The Pileup

Newsletter of the CDXA

Carolina DX Association

N4PQX	Bob Burton	President
W4WNT	Bill Turner	Vice-Pres.
K4MQG	Gary Dixon	Sec.-Treas.
KA8FSM	John Scott	Editor

Presidential Ponderings

It was great to see and talk to so many of you at the Charlotte Hamfest. We had a lot of activity at the CXDA booth, and we signed up several new first-time members as well as re-enlisting some previous CDXA members. We also had an overflow crowd at the Saturday night dinner/social at the Open Kitchen Restaurant. It was a joyous occasion. To our new members, welcome to the CDXA. The listing of our new members is shown on the Back Page. I'm glad to see some of you have already joined us at Shoney's!

One highlight of the hamfest was the ARRL forum to discuss the new ARRL DXCC field checking program. Once implemented, the affirmed DXCC Field Checkers will be able to check any cards for DXCC credit up to 10 years old, excepting those for 160m which must still be checked at the ARRL. During the forum Patricia Hensley, N4ROS, our new South Carolina section manager, nominated our own Gary Dixon, K4MQG, as a new DXCC Field Checker. Congratulations to Gary on his nomination. Also at the forum, John Covington, W4CC, our new North Carolina section manager, nominated Bill McDowell, K4CIA, as a new DXCC Field Checker. Only section managers and ARRL affiliated DX clubs can nominate the new DXCC Field Checkers. The CDXA is the only ARRL affiliated DX club in both North and South Carolina, meaning both states combined can presently only have three DXCC Field Checkers. With Bill McDowell in Raleigh, NC and Gary in Fort Mill, SC your officers felt a need to have a checker from the western portion of our region. Accordingly, the CDXA has nominated Paul Greaves, W4FC, of Simpsonville,SC as a new DXCC Field Checker. This should give everyone in both Carolinas a DXCC Field Checker within a reasonable distance of their QTH. Once all field checkers are affirmed by the League, each will attend Hamfests to provide the DXCC Field Checking service. Visit the ARRL website for more details on the new program.

TX0DX, the Chesterfield Island operation on a new DXCC entity has come and gone. I hope everyone made it into the logs. There are several operations ongoing in East Timor, 4W, which is also a new DXCC entity. Two very desired DXCC countries, Yemen, 7O, and Bhutan, A5 are expected to be on the air soon. Check the usual DX news sources for details of these upcoming operations.

The CDXA is often approached by DXpedition organizers for support. We cannot support all of them, but some do warrant consideration. When approached by the organizers of the upcoming Bhutan DXpedition we decided to support them with a $300 donation since Bhutan is the #2 most wanted country worldwide. Bob Allphin, K4UEE, one of the proposed ops, has thanked the CDXA and pledged to make a presentation to us after the operation.

Thanks to efforts of Bill Tippett, W4ZV, I'm pleased to announce that John Devoldere, ON4UN and author of Low-Band DXing, will give a presentation on Monday May 15th at 7:30 p.m. at the Assembly Center, 111 Academy Street in Fort Mill, SC. For those traveling via the I-77 corridor, take Exit 85 (SC Highway 160) and travel the few miles into downtown Fort Mill. We are extending an invitation to all the local area clubs. This is a "don't miss" event.

In CDXA news, we're working with Rick, NV5A, The SignMan of Baton Rouge, on custom engraved CDXA name badges. We're also working with Land's End to get apparel custom embroidered with the CDXA logo. To check out the items that will be available visit the Land's End corporate sales web site at http://www.landsend.com/corpsales . Ordering details will follow in a future Pileup issue when ready.

As you can see we've all been quite busy since the hamfest with many projects and events. We are currently updating the roster information so it will actually appear in the next edition of the Pileup. Until next month, 73's Bob – N4PQX

CDXA PacketCluster & Other Communication Systems		
W4DXA Young Mountain	144.93 MHz (1200 bits/second)	441.00 MHz (9600 bits/second)
K4MD Charlotte, NC	144.91 MHz (1200 bits/second)	441.075 MHz (9600 bits/second)
Digipeater near Wingate, NC	144.91 MHz (DXWIN)	
CDXA Repeater 147.18 MHz (+600)	Near Fort Mill, SC	
World Wide Web Homepage	www.CDXA .org	
Wednesday Luncheon (11:30 AM)	Shoney's, 355 Woodlawn Road, Charlotte, NC (704-525-4395)	

Hamfest Happenings

Charlotte Hamfest 2000 provided an opportunity to buy a new rig, do the usual restocking of one's connector supply, renew old acquaintances at the CDXA booth, get your DXCC QSL cards endorsed, attend a forum or two, and enjoy an evening of fellowship. It's a lot to pack into a day.

Tim O'Rourke, KG4CHX, on behalf of Mecklenburg Amateur Radio Society pulled together a good collection of forums for this year's Hamfest. Of particular interest this year was a presentation by Rick Thorne, N5ZC, an avid user of Kachina Radio products for remote radio operation, and Aubrey Stewart,W6ODG, a factory representative from Kachina. Rick is a familiar face to those who used to work the contests at N4ZC's place. In case you've not paid much attention to some new design concepts of the past few years, Kachina is one of the manufacturers who is now manufacturing a PC Radio. (See QST, May 1998). The most obvious difference is that all the control functions are moved to a graphical user interface (GUI or gooey) in the Microsoft Windows environment. By so doing, all the usual knobs, pushbuttons, meters, potentiometers, lights, and the like, of the front panel are implemented as menus, icons, and graphical representations on a computer screen. This permits building a very robust radio for less by eliminating the added cost of the front panel components. In addition, it provides some very useful intuitive operating characteristics by showing widths of bandpass filters and receiver incremental tuning (RIT) as graphical representations on a computer monitor. Many of the more obscure menus in today's high tech transceiver, are simple drop down menus on a Windows interface providing a rapid learning curve of the radio's features. Many of the capabilities of the "digital era" are also included in the radio in the form of digital signal processors (DSPs) which provide very sophisticated signal handling without the need for expensive crystal filter addins. The sophisticated DSP capabilities at the IF level eliminates the need for audio filters, further controlling cost of production.

The use of a computer for the control capability has other advantages. In today's world of restrictive covenants, imagine putting up a 150 foot tower on a hill 20 miles out of town where there are no restrictions and then controlling the radio from your in-town location via a telephone line or a radio control link. That fact alone seems to have many dreaming up some new ideas. Rick Thorne is one who got the "bug". Rick brought along the remote control PC-based "head"of his radio and, through a phone line running a modem at about 33 kilobits/second, controlled his radio and antenna in Amarillo, Texas from the Charlotte Merchandise Mart. The remote control software ensures that the remote radio stays in lock step with the control station.

Following Aubrey's and Rick's comments and demonstrations, Ted Goldthorpe, W4VHF, and Paul Trotter, AA4ZZ, developed a small "pileup" by announcing in their "CQ" that they were working an Amarillo, Texas transmitter from Charlotte, North Carolina! That brought a few gasps of wonder during the QSO. The cost for a Kachina as a standalone radio is about $2,000 to $2,500. The remote feature using a phone line adds about $1,000. If you'd rather operate remote via a radio link, that gets a little more expensive. Remote radio control adds something over $2,000 to the base price. Kachina's website can be found at:

http://www.kachina-az.com.

A second forum was conducted by Don Crain, W4OC, on antenna modeling software. Don's credentials to speak on this subject rest on his role as a consultant to radio and TV broadcasters in RF matters and AM directional antennas. He has become an avid user of antenna modeling programs in his avocation as a ham, and he demonstrated some of the flexible "what if" capabilities that can be delivered via today's software. The particular program demonstrated was Brian Beazley's , K6STI, AO (Antenna Optimizer).

Don traced the development of today's amateur radio software product from the government-created NEC software that runs on mainframe computers. Early implementations on PCs were ELNEC and EZNEC. Some very sophisticated monoband antennas can be designed and analyzed for SWR, antenna patterns and gain on a Personal Computer. One need not "kill a tree" any more with reams of paper and a thousand laborious calculations to get a good first design.

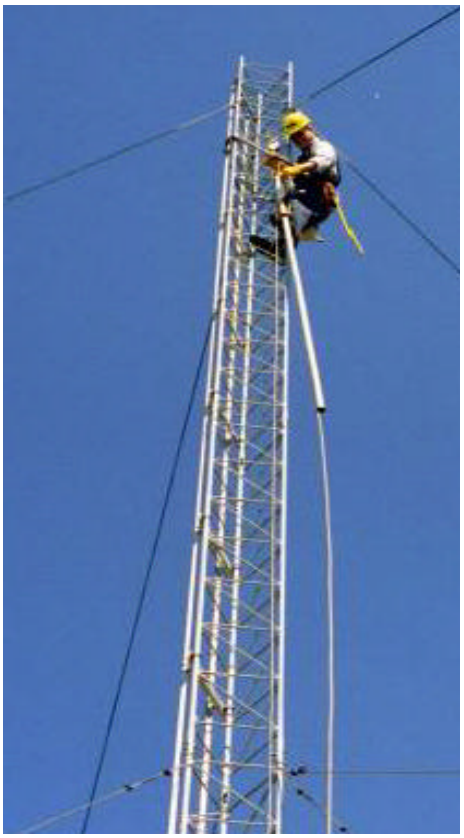
Don pointed out a serious side product of the PC revolution. The software developer of Don's preferred antenna modeling program has announced his dismay regarding software piracy. He is thinking about discontinuing program development for the amateur radio community because he knows he is losing licensing fees when people copy licensed versions of the software. The message here is that we must reward those who commit their intellectual capital to bring us software products with a just return, or we won't get new products.

Saturday evening was capped by a cordial gathering at The Open Kitchen. A number of out-of-town faces showed up in addition to our ARRL DXCC representative and two of our forum speakers, Rick Thorne and Aubrey Stewart. Food and fellowship were outstanding. If you missed this year, be sure to join us next year!

Pictures of Hamfest Happenings are on the picture page.

Above, W4VHF and W4SI dismantle AA4R's first tower.

Below, K4MD at home in the sky on AA4R's second tower. Those pilots love heights!



Above, the "ground crew" of AA4R and N4PQX stay close to the "ground plane". Let the "air plane" pilot climb, huh guys?

Below, hamfest fellowship time at The Open Kitchen. Smile!

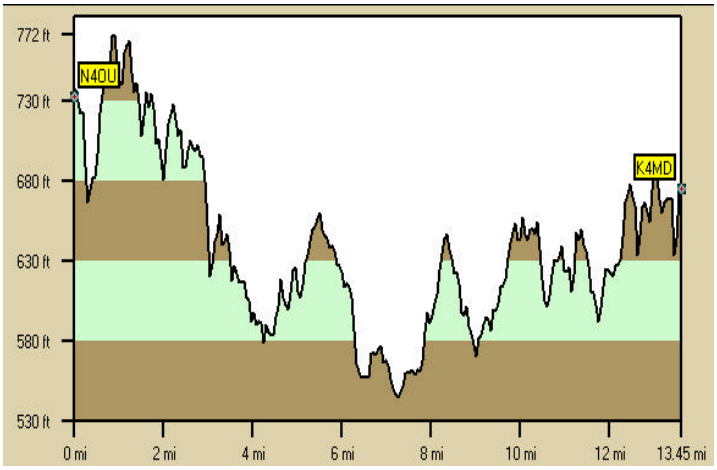
Above, Tim O'Rourke (center) discussing hamfest forums with Rick Thorne (left) and Aubrey Stewart (right) at The Open Kitchen

Slick Software

By Tripp Harris, N4OU

I recently purchased a new Delorme product called, "Topo USA 2.0". Most of you should be familiar with Delorme as the maker of "Street Atlas USA". If you're like me, you got hooked on "Street Atlas USA" at the Charlotte Hamfest about 15 years ago. Recently, Delorme branched out of 2D mapping to provide 3D topographical maps of the entire United States. Their targeted buyer for the software includes hikers, campers and outdoor enthusiasts to assist planning their weekend adventures. After using the program to determine some line-of-site propagation, I think Delorme should have included "Ham Radio enthusiasts".

Topo USA allows the user to plan a route by inserting waypoints on a 2D map of the United States. Once the waypoints are entered, the program can then generate a 3D rendering of the map and more importantly can produce a profile of the path (see graph below).



To produce this profile, I simply navigated to my QTH (near Lake Wylie) on the map and added a waypoint to the map. I then zoomed out and scrolled over to Joe Simpkins' (K4MD) place (near South Park) and added a second waypoint. I chose to graph a profile of the route, and the program produced the wonderful graph shown above.

The map places my QTH at just above 730 feet. Relatively close to my home are some peaks at 772 feet. It is clear that I will need to get my packet antenna at least 50 feet in the air to get a direct line of site path to Joe's packet node. For those of you who live in the Pineville area, the valley in the middle of the graph is your location—it looks like you will need to get your packet antenna up to around 100 ft. to "see" K4MD.

As a Delorme customer, I was able to purchase the southeastern version of the software for $34.95. The southeastern edition covers Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina and Tennessee. The full retail price of the software is $49.95 and is available on Delorme's web site at: http://www.delorme.com/. If you are interested in the whole United States, the national version is listed at $99.95. If you have ever purchased a product from Delorme (and filled out a registration card), I would suggest calling Delorme sales at (800) 452-5931. Tell them that you are a Delorme customer, and I'm sure they will give you the discounted price.

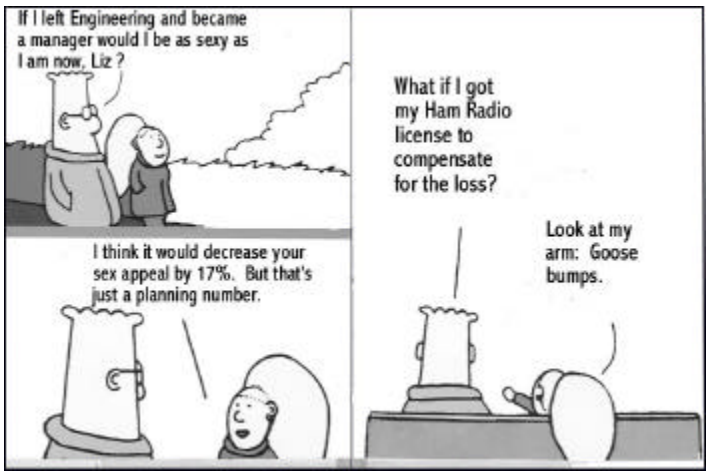
Delorme also offers a more detailed version of the software called "3-D TopoQuads". The only real difference is that all of the maps have been generated from the USGS 7.5 minute Quadra angle maps. The retail price for the TopoQuads software is $99.95 and is sold per state instead of by region.

System requirements for Topo USA include a Pentium 120MHz or better with 32MB of memory and Windows 95/98 (I found that it runs fine on Windows 2000). Also, if interested in the 3D rendering features, I would highly recommend a 3D graphics accelerator card.

Brass Pounders Unite!

Ron Bailey, AA4S, is planning to use the WY2OOO callsign for CQ WPX CW on May 26-28 at his QTH. Needed is a complete 10m station, i.e., transceiver, legal limit amplifier, bandpass filter, and a laptop computer. Also needed are CW operators capable of 30-40 wpm to control the assured large pileups. Contact Ron Bailey if interested via the 147.18 CDXA repeater, the PacketCluster, or the twisted pair at (704) 487-0337. Warning:: Ron doesn't cook so bring your own food for the "bivouac". (I didn't ask Ron if he has a stove—Editor!) More to follow.

Dilbert's A Ham!



Adventures of Millie and Mike

It had been a tough day for Mike Farad. He'd been thinking about how to redesign a "black box" power source and was frankly, stumped. The doorbell brought Mike out of his funk.

"Hi, Mike!" It was Millie Henry, an old CDXA buddy. "What's eating at you? You look exasperated."

"I've been trying to figure out how to redesign this black box of a power source. It is fed by a single lantern battery, but I'll be darned if I can figure out what's inside the box since it is 'potted' and I'll ruin the guts if I break into it."

"Is it working otherwise?" asked Millie.

"Yep" responded Mike.

"Well then, perhaps our old buddy, Mr. Thevenin can help," offered Millie.

"What radio club is he in?" asked Mike.

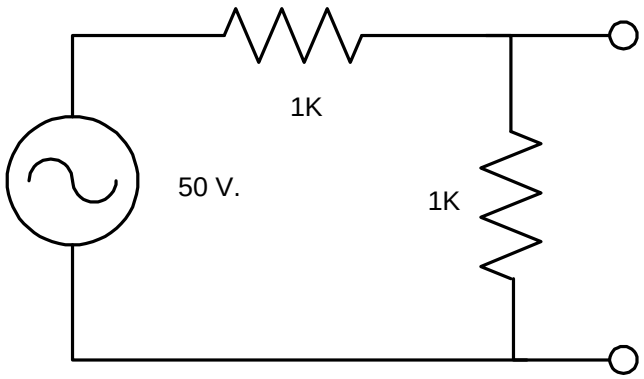
"He's probably in the Eternal Radio Club," chuckled Millie. "He stated a theorem on equivalent circuits just like you're dealing with in a French scientific journal in 1883. I learned about it in my sophomore electrical engineering class more years ago than I'd care to admit."

"So what's the theorem?" asked Mike with a hint of doubt in his voice.

"Thevenin stated that from the perspective of a single output branch of an arbitrarily complex network, the complex network can be replaced by a single equivalent voltage source in series with an equivalent series resistance. The equivalent voltage source is the voltage that would be measured as the open circuit voltage in the branch under investigation with all the voltage sources in the 'black box' operating normally. The equivalent series resistance is the resistance seen looking into the black box from the perspective of the output branch with all the internal voltage sources replaced by short circuits." Millie smiled with a satisfied grin.

"Ok, so give me a practical example of how that helps me," doubted Mike.

"Look at this example circuit," stated Millie as she drew the diagram below:



"The open circuit voltage at the terminals is 25 volts determined by the two 1K resistors acting as a voltage divider. If you replace the voltage source by a short circuit, the resistance looking back into the circuit is 500 ohms. So, old man Thevenin's theorem says that if you place a 25 volt source in series with a 500 ohm resistor, this circuit will work identically to the original circuit from the viewpoint of the output terminals. Try this on as many combinations as you want, and the result is the same," stated Millie, knowingly. "I've checked this on a number of circuits over the years and the theorem always holds up."

"Well, I'll be," marveled Mike. "I've spent all day trying to figure out this black box, and Thevenin had the answer in 1883!"

(Stay tuned for the continuing adventures of Millie and Mike...)

CDXA DXCC Status

The ARRL has discontinued printing the DXCC status on a regular basis in QST. A few of our members have expressed interest in creating our own "honor roll". Your editor is willing to compile our own unofficial DXCC status list from submissions made by the membership. If you'd like to see our own DXCC status on a semi-annual basis, let me know, or better yet, send me the following: your name, your callsign, total confirmed entities (including deleted entities), total confirmed current entities.

New DXCC Entity

Just as this issue goes to press, ARRL DX Bulletin 16, dated April 14, 2000 states that Chesterfield Islands have officially been added to the DXCC Entity List. For DXCC credit, contacts made on or after March 23, 2000 will be accepted. Cards for this entity may be submitted after October 1, 2000.

Show the Colors!?

In response to interest expressed recently by the membership, the club officers have an initiative underway to allow the membership to get name badges or clothing displaying the CDXA logo. A sample name badge, including the logo etched in relief, has been prepared by one vendor to which callsign, name, and QTH can be added. Samples should be available soon.

Land's End Corporate Sales division is in the process of preparing our logo for embroidery on articles of clothing. The Corporate Sales division has a broad range of items suitable for embroidering. More to follow.

The Back Page

On Tuesday, April 25, 2000 the Mecklenburg Amateur Radio Society will have a special Volunteer Examiner (VE) session starting at 6:30 PM at the East Baptist Church, 6850 Monroe Road. This special session will be to handle upgrades under the FCC's new restructuring laws that **DO NOT** require any additional testing. No tests will be given at this session. Bring an original and copy of any current license, CSCE, and if you have a Technician Class license dated prior to 1987, proof that the license was issued prior to 1987. An examination fee of $6.65 must accompany the upgrade application. The VE team will issue a new CSCE for the upgraded license and you will receive your license from the FCC when processing is completed. You must appear in person for this upgrade activity—no proxies will be permitted. Questions may be asked by calling (704) 948-7373. The next regular testing session under the new laws will be given on Saturday, May 13, at 9:00 AM at the East Baptist Church.

Bill Tippett, W4ZV, has informed the CDXA officers that John Devoldere, ON4UN, world renowned DXer, contester, and author of Low-Band DXing, is coming this way for the Dayton Hamvention. He has graciously offered to give a presentation on Monday, May 15 at the Assembly Center, 111 Academy Street in Fort Mill, SC. Other clubs will be invited. Bring your copy of Low-Band DXing if you'd like it autographed!

Welcome to the following new CDXA members: Craig England-KF2X, Roy Dishmon-NN2W, Steve Reichlyn-AA4V, Jacques Reyntjens-AB4VT, Butch Simpson-KE4BKW, Tim O'Rourke-KG4CHX, Joe Barkley-KI4TZ, Bob Thomas-N4BX, Rob Rochelle-W4DAZ, Jack Phifer-W4RTW, John Green-W4WHF, and Paul Sturpe-W3GQ. We are glad to have you with us!

Psssssttt! This whole publication, including full color pictures, is available for downloading and printing via the CDXA web-site. Please tell all souls it's at: http://www.CDXA.org.

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First Class Mail

See something wrong with your address label? Notify KA8FSM at once, please.