

Feedline



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The Voice of The Cary Amateur Radio Club N4NC

March 2002

CARC FEEDLINE

Editor -- Keith Zeringue, W4KAZ
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The deadline for submission to the Cary Amateur Radio Club FEEDLINE newsletter is the second Thursday of the month. Information should be forwarded by e-mail to the editor at w4kaz@arrl.net.

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Auction: Thanks to the several guests who attended the February meeting for the auction. Bidders were tightfisted, and many items were left with their owners when reserves were not met. Hopefully, no one took it personally. One of the more interesting items offered for sale was the homebrew slingshot line launcher, by Max, KO4TV. These little "Field day fancies" were well built, and priced attractively. Check the RARS table next month, perhaps Max will offer these items for sale during RARSfest.

Charlotte: I got a chance to get out to the Charlotte hamfest this month. Attendance seemed to me about the same as last year, with the larger knots of people surrounding the larger vendors and the TenTec booth. I never did get a good look at either of the TenTec rigs, the Orion or the older Jupiter, but that may be a good thing for my pocket. The flea market yielded few bargains, but perhaps the early birds had taken care of those.

The irate editor: Just out of curiosity, does anybody out there actually **like** the SMA connector, now standard on many HT's? I guess it is being used because it takes up less space in the increasingly tiny HT bodies, but it sure seems cheap and flimsy for standard issue on an otherwise rugged piece of equipment for which I coughed up a couple-hundred USD. I don't have much experience with HT's, so maybe I'm wrong on this, but I'd expect a BNC connector to be preferred. Naturally, I didn't really consider that problem before I bought this Yaesu VX-5R recently. The VX-5R seems to be a good radio, packed with lots of memories and features. Maybe I'll decide to **actually use it someday**.....I'm worried about this SMA connector, though.

Windows XP update: As luck would have it, I finally got around to moving bits of hardware around to try to get my scanner to function on a computer with Win XP. It appears that Win XP does not recognize scanners attached to the parallel port. Once I connected the scanner to one of the USB ports, Win XP recognized the device and installed the driver. That's the good news. The bad news is that the software supplied with the scanner is only partially compatible with Win XP. And my USB cable is only five feet long where I need it to be seven or eight. Buyer beware.

1800 Foot Broadway Tower Down in Crash

Kaz, W4KAZ

A local pilot was killed in the accident at the Broadway tower on Thursday, 3/15/02. Witnesses say the Piper single-engine plane appeared to hit a guy wire and took the whole tower down with it.

The tower supported the WKFT-TV 40 transmitter (licensed to Fayetteville), and the PCRN's 147.105 repeater, in addition to many other two-way radio services.

2002 Cary ARC Club Dues are Due in April instead of March

Susan, WA4AKB

Due to the volume of Skywarn business at the March meeting, club dues will be collected in April rather than March this year. To avoid making any errors or omissions, we will not be accepting any dues payments at the March meeting. If you cannot be the April meeting, please hold your payment until the next regular meeting or mail them to

Cary Amateur Radio Club
PO Box 53
Cary, NC 27512

(Please do not mail to the Treasurer's home QTH due to recent misdeliveries on our postal route.)

Efrain Z. Zambrana, WD4KCB, SK

Efrain Zambrana, 82, of Raleigh, died Monday, February 18, 2002 in Rex Healthcare. Mr. Zambrana was born in Puerto Rico on December 16, 1919.

He was preceded in death by his wife Marina Morales Zambrana and is survived by his two sons, Eduardo Zambrana of Pinehurst and Efrain Zambrana Jr. of Durham. Mr. Zambrana served in the U.S. Army during the Korean War and retired as a Major in 1963.

FreeCharge

Kaz, W4KAZ

What's as big as a cell phone, and could be good exercise, all while charging a battery? FreePlay is reportedly going to introduce a hand cranked unit for charging cellphone batteries. The unit is initially to be plug compatible with Motorola cellphones, with other plugs being introduced later. Seems like just the thing for a Ham to tinker with, but I've got to wonder how much cranking will be required for an HT battery. For the full story, see:
http://www.discover.com/mar_02/news_cellphone.html

**This space is available for your very own
contribution to your club newsletter
Try it out!**

Fuel cell tech news:

Kaz, W4KAZ

This will sure beat cranking, if they can get a viable product from a government agency to the consumer market.

Lawrence Livermore National Laboratories announced in February 2002 the development and construction of a prototype of a miniature fuel cell, which will be able to provide electrical power for a wide range of consumer electronics. These devices are predicted to last up to 300 percent longer than current lithium-ion batteries in cell phone applications.

Livermore Labs representative **Jeff Morse** predicts that the higher energy capacity of this sort of product might help spur the development of entirely new classes of consumer products (**10 watt HT's??**). Recharging would be almost instantaneous via plug in fuel cartridges containing methyl alcohol.

The immediate impact on this type of product to the consumer would be up to three times the "battery" life. Foreseeable improvements may allow up to fifteen times current battery life.

Read the full press release at:

<http://www.llnl.gov/llnl/06news/NewsReleases/2002/NR-02-02-04.html>

(editor's note: Hmmmm, I guess for obvious reasons they didn't develop a version that uses ETHYL alcohol, or just good ole Jack Daniel's?)

The Amateur's Code, Installment #2

by Murray Merner, K4MHM

Reprinted by permission from BARC Ham Chatter, January, 2000

(<http://www.qsl.net/w4amc>)

The Amateur's Code

The original Amateur's Code was written by Paul M. Segal, W9EEA, in 1928. Amateur Radio was an honorable activity and it was important how we treated each other. The Code serves as a reminder of good Amateur Radio practice, but it goes farther than that into our everyday lives. There are six elements so one of the elements will be covered every other month for the next year. (WA4AKB – originally in BARC Ham Chatter, this was printed every other month in 2000. We will publish this in consecutive months in Feedline.)

The Radio Amateur is:

Considerate ... never knowingly operates in such a way to lessen the pleasure of others.

This element was primarily directed at not deliberately interfering with the operation of another ham. In general, it means to put others before yourself. Many in today's society have become self-centered; consideration for the other person has become a low priority. Some people break rules such as going through red lights because the rules don't apply to them although the safety of others is at risk. Others cheat on exams, amateur and otherwise, because it's too hard, but there is no consideration for others who have studied or others who rely people knowing the material. Some hams are disrespectful and outright obscene on the air not caring who hears or what impression it leaves.

Consideration on the other hand, values the other person whether it's on the air or on the ground. You know what it's like to feel considered - special. Applying this element of the Code to Amateur Radio and our everyday lives will go a long way in enhancing our lives and the lives of others. Let us as hams be an example to others. - K4MHM

Cary ARC to Host NWS Spotter Update in March

From Herb, W3HL

The Cary ARC is going to hold the March 28, 7:30 p.m., meeting at the McKimmon Center, NCSU Campus, Western Blvd., Raleigh, NC, to host the NWS Spotter Update by Mr. Rod Gonski, NWS. The doors will be open at 7:00 p.m., for registration (for your personal certificate from the NWS). There will be NO formal cost to attend the meeting. The meeting will forego the usual CARC business to devote the entire meeting to the Spotter Update.

All interested Radio Amateurs are invited to get "updated" at the meeting. Amateurs from Wake, Durham, Chatham, Johnston, Franklin Counties are invited to attend this very timely meeting. The hurricane and bad weather season is about to start. Further, local Fire Fighters, Police, and EMTs will be invited, too.

Mr. Gonski has asked us to publicize this meeting within the Amateur and public service communities ONLY. Please do not "go public" with information about this meeting (e.g., TV, newspapers, etc.). But DO talk it up on the repeaters, at meetings, etc.

CARC's only purpose in hosting the meeting is to try to make Mr. Gonski's valuable time more effective by gathering as big a group of hams and public service persons as we can for his interesting and informative presentation.

Each person who is planning to attend the meeting, should send an e-mail to: N4NC@ARRL.NET, with a Subject of : Spotter Update, giving three things in the text:

- your last name,
- first name, and
- one of the following: Amateur callsign OR the public service agency you represent (e.g., Fire, Police, EMT, etc.). Multiple persons may use the same e-mail to save time provided the information is given.

PLEASE: This e-mail is vital as the date approaches, since the McKimmon Center staff will try to fit us into the most suitable room available. That will reduce our cost!!!

Caution: It is possible that the attendance may be considerable. Therefore, parking space may become a problem. Carpooling is advised wherever you can.

Info on RARSfest 2002.

From Hank Montgomery, K4HM, RARSfest Chairman

The 30th annual RARSfest will be take place on **April 14th, 2002** at the Jim Graham Building at the North Carolina State Fairgrounds - Raleigh, NC. This year RARSfest will host of the ARRL North Carolina State Convention. And FCC Special Counsel for Amateur Radio Enforcement Riley Hollingsworth, K4ZDH returns again this year as our guest speaker.

RARSfest is the largest hamfest in the northern piedmont area of NC with average attendance of around 2500 paid admissions. RARSfest is all indoors, held in a 100,000 sq. ft facility offering an attractive fully equipped dealer booths and vendor area as well as over 400 tables in our all indoor flea market.

RARSfest attractions include:

- Major prize drawing for an ICOM 706 Mk-II-G HF/6m/2m/70cm Transceiver
- An ICOM 207-H 2m rig given away each hour from 11am through 2pm.
- A \$125 pre-registration drawing.
- VE Test Session.
- Contests for Homebrew, QLF, and QBH
- Various Forums and Meetings.
- DXCC QSL card checking by QSL Manager Bill McDowell, K4CIA
- Saturday evening social/supper
- AND FREE PARKING!

For details see the RARS web page at <http://rars.org> and click on the hamfest link, or contact Hank Montgomery - K4HM@arrl.net, phone (919) 577-1254.

What's old, is new again....

---An 80 meter folded dipole adventure

From Kaz, W4KAZ

While discussing ideas for broadband 80 meter antennas with Jay, NT4D, we each had found several possibilities. For one reason or another, each has its drawbacks.

One of the designs found is from the ARRL Antenna Handbook, 14th edition. It is a simple folded dipole, (which also appears in more recent versions of the antenna handbook in the chapter on portables antennas). What I liked about this particular design was how simple it seemed to be as a construction project (i.e. cheap!). Last fall, I made one of these using 300 ohm TV twinlead from Radio Shack, and a bit of leftover RG58 at the end of the matching section. Total cost, about \$10.00 USD. Not a bad price for 80 meters.

My version of this 80 meter antenna has its center point at about 45 feet, and each leg slopes downward to about 25 feet above the ground. It was constructed using the open-ended stub instead of a capacitor. The advantage here is that by varying the length of the stub, you can achieve a good bandwidth match on either the CW or SSB portions of the band. With a little planning, the twinlead can be cut to reduce the amount of coax required, saving weight on the center point and maybe a few bucks worth of coax.

On-the-air performance has been quite good. I cut the antenna to exactly the dimensions set forth in the table. My SWR measurements are under 3:1 from 3500Mc to 3980Mc. There is a broad area where the SWR remains below 1.5:1, centered on about 3800Mc. Using my el-cheapo, hamfest Mega-Fine-Junque tuner, I can easily present a 1:1 match to my transmitter. Those who have autotuners in their rigs probably wouldn't need an external tuner, and could probably QSY at will. My rig begins folding back power whenever SWR goes above about 2:1, so I don't have that luxury.

The main drawback I see with this particular design is that it may be limited to lower power applications. I also reinforced the joints with electrical tape and small lengths of nylon cord, using the cord to bear the weight of the antenna and feedline assembly. Another disadvantage is the extra chunk of wire attached to the feedline, as the routing of the matching stub is also a minor concern.

I'd hate to be the first to apply 1000 watts to this antenna, but it sure does work well at the 100 watt power level. Good thing I don't have an amp...smoke test, anyone?

Editors note: The following information on this antenna is presented with permission from the ARRL Antenna Handbook....W4KAZ

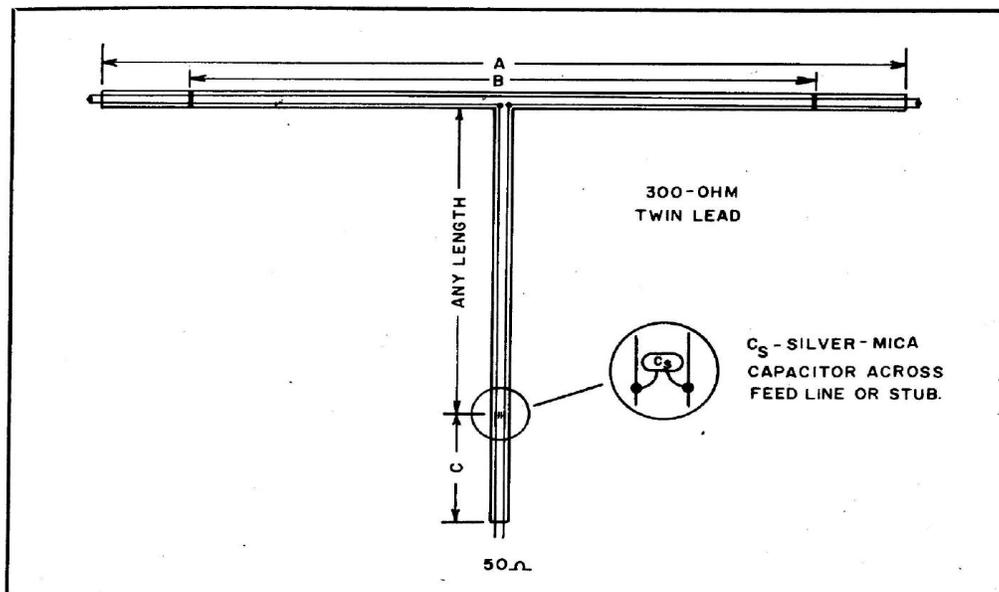


Fig. 20 — A twin-lead folded dipole makes an excellent portable antenna that is easily matched to 50-ohm stations. See text and Table 4 for details.

Table 4
Twin-Lead Dipole Dimensions and Capacitor Values

| Frequency | Length A | Length B | Length C | C _s | Stub Length |
|------------|------------|-----------|------------|----------------|-------------|
| 3.75 MHz | 124'9-1/2" | 99'10" | 13'0" | 289 pF | 37'4" |
| 7.15 | 65'5-1/2" | 52'4-1/2" | 6'10" | 151 pF | 19'7" |
| 10.125 MHz | 46'2-1/2" | 37'0" | 4'10" | 107 pF | 13'10" |
| 14.175 MHz | 33'0" | 26'5" | 3'5-1/2" | 76 pF | 9'10-1/2" |
| 18.118 MHz | 25'10" | 20'8" | 2'8-1/2" | 60 pF | 7'9" |
| 21.225 MHz | 22'-1/2" | 17'7-1/2" | 2'3-1/2" | 51 pF | 6'7" |
| 24.94 MHz | 18'9" | 15'0" | 1'11"-1/2" | 43 pF | 5'7-1/2" |
| 28.5 MHz | 16'5" | 13'1-1/2" | 1'8-1/2" | 38 pF | 4'11" |

meters = ft × 0.3048
 mm = in. × 25.4

Simple Antennas For HF Portable Operation

Figure 20, Table 4, and the associated text excerpt are reproduced here **with permission from** the ARRL Antenna Handbook, 14th edition.....W4KAZ

The typical portable HF antenna is a random-length wire flung over a tree and end-fed through a Transmatch. QRP Transmatches can be made quite compact, but each additional piece of necessary equipment makes portable operation less attractive. The station can be simplified by using resonant impedance-matched antennas for the bands of interest. Perhaps the simplest antenna of this type is the half-wave dipole, center-fed with 50- or 75-ohm coax. Unfortunately, RG-58, RG-59 or RG-8 cable is quite heavy and bulky for backpacking, and the miniature cables such as RG-174 are too lossy. A practical solution to the coax problem is to use folded dipoles made from lightweight TV twin lead. The characteristic impedance of this type of dipole is near 300 ohms, but it can be transformed to a 50-ohm source or load by means of a simple matching stub. Fig. 20 illustrates the construction method and important dimensions for the twin-lead dipole. Shorting connections must be made some distance inside the ends of the radiator, as shown in the drawing. (This subject is covered more fully in Chapter 2.) The ends may also be shorted.

A silver-mica capacitor is shown for the reactive element, but an open-end stub of twin lead can serve as well, provided it is dressed at right angles to the transmission line for some distance. The stub method has the advantage of easy adjustment of the system resonant frequency.

The dimensions and capacitor values for twin-lead dipoles for the hf bands are given in Table 4. To preserve the balance of the feeder, a 1:1 balun must be used at the end of the feed line. In most applications the balance is not critical, and the twin lead can be connected directly to a coaxial output jack, one lead to the center contact, and one lead to the shell. Because of the transmission-line effect of the shorted radiator sections, a folded dipole exhibits a wider bandwidth than a single-conductor type. The antennas described here are not as broad as a standard folded dipole because the impedance-transformation mechanism is frequency selective. However, the bandwidth should be adequate. An antenna cut for 14.175 MHz, for example, will present a VSWR of less than 2:1 over the entire 20-meter band.

Editors note: This information is also available in Chapter 15 of more current editions of the ARRL Antenna Handbook.

Down East Hamfest

The Kinston "Down East Hamfest" will be held on March 24, 2002 at the Lenoir County Fairgrounds from 8:00 am until 3:00 pm. Talk in is on 146.085/146.685.

Arri Announces On-Line "Contest Soapbox"

The ARRL Letter, Vol. 21, No. 08, February 22, 2002

The ARRL Contest Branch has opened a new on-line Contest Soapbox page <<http://www.arrl.org/contests/soapbox>> for ARRL Contests. The site officially opened February 17, just in time for participants in the ARRL International DX Contest (CW) to take advantage.

"Our goal is to provide an entertaining and educational resource that can help attract interest in the contesting area of our hobby," said ARRL Contest Branch Manager Dan Henderson, N1ND. The ARRL Contest Soapbox is open to all--ARRL members and non-members. Henderson said the new site will offer participants an on-line home to share soapbox comments, photographs and narratives related to ARRL-sponsored operating events.

"We encourage you to visit the site and post comments," Henderson said. "Focus your comments on your involvement in the contest--funny things that happened, new experiences for you in the contest, stories that may help others to learn from your efforts, or simply your general impression of the event."

Henderson reminded participants that the potential audience to view postings is broad. "We encourage you to exercise decorum in your postings," Henderson added. The ARRL reserves the right to edit or decline posts that may be inappropriate. Responsibility for content of all posts rests exclusively with the item's author. ARRL staff assumes no responsibility for errors, omissions, and accuracy. All questions and comments should be directed to the person originating the item.

The ARRL Contest Soapbox is a work-in-progress, Henderson said. "Over the next several months and contests, we will be making additions and changes to the site." He welcomed suggestions for improvements via e-mail <n1nd@arrl.org>.

FCC Proposes WRC-Related Rules Changes

The ARRL Letter, Vol. 21, No. 09, March 1, 2002

The FCC has proposed changes to the Part 97 Amateur Service rules as a result of actions taken at recent World Radio-communication Conferences. In a Notice of Proposed Rule Making in ET Docket 02-16, released February 7, the FCC proposed to delete Section 97.401(b) from the rules along with references to international footnote S.5120.

Section 97.401(b) states that when normal communication systems are overloaded, damaged or disrupted because of a natural disaster in an area not regulated by the FCC, a station providing "essential communication" and "facilitating relief actions" may only do so in accord with ITU Resolution 640, which, under S.5120, specified use of the 80, 75, 40, 30, 20 17, 15, 12 and 2-meter bands. Resolution 640 was eliminated at WRC-97, and S.5120 at WRC-2000. The FCC said US amateurs can continue to communicate with foreign stations in disaster areas under Section 97.111(a)(1) and Section 97.101(c).

In a footnote, the FCC pointed out that WRC-2000 deleted international footnote S.5124, which had allocated the band 3950 to 4000 kHz to the broadcasting service for domestic use in Canada. "Once the Canadian Government has implemented this allocation change, the band 3500-4000 kHz will be allocated exclusively to the amateur service in Canada," the FCC said.

"Logbook Of The World" Will Complement QSL Tradition

The ARRL Letter, Vol. 21, No.10, March 8, 2002

ARRL's "Logbook of the World" (LOTW) electronic contact-verification program will spark "a culture change" when it's introduced later this year, predicts Project Manager Wayne Mills, N7NG. Once LOTW is operational, participants will be able to qualify for awards such as DXCC or WAS without having to first secure verification in the form of hard-copy QSL cards. But Mills--who heads ARRL's Membership Services Department--is quick to add that LOTW will complement the conventional exchange of QSL cards, not replace it.

"We will not do away with accepting QSL cards in the traditional manner," Mills says. "We're not replacing the whole paper QSL scheme with Logbook of the World." Neither will Logbook of the World provide a means to get QSLs--electronic or otherwise. Mills said amateurs will still be able to solicit QSLs--even electronic cards--although e-QSLs still may not be used to apply for ARRL awards. Mills this week issued a separate ARRL e-QSL policy statement to clarify what is and what is not acceptable <<http://www.arrl.org/news/stories/2002/03/07/100/>>.

Logbook of the World "is really a system to offer credits for awards--and not just our awards," Mills explained. He hopes to enlist the participation of other organizations that grant operating awards, such as CQ and RSGB. Central to the LOTW concept is a huge repository of constantly updated log data provided by individual DXers, contesters and DXpeditions and maintained by ARRL. Once it's up and running, Logbook of the World will be able to provide quick contact credit. Mills adds that the system will be open to all--ARRL members and nonmembers.

Registering and uploading electronic log data to LOTW will be free. The only time users will incur charges is when they wish to apply contact credits toward a particular award, such as DXCC, WAS or VUCC.

Software development for The Logbook of the World continues. "We're well into the software implementation phase for the logbook server," said ARRL Web/Software Development Department Manager Jon Bloom, KE3Z, who expects to begin full system testing this spring.

"The security part is the linchpin of the system," Bloom said. Both he and Mills emphasize that every effort will be made to ensure the integrity of LOTW log data. Registrants will have to positively identify themselves via off-line, hard-copy means before being issued a secure--and free--digital signature and granted password access.

In simple terms, when a participant logs on, the Logbook system would determine if its database contains any contact "matches" with log data submitted. If so, a user could apply any credits generated to particular awards at a per-credit fee. Mills said the cost would be in line with current ARRL award fees. In situations where an operator disputes a failure to match, Mills said, the operators involved would have to resolve the situation off-line.

Bloom and Mills believe that Logbook of the World will improve the integrity of the confirmation process. "It will remove some of the human factors that lead to errors," Bloom said. And, Mills added, Logbook will minimize opportunities to purposely "game the system" or to outright cheat--something that's not always possible to detect even with paper QSL submittals. Mills said he hopes to announce an inauguration date for Logbook of the World within a few months.