The Pileup

Newsletter of the CDXA

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CDXA Annual Dinner following the Charlotte Hamfest

CDXA Holds Annual Hamfest Dinner

The annual Charlotte Hamfest sponsored by W4BFB was held at the Cabarras Arena and Events Center in Concord on March 10th and 11th, 2017. As usual there were the great collections of vendors and *flea market* vendors selling a variety of merchandise. Following the March 10th events, CDXA held its' annual *Hamfest Dinner*. More pictures of the event can be found on the CDXA *photo albums* tab.

CDXA PacketCluster & Other Communication Systems	
K4MD (AR Cluster via Telnet)	k4md.no-ip.com
W4DXA (AR Cluster via Telnet)	w4dxa.no-ip.com
CDXA Repeater 147.18 MHz (+600)	W4DXA, Near Fort Mill, SC
World Wide Web Homepage	www.cdxa.org
Wednesday Luncheon (11:30 AM)	Skyland Family Restaurant, 4544 South Boulevard, Charlotte, NC

Low Power DXing & Contesting (with indoor arrays)

by: Cliff Wagoner, W3ZL

We all know the HOA restrictions on many properties currently. These limit our ability to have towers or even most or all outdoor antennas. All is not lost!! This article describes my indoor arrays, all of which operate effectively enough to compete in all low power categories.

The peak of the house is at 32 ft. It is the standard fiberglass composite shingled roof. Obviously all metallic sheets or foils must be absent. On 10 through 30 meters the antenna is the one meter diameter MFJ Super Hi-Q Loop. It is in the class called "magnetic loops" which are very high current. As we know, antennas radiate from their current maximums. It is mounted horizontally as close to the peak as possible at 28 ft. It is fed with any 50 ohm coax, which also carries the remote tuning circuit (the tunable butterfly capacitor built into the antenna). The remote control is supplied with the loop & is semi-automatic. It tunes continuously from 10 to 30 meters. The azimuthal radiation pattern is omnidirectional on all bands. The vertical radiation pattern increases in angle as you move from 10 meters to 30 meters. Since DX is normally at vertical angles below 20 degrees it is a concern, particularly on 30 meters. In practice, however, I have worked some of my best DX, including Heard Island, on 30 meters. This is partially helped by the 200 watt limit on 30 meters thus limiting competition.

On 40 meters the antenna is a full-sized dipole at 24 ft. To fit it to available space, each end is turned
down 10 ft. This does not impact performance at all since dipoles radiate from the center (the current maximum). It also operates on 15 meters but is almost always surpassed by the loop. Because of its low height, the azimuthal radiation pattern has several lobes & the vertical radiation pattern is probably quite high on average. It runs north-south so is broadside to Europe. In practice, it is a surprisingly effective antenna for all directions except very near exact north & south & some long DX.

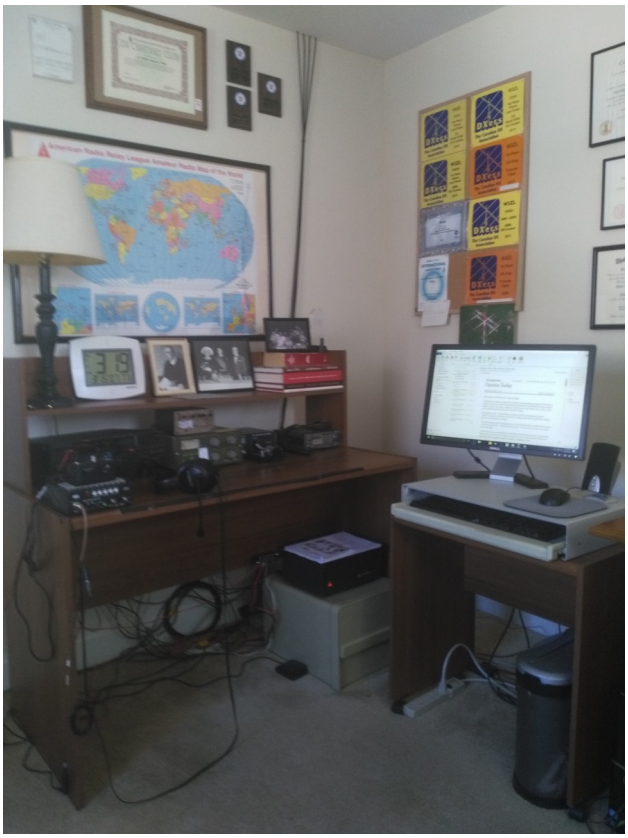
On 80 & 160 meters the 40 meter dipole is used as a long wire. The dipole station feed point is shorted
& wired to the single ended long wire terminal of a wide range tuner. Since the station is on the second floor, a MFJ artificial ground (with counterpoise) is employed to ensure a good RF ground. The radiation pattern is random but with a very high vertical angle on these bands. In practice, domestic & Caribbean signals are loud but europe is difficult.

On 6 meters, a dipole is easily fitted at 20 ft. On 2 meters, a 5/8 vertical is on top of the HVAC housing at 20 ft.

In operating, the only limitation is during contesting. The loop is very narrow banded (wider on 10, narrower on 20) so you cannot jump around quickly chasing multipliers due to the need to retune. My normal practice is to move across the band using the N1MM band map & work whatever is in frequency sequence. If a multiplier must be worked, I spend the 5 to 10 seconds it takes to retune within the same band. To change bands on the loop takes longer. On the 40 meter dipole, it is wide so jumping is fine. At the top end of 40 in the phone band, I touch it up with the auto-tuner in the Yaesu.

The adjoining picture shows (from L to R): MFJ Voice Keyer, GAP Noise Reducer, Yaesu FT-950, Tokyo Hy-Power Tuner, MFJ Loop Remote Control, MFJ Artificial Ground, Kenwood TR-7950 2 meter. All HF/VHF is rig controlled by computer. A headphone boom mic & foot switch is used on SSB. The software is N1MM+ for contests & Logger 32 for DX & all else.

So, let's all get out there & score for the CDXA!!!



The Pileup
Official Newsletter of the Carolina DX Association

Published monthly 10 times per year, excluding the months of June and December.

The purpose of the association is to secure for the members the pleasures and benefits of the association of persons having a common interest in Amateur Radio.

Members of the CDXA shall adhere to "The Amateur's Code" as published from time to time in *The ARRL Handbook for Radio Amateurs*, and shall consist of those valid licensed amateur operators having an interest in promoting amateur radio. Long distance communications (DX) is of special interest to members of the association, but said interest is not a requirement of membership.

Yearly dues are $25.00. A second licensed Amateur family member living in the same household can join for $5.00 for a total family price of $30.00 per year. The total price for 3 or more licensed family members living in the same household is only $35.00 per year. All family members enjoy full member status. Dues are payable annually in December by check or through the CDXA website, to the Secretary/Treasurer:

Cliff Wagoner, W3ZL
P. O. Box 577
Davidson, NC 28036

Address, telephone, and email address changes should be directed to the Secretary/Treasurer at the above address or via email at: jcw53@cornell.edu.

2017 ARRL DX Contest Wrap Up

By John Forbus, NV4A

The 2017 edition of the ARRL International DX Contest is over, the logs are in, and the CDXA prizes have been awarded. Here are the results, based on claimed scores. The final scores will appear in QST this fall.

CDXA's total score was down a LOT from past years at about 15.5 million points this year vs. 28.1 million points last year, and 31.1 million points in 2014. The problem seemed to be a combination of poor propagation and low participation, and the low participation was probably due at least in part to the poor propagation. In spite of the propagation, some of our members posted very good scores, led by Dennis, K7BV, with a total score of almost 4,750,000 points.

Please make sure to report your log to the ARRL using Carolina DX Association (exactly this way) in your summary sheet under the Club section in order for us to get your points added to our club score. If you aren't sure if you did it correctly, then submit your Cabrillo file again as the robot will pick up the last correct file that you submitted. Logs may be uploaded online or emailed to DXCW@arrl.org or DXPhone@arrl.org. You must have your CW logs uploaded or postmarked by March 24 and your Phone logs uploaded or postmarked by April 4. You can also make sure your logs were received. Just Click here.

CDXA members competed among themselves for first place prizes in five categories. Each received their choice of a $50 Outback Steak House Gift card or a trophy plus a CDXA certificate. The winners were:

	Call	Name	Qs
Top Combined Score	K7BV	Dennis	3799
Top CW Score	K5EK	Ed	1634
Top Phone Score	W3OA	Dick	841
Top Phone, Low Power, Score	W3ZL	Cliff	263
Top CW, Low Power, Score	AA4R	Bill	744

Members who completed 1000 or more QSOs combined, CW and phone, received their choice of a $25 Outback Steak House Gift card plus a CDXA certificate or a trophy. The winners in this category:

1000+ QSOs	
K2SX	Dennis
W3GQ	Paul

Members who completed 500 or more QSOs combined, CW and phone, received a CDXA certificate and a chance in the raffle for a $25 Outback Steak House Gift. The winners in this category:

500+ QSOs	
AA4V	Steve
K2SD	Scott

Members who completed 250 or more QSOs combined, CW and phone, received a certificate and a chance in the Gift Card raffle. There were three winners in this category:

250+ QSOs	
AD4IE	Paul
NV4A	John
WA3DQS	Andrew

WA3DQS won the raffle for a $25 Outback Steak House Gift (and I didn't put NV4A in the pot.)

The Soapbox comments can pretty much be summarized as "…bad propagation." Ed, K5EK, noticed something on 20 that I also noticed, which was a warble or jitter on even strong SSB signals. Anybody else notice that?

First Contest Experience

By: Mike Keziah (WA2TGE)

After many years in CDXA, I finally decided that I would try *contesting.* I have been a ham since 1964 and had never seriously tried this aspect of ham radio. Maybe I have really been *shamed* into this quest by CDXA members and their constant encouragement. Maybe some of you will think this article too elementary and others may think that it is humorous, but these were painful lessons I learned over the contest period. I found that my depth of understanding contesting is severely lacking. My original thinking was, "How hard can it be? Copy a little code and send a canned response." For those of you with experience contesting, this is probably true. Here is my experience:

First Lesson: Get basic information about rules, time, exchange, etc.

This is common sense, right? Well... I decided on the ARRL International DX Contest. My thoughts were to work a few hours on the 18th and a few on the 19th. I found the ARRL web page describing the contest. Primarily, I was looking for *the exchange.* I had heard my friends talk about the *the exchange* and my assumption was it was the most important part. Turns out, *the exchange* was simply a signal report and my state. Well, that was easy. The contest started at 0000 UTC on the 18th. Let's see, 0000 UTC is 2400 – 5 hours for eastern standard time or 1900 or 7 P.M. on the 17th. There was the first mistake. I was a day behind and I hadn't even begun. After all, the documentation indicated the contest began on the 18th so I assumed it would be some time in the afternoon. Well, it was the afternoon of the18th and I was several hours behind already. Like the Boy Scouts say, "Be Prepared."

Second Lesson: N1MM has a much steeper learning curve when you start with complete *ignorance. (and also introduce the self-inflicted pressure of the contest)*

I downloaded N1MM because that was the only contest software I *knew* about. I use the word *knew* sparingly here. I had seen a presentation about it at SEDCO several years past and I knew it was a very powerful piece of software. I also knew it was a popular choice of many of those who were serious contesters in the club. Being a *self-proclaimed* geek, I thought the software might be intuitive . Well, it may be intuitive to some, but it was not to me. *N1MM is a fabulous software package and its' great capabilities were foreign to me simply because I hadn't prepared myself to take advantage of them. I was trying to learn and use new software at the same time. Bad idea.*

I was able to install the software and enter some of the configuration information (personal information, rig, WinKey, etc) easily and I began to think, "This is going to be a snap." All of the sudden, I came up against database and logs. I didn't understand about these entities and how they were used until after the contest was over. *(Again the N1MM software is tailorable such that You may have a single database with many different logs or you can separate the databases and logs such that there is one log in each database. A personal choice.)*

I thought there was a way to have the Contest Setups generated automatically but I could not find how that was done. I was now in a hurry and it was very evident I needed help. I decided to go to the CDXA roster to see who I could find to "bail me out." The unlucky individual was Lou, N2TU. After 30 to 45 minutes on the phone he had me going with N1MM, I thought …

The last thing Lou told me was to be certain both sets of the CW macros were working correctly. On my rig (FT-950) I have a BK-IN button that allows me to send CW and hear CW audio without transmitting. This was the obvious tool to check the CW macros. While I was checking the macros, I noticed that the first part of the first character of the macro string was not being sent. For example, if I was sending the character *W,* I would get the two *, dahs* but no beginning *dit.* I began to search online to see if the problem was known. It was a known problem and there were several solutions posted. I went through several web pages and help screens looking at the delay mechanisms for PTT. None of the solutions solved my problem. Finally and in desperation, I put a *dit* (or an e) at the beginning of each macro. The delay of the *e* seemed to be a fix for the problem. By this time, four more hours had passed. At last … I'm ready to begin *(so I thought.)*

First contact. I selected the macro button for the *My Call* macro in response to a CQ. All of the sudden, the *e* I put in the macro stream for the delay when using BK-IN was now present in the transmission. Light bulb on! The timing when using actual PTT is different than the timing when I was using BK-IN. Stop. Go to macro library and take out all the delays I had put in the macro stream.

Third Lesson: Plan within family schedule:

XYL calls reminding me that it was time to meet friends for dinner. End of Day 1. Total for the day, 1 QSO.

Day 2 began with usual morning activities followed by church and lunch with friends. By the time I got back to the shack it was 3 PM. New realization! … Suddenly I realized I had no where to put the exchange information in my log. NIMM *operator incompetence* strikes again! I had to write the call and the exchange on a separate note pad for later insertion into the log. *After the contest was over, I found the setup for the ARRL DX Contest and N1MM did indeed have a place to enter the exchange. The N1MM setup that I went thru was a manual setup and my definition made no provision for the exchange*.

Fourth Lesson: Be prepared with your CW Skills

As I continued through the day I was surprised how much faster I could copy CW in this mode. I normally work at 23 to 25 WPM when rag chewing. However, when in this new *contest* mode, I was copying 30 to 35 WPM. The exchange and call were well defined. Knowing what to expect made copying easier. All I needed was the power level and call from the DX station. Power levels were usually 5, 1tt or kw. Being able to operate this fast was new and I was moving right along. This was fun and I kept edging my keyer speed higher and higher. This became a problem….Quickly … I got caught.

I think a little background information is in order here. Several years ago I began having a physical problem using the paddle

so I switched to the keyboard. The issue with my hand and the paddle made my code very bad after 10 minutes or so. I didn't want to give up CW so I went to a keyboard for sending and my problem was solved. There was great joy in the CW world when I went to the keyboard.

Back to the story …. A station requested information I didn't have in the macros. No problem, move over to the paddle and provide the requested information…. and that is when I "found out" ... I needed some "paddle time." at 35 WPM. I desperately looked over the screen searching for the WinKey speed control and all the while I am hearing the request from the other station. Panic mode. Well, I finally found the speed control and lowered it to a speed I could control the paddle and sent off the information requested.

Fifth Lesson: Spend a little time learning the basics of N1MM

As the day progressed I began to see some of the great things N1MM was doing and the process got much easier. I set up the telnet window with W4UGA and things began to pop. I have to admit that when the pileups occurred I just kept tuning and found other stations that were easier to work. At the end of my two hours of actual operating I had amassed about 700 points and had learned an immense amount about the software. I freely admit that was a poor performance contest-wise but I did learn quite a lot about N1MM. Now I am looking for ways to practice with some of the smaller contests to improve my skills.

I downloaded the manual for N1MM and it is huge. Each day I find something new to try it. When the next contest comes along, I hope to be better prepared and maybe in the distant future, I can contribute to the club efforts. I hope next time won't be such a comedy of rookie errors. It would be a good practice for each of you to check your caller-id's when the next contest rolls around. You could be the lucky person who get to bail me out next time. 73s.

Oh, by the way … I had fun!

SVHFS Conference Coming April 28 and 29, 2017

The SVHF Society will hold our convention in Charlotte, NC this year on April 28 and 29 at the Doubletree by Hilton Hotel Charlotte Airport, 2600 Yorkmont Road, Charlotte, NC 28201. We have arranged rooms at $95; you can call 800-222-TREE and ask for this rate under the name "South East VHF Society". Early registration guest room rate of $89 is offered for reservations made by January 31, 2017, so if you plan to attend, please call now to reserve your room at this lower rate before the end of January. We will have the registration information on the web site soon (http://svhfs.org) so watch for the sign up details. The conference fee for pre-registration is $30, Friday's Luncheon is $15, and the Saturday's banquet is $40. I hope to see many of you there, Gary Greene, W2ZV, conference committee member.

Nuclear powered QSOs ?

Look for special event station **OE17ATOM** to be active from the Nuclear Power Plant (inside the reactor's hall) in Zwentendorf, Austria between April 21-22nd.

Activity will be on the HF, VHF and UHF bands. Operators mentioned are Stefan/OE1SSU, Franz/OE1AOA and Gregor/OE1SGW.

There will be live streaming video during the operation (see QRZ.com for details).

QSL via ADL303 only. Direct QSL card requests to operator's callsign will not be answered. All logged QSOs will receive a QSL.

Sunspot counts drop to 7-year low

The face of the sun has been blank (no sunspots) for 13 consecutive days. The last time this happened was in April of 2010, near the end of an historically deep Solar Minimum.

The current stretch of blank suns heralds a new Solar Minimum expected to arrive in 2019-2020.

ARRL Contests

March 2017 4-5 International DX–Phone	**April 2017** 16 Rookie Roundup – Phone
June 2017 10-12 June VHF 18 Kids Day 24-25 Field Day	**July 2017** 8-9 IARU HF World Championship
August 2017 5-6 222 MHz and Up Distance Contest 19-20 10 GHz & Up – Round 1 20 Rookie Roundup – RTTY	**September 2017** 9-10 EME - 2.3 GHz & Up 9-11 September VHF 16-17 10 GHz & Up - Round 2
October 2017 7-8 EME - 50 to 1296 MHz 16-20 School Club Roundup	**November 2017** 4-5 EME - 50 to 1296 MHz 4-6 Nov. Sweepstakes – CW 18-20 Nov. Sweepstakes – Phone
December 2017 1-3 160 Meter 9-10 10 Meter 17 Rookie Roundup– CW	