



# Carolina DX Association

February 1997

# The Pileup

Newsletter of the CDXA

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W4WN Cliff Wagoner	Vice-President
K4MQG Gary Dixon	Sec.-Treasurer
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## THE PRESIDENT'S PAGE

I hope everyone who needed & wanted to work the VKØIR expedition made it into the log. It was a great DXpedition, just the sort of effort that keeps everyone enthused about our hobby. Also during this month, many of us had the pleasure of working K4ZA & AA4S in the 160 contest, & AA4ZZ in the ARRL VHF Contest. Look for other CDXA members operating in contests throughout February & March. Don't forget the NC QSO Party on the weekend of Feb. 22-23rd.

In the midst of the VKØ-quest, a number of our members were on a different sort of quest locally...preparing for the Charlotte hamfest. CDXA will have an "active" booth, including a working PacketCluster station, an award/QSL display from various members, a continuously running slide show of various member stations, a raffle, & certainly a great opportunity to visit & chat with other members. There will also be the hospitality room later on Saturday evening at Valentino's Restaurant. Thanks are due to: W4WN, K4ZA, N4ZC, K2SD, K4MD, K4MQG, K4ULH, & W4VHF for their efforts on this quest. Plan to stop by the booth! *(Get your slides to K4ULH as soon as possible, or arrange for us to take the picture! Details on PacketCluster or in last month's Pileup. Don't miss this opportunity to promote CDXA & your station!)*

You'll also find details inside on our first "technical meeting" of the year, coming up later this month. As DXers, we are all interested in propagation, & Roger's presentation should be informative & useful to each of us, especially at this point in the sunspot cycle. (The meeting will be at Corporate Media Services—K4ZA's new workplace. Again, details are inside. Don will screen the WRTC-96 video, as well.) Please let Cliff, W4WN, know your reactions & suggestions for other technical topic meetings. We want to expand club participation & enjoyment, & these technical meetings have been requested by a number of members.

Our weekly Wednesday luncheons continue to draw larger & larger crowds. At lunch on January 22, we had the privilege of accepting a check for \$3000 from the Mecklenburg ARS, a donation to CDXA for the upgrade of our local packet & repeater system by the W4BFB group. John Covington, WN4BBJ, president of the Mecklenburg ARS, & a CDXA member also, presented us with the check. We were honored & graciously accepted the donation. We are proud of our relationship with the W4BFB club, not only from the CDXA perspective, but from the large number of individual CDXA members active in both clubs. Thanks again!

We hope you find a "niche" here in the Carolina DX Association; we are working hard to promote activities to support & sustain growth. Come by the Charlotte Hamfest booth on your walk around the flea market & see what other plans we have in mind....

—AA4R

## EDITORIAL

The return of *The Pileup* has been met with enthusiastic response from a variety of readers. Some folks even tried to send me notes via PacketCluster, although most sent notes via e-mail. In a word, to one-and-all, *thanks* for your kind words. Having said that, this month's editorial will focus on the process of doing this newsletter, along with certain other relevant topics.

1) A lot of folks requested address or other changes. I have forwarded these requests to K4MQG. The official "list" of CDXA members has long been kept up by our Secretary. And Bill, KD4IL, also maintains a copy of this data, for printing the address labels each month. Changes are routinely kept up by our Secretary-Treasurer, K4MQG, who sends the info on to KD4IL. It's somewhat convoluted, but it works.

2) The strangest comment received was one saying the issue had been read "cover-to-cover." I hope **everyone** reads *The Pileup* this way! But the remark did get me thinking about this newsletter in a new way. In other words, are MY interests really YOUR interests? So, an unofficial poll is being conducted: Tell me what sort of things you're interested in seeing in these pages. Consider the monetary & practical resources I have to work with when making your suggestions, but please suggest whatever things you'd like to see. I need to hear from you.

3) Now, here are those resources. I own & am continuing to learn to operate a big, fancy 100 MHz Pentium-based PC. I got it to do antenna modeling, play around on the Internet, run my business through it, & for that perennial sport—running CT on it during contesting. But this newsletter is put together using a "toy" computer, an old Macintosh. Why? Mostly because the graphics & page templates were loaded in that Mac way back in 1994. After typing & design (which sometimes includes work on an old drafting table with an exacto knife, rubber cement, & a layout grid—skills learned 25 years ago in journalism school, for gosh sakes!) *The Pileup* is printed on my laser printer, then taken to Office Depot or Office Max for printing. As many of you know, we try to have a "fold, staple, & stamp" party at Shoney's—saving time, money, & so forth, around the 10th if possible. The completed newsletter is then usually mailed that same day.

4) Here are some of my interests, things I like to ponder & topics I want to read about myself. Things which guide me as I read with my editorial hat on: antennas, contesting, DXing, ham radio related anecdotes, the history of the first three topics as well as our hobby itself, how computers relate to our hobby, & anything which piques my curiosity. I do maintain a "file" of ideas, articles, & so forth. For instance, the 3M article has been in this file for a year. Why'd I clip it—since I wasn't editing a newsletter or anything else? Mostly because that's how I do things. I've been working on an article about electrical tape for quite a while.

5) As editor, I try to create interesting, well-written articles, that look good on the page. Design & layout are important to me. I hope *The Pileup* does not look like the typical "ham club newsletter." (I'm especially interested in hearing from you if you think you've found a better-looking newsletter!) I will correct words which are spelled wrong, bad or awkward grammar, & edit for conciseness when needed. There was one complaint about this in 1994; an offer to let the complaining party edit the newsletter met with no reply. Hopefully, this process will work for the vast majority. That's the part of the editorial process I enjoy the most—putting each issue together.

6) The previous five points are pretty personally oriented. They indicate a certain bias, my opinions, & the process whereby a successful newsletter is created. Any editor is only as good as the material he or she has to work with...which has to come from you! As I said in 1994, it's not my newsletter. It's yours!

—K4ZA

# PacketCluster News

## A Few Words About Disconnects

Some users stay connected for days on end, while others cannot stay connected. What's what? Why? How come? There is, quite simply, no easy solution or single answer. There are so many variables in the equation, it's a wonder our system works as well as it does. A single tiny problem, or combination of them, can cause trouble at different times. Every retry can slow the circuit for all; every retry represents a transmission unusable for traffic to-and-from other users during that time, on that frequency. Let's go over some of those variables (with apologies to those for whom this is "old news" or common sense).

Depending on how long you've been playing with packet, you may have experienced some of these situations. If your setup has worked fine for months, but suddenly develops problems, what should you do? If all of my users experience trouble, I look for problems on my end. If only one person has trouble, I suggest that person look at his or her setup. And it can be hard to trouble-shoot. You can't simply "listen to the signal," as we've grown accustomed to on the hf bands.

The typical radio used for PacketCluster was originally designed for voice FM use—using 5 KHz deviation. PacketCluster likes 2.5 to 3, and no greater than 3.5, KHz of deviation. This deviation should be symmetrical with the correct frequency tones (1200 and 200 Hz), with no distortion. The deviation should be set with the TNC control adjustment, NOT the transceiver's deviation control. CDXA has a deviation meter we can loan you to guarantee your deviation is set correctly. Or, you may use one of the SouthEastern Digital Association Network (SEDAN) stations on 145.770 MHz to check your setting. Simply connect to one of the stations in Charlotte, Rock Hill Salisbury, Cedar Falls, Mt Airy, Linville, or Poors Knob, then send the command MH. The station will send back your approximate deviation.

Distortion is also not tolerated in PacketCluster operation. Unlike our ear/brain combination (which can filter amazingly well!), your TNC won't decode a packet of information if it misses one little bit of data. One missing bit will require a retry. Again, the circuit is slowed down. A critical listening test using regular FM voice, (from someone you trust) is a start toward clean, distortion-free audio. Remember that circuit values (and operation) can change over time. What once sounded great may no longer sound the same. And remember too that multi-path propagation can cause distortion. (A direct path signal and one bounced from the side of a mountain and received out of phase can create distortion within your TNC.)

Another problem area is the receive level from the transceiver to the TNC. Does your audio gain have to be cranked up to decode packets? If so, experiment with different volume control settings. Generally, most rigs use settings from 9 to 12 o'clock. Again, such settings can change.

Another problem area is intermod. If you've ever heard intermod at your QTH while operating FM, there's a good chance that intermod could be causing you trouble in PacketCluster operation. Again, intermod may develop over time—especially in today's expanding rf environment.

If you're still don't believe that "stuff happens" like the bumper sticker says, let me convince you with some local anecdotes. N4AYO once called to say while he could connect okay to bulletin boards, he couldn't connect to my node. I had 15 happy users at the time. After trying everything we could think of together to find a solution, Mike casually mentioned he did have another TNC, and wondered if he should try that. A few minutes of plugging in cables, and *voila*, no more connection problem for 'AYO. And recently, AA4R bought a new radio to use on our new 441 MHz frequency. Using the TNC he had successfully used for many months with his 2M radio, Bill couldn't connect. Everything sounded "okay" to the ear, but my node was unable to decode a single packet he sent. Remembering the earlier situation, I asked Bill if he had a second TNC. Luckily, he did, and again, in a few minutes, AA4R was up and running on the system. It just goes to show ya....

## PacketCluster News, *continued*

Once you're sure there are no equipment problems, we can look at the TNC parameters. Again, no one solution works for everyone. You must use the correct parameters for the number of users on frequency. Follow the guidelines your SYSOP gives you. Different frequencies have differing numbers of users, and hence, different guidelines. Generally, the more users on a particular frequency, and the more who cannot hear each other, the slower your TNC parameters must be.

Do not connect to distant nodes. Even if you can, it will cause collisions because users on that distant node will not be able to hear you. It's not just a question of how well you can get into a node, but how do you affect others using that node—who do not hear your signal.

When we work in a "roundtable" QSO, we are smart enough to know not to transmit when a station we cannot hear is transmitting. We wait. Your TNC will not wait. The more stations there are on frequency who cannot hear one another, the more collisions there will be as each tries to communicate to their node. As we've said many times, do not attempt to use an HT for PacketCluster. Do everyone a favor, and get a 25-50 watt radio. Get your antenna up in the air. And don't use a beam antenna unless you are out on the extreme fringe of the coverage area. If other users cannot read your signal off the side or back of that beam, you are creating problems for the system. Tell your SYSOP you need help getting your antenna higher up your tower if necessary. We will find a way to get it higher—so more users can hear you.

If you have questions, or problems, don't be afraid to ask your SYSOP for help. We hope to see you soon on our PacketCluster!

—N4ZC

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## Heard Island DXpedition

Forty three years ago, one of the first "modern" DXpeditions was written up—the FO8AJ operation from Clipperton. (See the July 1954 cover story in *QST*. I urge you to look it up and compare it with today's efforts. We've certainly come a long, long way.) The recent operation from Heard Island represents a new pinnacle in modern DXpeditions. VKØIR generated a tremendous amount of enthusiasm on the bands, what seemed like reams of e-mail traffic on various reflectors & bulletin boards, & pileups hard to believe at the bottom of the sunspot cycle. Here are the total numbers on the activity—in case you've been on an island of your own these past few months....

### VKØIR Log Summary

Mode	SAT	10M	12M	15M	17M	20M	30M	40M	80M	160M	Total
CW	144	110	574	5362	5149	11977	7111	11079	2789	1241	45536
SSB	490	118	174	4456	4542	16318	0	4479	2504	0	33081
RTTY	0	0	0	0	0	2056	0	0	0	0	2056
Total	634	228	748	9818	9691	30351	7111	15558	5293	1241	80673

By any accounting, these are impressive numbers. And while numbers (like sports scores) are not the whole picture of any sporting event, they are, in the end, what's left in the record books. So before the numbers are all that's left from this recent expedition, a few words from KK6EK...

## Heard Island, January 26, 1997, 2000 Zulu

My address at this moment is #1 Heard Island. Around me are three men, each silently exchanging a series of electromagnetic pulses with another human more than 5000 miles away. To all outward appearances, nothing is happening. The elephant seals and penguins in the nearby mossy hummocks are unaffected. The albatrosses and skuas continue their bobbing and casual foraging. In the distance, a volcano vents steam, and the wind pounds in violent gusts. Heard Island continues as it always has, unaware that at this moment, on this spot, a world record is being set. As I write these words, we are logging our 80,000 radio contact—more than any other amateur radio operation has ever logged.

In the near future, when the dry statistics of this VKØIR operation come out, they will show that essentially every amateur radio DXpedition record has been broken. This is all the more satisfying, if not surprising, because it was done at the bottom of the sunspot cycle, during a time when two of the nine amateur bands were almost completely unusable. What these statistics will not show is what it has been like being here—doing this, at #1 Heard Island. Before they are lost in some sea of statistics and the dim recesses of imperfect memory, I will try to capture some of my experiences & impressions for you.

Heard Island has all the feeling of an outpost on another planet. Even after living here two weeks, I am awestruck by the feeling of remoteness. There is little here that is familiar to today's temperate suburban backyard living. We constantly hear the deep throaty roar of huge animals hidden in the hummocks nearby. Sometimes we practically trip over them while walking at night. The elephant seals stare at us with huge, flat dark eyes that track us up and down as we step over them. The brown skuas fall from the sky like torpedo bombers, veering away at the last moment, just inches above our heads. Grass grows on the tops of mounds of moist, red earth about two feet high. And everywhere there are gigantic pillows of green moss that is spongy to our step. Bones of birds and mammals litter the ground, glowing bright white against the black volcanic sand and rock.

In the distance to the North, we see the tip of a volcanic spire, an erosional remnant that is now home to thousands of macaroni penguins. In front of the tip, there are numerous rock arches that are the roofs of lava tubes, half filled with sediment and harboring a wet, mossy cavelike ecosystem. To the West is the high glaciated peak on the Laurens Peninsula, and perhaps a dozen ribbon waterfalls that blow into so much mist after falling perhaps a thousand feet. To the South, we see a vast flat plain, a sandpile a mile between two great crescent beaches. The plain is so low that when the wind blows, it floods the plain, water pouring from one bay to the other. Several colonies of penguins, each containing several hundred birds, move almost imperceptibly around this plain. Above this flat expanse towers a volcano, Big Ben, its hot crest 9000 feet high. Steam issues from a blackened vent on its west side, creating a small cloud which pales in significance to the huge, stratus layers that almost constantly envelope the summit. To the East, on a clear day, you can see the gigantic ice falls, some thousands of feet high, and the business end of the glaciers as they fall into the sea.

The village erected at #1 Heard Island provides quite adequate comfort and security. It consists of four 12x20 aluminum frame shelters, with reinforced insulated plastic skins. The galley shelter has a 3-stove, 2-sink kitchen, and a dining room which seats 12. The Comm shelter contains the PACSAT and INMARSAT, as well as an operating tent with three positions and space for computers. The two dormitories each sleep 10 men, each with his own bunk and locker. The four shelters are connected by a wooden walkway, so it is possible to move between them in your stocking feet without getting wet or dirty. At the end of the walkway is a genuine outhouse, deluxe model, complete with urinal, sink, mirror, and paper towel dispenser. Perhaps a quarter mile distant from the village are the other operating shelters, with the appropriate addresses of #2 and #3 Heard Island. Connected to these three sites are 24 antennas, 12 of which are grouped into four square vertical arrays for 40, 80 and 160 meters.

## Heard Island, *continued*

Except for our bizarre surroundings, life at #1 Heard Island is somewhat routine. Every day, we post the operating assignments for the five stations, and take our shifts. We have little to do but operate the rigs and capture the experience of being here. The team has an extraordinary amount of technical expertise: logistics, satcoms, RTTY, CW, computers, antennas, electrical power, and natural science. Some are good at fixing things, some are good at cooking, some are good at computers. We have a small tractor and wagon to drive heavy loads around. We run our seven Honda generators continuously, providing over 30 kW of power. When off-duty, we sit in the dining area and swap stories, mostly about the band openings. Every day, we tally our progress.

Besides the radio operations, there are other routines. Occasionally we send or receive a FAX. Sometimes the phone rings...and we answer "Heard Island...good evening..." There's usually a pause, then someone is informed there's a phone call for him. Right now, one person is speaking with his wife in Minnesota. The logs are uploaded everyday over PACSAT, and posted on the Internet. An electronic camera captures still photos that are uploaded and posted on the WWW. Every day, we receive many pages of detailed comments from the "pilot" stations, including criticism of the operation of the previous night.

...for me, the most astonishing accomplishment of the VKØIR team will not appear in these statistics....the 20 individuals, representing nine different national cultures, have worked together harmoniously, without the slightest hint of animosity or territoriality which usually characterizes such projects. In my 20 years of leading expeditions to remote and difficult places, this is by far the finest team I have ever had the pleasure to work with. I'm sure you'll hear this theme again and again as the other individuals tell their own stories. The VKØIR team must have set some sort of record for genuine respect and mutual pleasure by participating in this project.....we have about 36 hours to get ready for the helicopters that will lift us and 30 tons of gear back to the ship....I'm sure I will never see this place again, and that Heard Island will be unaffected by our visit...but trust me, for us it has been an E-ticket ride into a fantasy world....

—KK6EK  
*via PacketCluster*

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# DAYTON

It's that time of year of year again—time to start thinking about hamfest season. For many, that means one thing, or one hamfest only. We're talking the annual "rite of spring" which is the Dayton Hamvention. Dayton's goal is to "provide the very best in equipment displays, an outstanding Flea Market, stimulating forums and social events...." So reads the program, & so goes the Hamvention. It does all that, & more. I went for the first time in 1964, as a very young WA8MAZ. I enjoyed that trip, as well as every other time I've gone.

This year, both N4ZC & K4ZA are planning to attend again (May 16, 17 & 18th). We usually take turns driving, talking non-stop hamming & planning lots of things like antennas & various contest activities. Anyone want to join us? Rooms will be gone within the next few weeks (maybe days, maybe it's too late already?), so let us know!

Dayton really must be experienced once in your hamming career.

## CDXA NEWS

One of the things many members have talked about over the years is acquiring a club call—a CDXA call, if you will. K4MQG sent in the necessary paperwork, and we now are KF4OGN. Under the new vanity system, we will be applying for a “more appropriate” W4-callsign. Obvious uses include the 7.18 repeater, club contesting, and so forth.

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*In November of 1996, I contacted the Officers of the Mecklenburg Amateur Radio Society, and asked them to consider the possibility of a donation to the CDXA for several things our club had done over the past ten years. This included: operation of the W4-QSL Incoming Bureau, CDXA participation at the annual Charlotte Hamfest, and so forth. Shortly after my letter was received, I was contacted by Bob Thomas, AC4ZG, who asked me to come to their Board meeting on November 5<sup>th</sup> for further discussion. The Board also asked me to comment on what CDXA planned to do with a donation, and how much it would take to accomplish our goals.*

*After presenting an overview to the W4BFB Board that we wanted to expand our DX PacketCluster network, which would cost us \$3000.00, they approved a donation for that amount. Since this amount had not been budgeted, it had to go before the membership for a vote.*

*I was asked to make a presentation to the full club at their December meeting. After my presentation, the club voted an overwhelming YES approval for the donation. On January 22<sup>nd</sup>, during our Wednesday luncheon, WN4BBJ presented a check to the CDXA. Thanks again to the Mecklenburg ARS for this most generous gift!*

**-K4MQG**

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## UPCOMING IN THE PILEUP

*A multi-part treatise on fasteners (How, when, where, & why to properly fasten things like antennas & towers together)*

*Antenna articles (Including thoughts on using software before building rotary beam antennas—with input from the W3LPL station)*

*The Charlotte Hamfest special edition*

*PacketCluster News*

*A complete roster of CDXA*

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## CDXA MEETINGS

CDXA's first technical meeting of the year will be on February 26th, a Wednesday evening, at 8:00 PM. The meeting will be held at K4ZA's workplace—Corporate Media Services at 632 West Summit Avenue in Charlotte. (This is the Summit Avenue right behind Charlotte Pipe & Foundary, two blocks over from the new stadium. There are two parking lots. When the paved lot on the right fills up, a gravel lot is available on the left side of the building.) \* Roger, N4ZC, will speak on propagation, including: how signals get from here-to-there; status of the solar cycle; and what to expect in the future. Rog always gives good information. We're all looking forward to a large turnout. (You might want to bring along a folding chair. CMS doesn't have many!)

CDXA is looking for your meeting ideas! We want to make our meetings & get-togethers as meaningful as possible for as many members as possible. Send your input & ideas to: Cliff Wagoner, W4WN, via PacketCluster, e-mail using pmqd44a@prodigy.com or phone 598-5373 or via the US Mail. \* We're also getting ready for the Charlotte Hamfest reception. Once again, we'll meet at Valentino's from 7-9 PM, on March 8th. Valentino's is just past Owens Auditorium at 3014 East Independence; access is limited to eastbound traffic. We have the large, double room again; there will be plenty of room, good food, & conversation. \* Our Wednesday luncheons continue to grow. Attendance peaked at 22 members & guests recently! Join us at the Shoney's on Woodlawn & South Blvd. each Wednesday at noon.