The Pileup

Newsletter of the CDXA

W4WNT	Bill Turner	President
W4JG	Jack Guion	Vice-Pres.
W4NZC	Ken Cannaday	Sec.-Treas.
K4MD	Joe Simpkins	Packet Mgr.
-	Lloyd Burt	Webmaster
K8YC	John Scott	Editor

Presidential Ponderings

Congratulations to Bob Southworth, KI4YV, on his more than ten years running the Discovery Place Radio Education Center in Charlotte. We had a nice get together with the folks from Discovery Place at Shoney's in Charlotte on Wednesday, Nov. 7. John White, WB2NHQ, presented Bob with a plaque from Discovery Place and a very large certificate from Ervin Jackson, N4BIG, celebrating Bob's efforts at Discovery Place.

As part of communicating the event, I sent out e-mails using the roster list to folks who normally attend Wednesday's luncheons. I learned (the hard way) that the roster list is not up-to-date for some of you! Please check your e-mail addresses in the roster on the CDXA website and send corrections to Ken Cannaday, W4NZC, our Secretary/Treasurer.

Speaking of officers, there has been no ground swell of people wanting to run the club (or run me out of office!). Consequently, unless there are nominations from the floor at the December Annual meeting, your officers will remain:

President: Bill Turner, W4WNT
Vice President: Jack Guion, W4JG
Secretary/Treasurer: Ken Cannaday, W4NZC
Newsletter Editor: John Scott, K8YC
Packet Manager: Joe Simpkins, K4MD

The December Annual Meeting/ Christmas Banquet will be at the Branding Iron in Fort Mill, SC on Thursday, December 20th. Dinner at 7:00 PM, get together around the bar from 6:15 PM onward. Prime Rib or Chicken, $15.00, which includes the tip.

The "Contest Within a Contest" continues at the end of the month with the CQWW CW contest, Nov. 24-25. A copy of your summary sheet should be sent to Ted Goldthorpe, W4VHF, and your club affiliation must be shown as Carolina DX Association. Eight more awards are at stake during this weekend.

73, See you in the Pileups, —Bill Turner, W4WNT

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)	W4DXA, 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)	

Check In!

Jim Morris, KD4OM, writes....

"The Discone shown in the two pictures I am attaching is on the battleship USS Wisconsin. The Wisconsin is presently moored in Norfolk, Virginia as a Naval Exhibit at Nauticus (Norfolk's answer to Discovery Place). The ship is part of the reserve "mothball" fleet. Main armaments are 9 sixteen inch rifles, 32 tomahawk missiles and two batteries of Harpoon ship-to-ship missiles along with several 5 inch gun mounts. The ship was the last commissioned battleship of the Missouri class (Missouri, Iowa, Wisconsin and New Jersey). At least I think that is correct.

The Wisconsin saw duty in WWII as Halsey's Flagship in the Pacific, later in the Korean conflict and in Viet-Nam and Desert Storm.

I don't know frequencies covered by the antenna, but from its size, I would think it is quite broad-banded.

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.

Dues are $30 per year for those using the PacketCluster maintained by the Association, $15 otherwise, payable each January. Dues are payable by check to the Secretary/ Treasurer:

Ken Cannaday, W4NZC
1929 Ewing Avenue
Charlotte, NC 28203

Perhaps N4ZC as a former sea-going type might know. Maybe some other Naval types or retiree's that can add to info. *(Thanks, for "checking in", Jim. —Ed.)*

Friendships Renewed

Saturday, October 20 provided a time for renewal of old friendships as the CDXA Barbecue came and went all too quickly. The first order of business for many arriving guests was a "field trip". The picture below tells part of the story. Frank's hayfield tells the "rest of the story..."
As usual, the food was very good and plentiful. We

were blessed with another wonderful, warm fall sunset. (Who arranges the weather, anyway—it's been perfect for the past three Barbecues!)

In addition to a number of regular CDXA members, we had a few visiting hams this year come by to reminisce about years of "hamming" together. Jack Barr was in from Atlanta. Russ Kinney (W4FKT) and his XYL also shared the fellowship of the evening.

Antenna Technology

(The cover of the Summer 2001 edition of Cornell Engineering, shows Thomas Silliman hanging from his climber's belt at the top of the Empire State building. Inside, we find out Silliman is a Cornell University graduate who just happens to be the CEO of Electronics Research, Inc. (ERI) of Evansville, Indiana and he loves *to climb. ERI's products are innovative commercial FM broadcast antennas. The article is about Silliman's daring and how he came to design his antennas, but this editor thought you'd like to see and learn more about the antenna itself which was the subject of a sidebar in the article. Your editor thanks the editor of Cornell Engineering and freelance author, Kirsten A. Major for their permission to reprint the sidebar in this month's Pileup. –The Editor)*

Before Silliman's redesign in 1975, antennas failed above about three kilowatts because the coaxial cable feeding the antenna would arc (emit an electrical current that reacted with nearby metal) or because the surface voltage field strength built up by the radio waves would create a corona of ionized gas that produced heat instead of radio waves—which would melt the antenna.

The ERI Axiom antenna (above) is the most advanced multi-station, side-mounted antenna platform ever offered FM broadcasters. The Axiom easily accommodates ten or more stations.

Silliman wanted to eliminate these problems in order to increase antenna input power capacity. First he analyzed the arcing problem, which was most frequently caused by external feed straps that were worn from exposure to the elements.

"The early antennas for FM radio were all fed externally with wire feeds that passed through insulators that acted as gas barriers as well," Silliman explains. "I redesigned that connection to a series feed arrangement that allowed the feed system to be internal to the radiation element. In this way, the feed was not only in a metal enclosure, but it was also in a pressurized environment. This was a vast improvement over the existing technology."

His next challenge was to isolate exactly what caused antennas to corona. Coronas were assumed to originate at the ends of the antenna, where voltage would be greatest. To try to control this, spherical structures called "corona balls" were placed at the ends of antennas with the aim of reducing the surface voltage potential at the tip of the FM antenna.

Silliman discovered upon testing that the electric surface potential that created the corona actually occurred not at the top but much lower down on the antenna. The heat would cause electronic arcs to rise to the top and stabilize on the corona ball—thus giving the appearance of springing from the top. Silliman tested variations of corona balls, with the idea that a larger radius would prevent corona formation. He discovered that using a corona ball with a radius of one and a half inches or larger would cause the corona to extinguish itself if one did occur.

Based on his research and experiments, Silliman developed the patented omnidirectional broadband circularly polarized antenna, using a Rototiller-like design that eliminated balls altogether by using three inch diameter tube as the radiation element. The extra large tube disperses energy build-up, and although a corona could theoretically occur, it would self-extinguish with little or no damage to the antenna. As a result of Silliman's design, a single antenna can be used for simultaneous transmission of several channels, and a single level of the new design could now easily handle 20 kilowatts, a power level meeting the design plan perfectly.

Because of the three-inch outer diameter of the antenna, it also has the added advantage of excellent bandwidth. In winter weather conditions, the additional bandwidth eliminates frequency drift when ice forms on the antenna's surface. "Two years after I introduced that design, we had the worst icing conditions in years along the East Coast," says Silliman. "Our design did better with no deicing equipment than all the other antennas in that part of the US of A—and most of the others were actually deiced. This made the design famous because so many stations that had used it were able to stay on the air. After that, we added heaters as an option."

SOME HISTORY, NOSTALGIA, & LINKS TO THE PAST

By Don Daso, K4ZA

New York City is a fabulous city—certainly one of the greatest cities in the world. Its landmarks are more-than-famous. Some of its street names have become part of our language—Broadway, for instance, finds use as an adverb and adjective in speech.

As hams, some of you may recall Cortland Street, or Varick Street. (I took my Extra exam in the FCC office there, a long time ago…) You'll know why you remember them. And, as some of you may know, there was even an area of New York City referred to as "radio row," because of the proliferation of stores selling radios. It began in the 1920s, and the area was razed when the World Trade Center was constructed.

Websites *(a sort of annotated bibliography)*

http://www.mcny.org/abbott/a101.htm
Famous photographer Bernice Abbott's picture of radio row.

http://www.antiqueradio.com/Radio_Row_09-98.html
The largest and most complete description of radio row in its heyday I've found. Several personal photographs included. With some simple maps—orienting you to the area better than anything except going to New York and walking around the area yourself (not possible today). In fact, *Antique Radio Classified* September 1998 issue carried a cover story on "radio row."

http://www.infoage.org/p-35Row.html
A fine example of something the Internet is very good at—the personal recollection. History told simply and directly. The last line is, alas, weirdly prophetic.

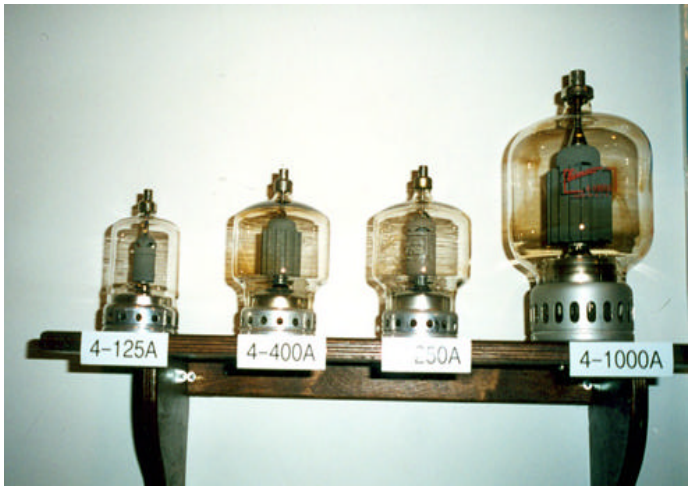
http://www.ebnonline.com/distribution/special/story/story/OEG20001025S0035
A marketing-oriented piece, which describes "radio row" briefly.

http://www.newark.com/inside/overview/history.html
And, in conjunction with the above piece, read this history of Newark Electronics, an electronics supplier still going strong today.

http://www.antiqueradios.com/photogallery/indexw.shtml
And just in case you're thinking, "Surely all this fuss over radios wasn't really possible," this site presents some fine examples of the type of equipment you could find for sale in radio row stores. Radio, you see, was once a very big deal. Radio was, once upon a time, so popular, so famous, so well-used that, well, you get the idea….(cf: Susan Douglas's *Listening In*)

More Nostalgia

Last month we showed you a picture of but a few of some old transmitting tubes collected by Frank Dowd (K4BVQ). Below we add to the nostalgia presented above by Don Daso and show you a few more tubes in Frank's collection.



The 4-1000A looks like something you'd like to curl up around with a good book on one of our coming winter evenings!!

While at the Barbecue at Frank Dowd's place, we were able to see some of the restorations Frank has undertaken. Below is a picture of Frank's efforts. If you're an old time ham, these will get your heart thumping.

Discovery Place Special Event a Success

On October 13, Paul Ponak (AD4IE) operated W4BFB at Discovery Place as a special event station to celebrate the 20th Anniversary of the founding of Discovery Place. He had help from members of both the Mecklenburg Amateur Radio Society and the Carolina DX Association. Shown below (Top to Bottom) are Bob Southworth (KI4YV), Paul (AD4IE) and Joe Blackwell (AA4NN). The event ran on both Saturday and Sunday. Five hundred QSOs were completed in the two day event, and special event certificates are being sent to those who requested them. A few cards have already arrived from some Short-Wave-Listeners!!

Activity got a little hectic as the amateur radio community began to see "spots" on the station appear on various PacketClusters. Of course, the presence of Andy Hawkins (G4GKK) operating with his proper British accent aroused more than a little interest. A logger helped to keep up with the run rate on the HF-SSB calls. In the photo shown to the right, the new station manager, John White (WB4NHQ), standing nearest the back window, confers with Paul on the operation.

The 20th Anniversary celebration nearly coincides with the 10th anniversary of the opening of the Amateur Radio Education Center at Discovery Place. As reported earlier in the publication, Bob Southworth was a major force in bringing radio education to Discovery Place, and he has acted as the Station Manager until his recent retirement from that responsibility. Bob was honored at the CDXA luncheon on November 7.

So, folks, the need to celebrate the 10th Anniversary of the founding of the Radio Education Center at Discovery Place provides yet another opportunity for a special event!!

The Discovery Place radio room is well known to radio operators and other science centers around the world because of its continuous on-the-air presence. Volunteer operators keep the station in operation 363 days per year from 10:00 AM till 4:00 PM. Some of that time is spent explaining and demonstrating radio communications. New operators—to serve as substitutes and for scheduled turns—are always in demand. Or, just grab your license and come down to operate. If interested in being a volunteer operator, contact Mac Wood, W4PVT at 704-541-7929.

The Back Page

The **Christmas Banquet** will be held at The Branding Iron restaurant on Thursday, December 20. See the President's Letter on Page One for details.

Equipment for sale: Don Daso is assisting in selling a wide assortment of radio equipment of a silent key. Tuners, radios, amplifiers, wattmeters, and the like are available. Email Don for details at k4za@juno.com.

Joe Blackwell has a Patcomm PC16000A DSP transceiver and an Astron SS-30 switching power supply for sale. Call Joe at (803) 831-2547 for details.

Bill Tippett has some remarkable photos of the recent (November 6) auroral display seen in North Carolina on his website. Point your browser at: http://users.vnet.net/btippett/6_nov_aurora.htm

The **Pileup** will not be published in December, 2001 to provide a rest for the Editor!

Henry "Uncle Henry" Elwell (N4UH), **Ed Swidersk** (KU4BP), and **Bill Tippett** (W4ZV) ran up some pretty good scores in the 2001 ARRL International DX Contest (March 3-4, 2001) as reported in the November, 2001 issue of QST. Their scores were all in excess of 850,000 points.

Upcoming Contests:

Date	Contest	Comments
Nov. 17-19	ARRL Phone Sweepstakes	Page 114, October 2001 QST for rules
Nov. 24-25	CQWW DX CW Contest	See CQ Magazine Website or Page 113, October QST
Dec. 7-9	ARRL 160 meter Contest	Page 105, November 2001 QST for rules
Dec. 15-16	ARRL 10 meter Contest	Page 104, November 2001 QST for rules
Jan. 25-27	CQWW CW 160m Contest	Page 105, November 2001 CQ for rules

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First Class Mail

See something wrong with your address label? Notify W4NZC at once, please.