juneau, WI 53039.

> Canton, OH: Canton Amateur Radio Club, W8AL. 1300Z Aug 6-0200Z Aug 8. Annual Pro Football Hall of Fame Festival 28.365 21.365 14.265 7.265. Certificate. Donald E. Perry, WQ8J, 968 Culverne Ave NW, Massillon, OH 44647.

TREASURER'S REPORT

TREASURER'S REPORT June 2004 Date: 06-July-04

Beginning Balance \$6,482.25

INCOME

TOTAL INCOME \$0.00

EXPENSES

Bellsouth \$120.89

TOTAL EXPENSES \$120.89

Ending Balance \$6,361.36

TENNESSEE NETS

Net Name Freq.	UTC	Day
Tennessee CW Net 3635	0100	T-Su
Tennessee Slow CW Net 3682	0130	T-Su
Tennessee Early Morn Phone Net 3980	1145	M-F
Tennessee Morning Phone Net 3980	1245	M-F
Tennessee Morning Phone Net 3980	1400	Sa-Su
Tennessee Evening Phone Net 3980	0030	T-Su



Field Day—June 26, 2004

SPARKS is published monthly by the Delta Amateur Radio Club and is mailed to club members and other interested parties. All information published in this newsletter is provided as a service. While every effort is made to ensure accuracy, the Delta Amateur Radio Club and its officers assume no liability resulting from errors or omissions. All correspondence may be mailed to:

P.O. Box 750482 Memphis, TN 38175-0482

2004 Board of Directors

President

Ned Savage, KA4BLL 901-682-8716 (ka4bll@arrl.net)

Vice President

Bill Covington, KC4SXT 901-373-6262 (kc4sxt@arrl.net)

Secretary

Tommy Thompson, KD4TJO 901-743-1949 (kd4tjo@arrl.net)

Treasurer

Bill Torkell, KG4VAW (wtork@aol.com)

Director of Training

Tom Richardson, K4TTA 901-386-6268 (k4tta@arrl.net)

Director of Publications

Roger Paulson, K4KCU 901-497-4132 (paulsonrj@bellsouth.net)

Director of Programs

James Butler, KB4LJV 901-294-2540 (jbutler@bigriver.net)

Director of Meetings and Special Events

Thomas LcLemore, KG4EOV 901-386-8748 (troyjr@bellsouth.net)

Repeater Trustee

Gary Blinckmann, WA2IQC 901-794-5289 (garyblin@midsouth.rr.com)

Past President

Randy VanVoorhis, W4RMV 901-384-0487 (w4rmv@arrl.net)