January 1998 Pileup

Presidential Ponderings

Greetings to all CDXA members!

I've admired the very talented and capable leadership we've enjoyed this past year from AA4R, Bill Parris. And, Bill's equally talented and motivated leadership partners, K4MQG, Gary Dixon and W4WN, Cliff Wagoner, (Secretary-Treasurer & Vice-President, respectively) are still here to help me try to fill the big shoes left behind by Bill's retirement as our president. Thanks, Bill, for a great job!

I am honored by your vote of approval, and humbly accept the challenge of helping our club maintain a path of growth in quality and fun in our shared hobby.

For those who missed our annual Christmas party and election, you missed a great evening of food and fellowship at the Branding Iron. Yes, Rick, AA4SC, is back at the BI, and I must say the food is as great now as I remember it from days gone by. Welcome back, Rick!

Here are some reasons we all have to be proud of our club.

We have a fine newsletter--thanks in large measure to K4ZA, Don Daso, who loyally labors over The PILEUP throughout the year. (Lately, he's been laboring on our webpage, too.)

We have a second-to-none PacketCluster system.

The contest efforts by our members continue to bring in awards.

We are blessed to count among our active membership many leaders in the DX community as well as ARRL national positions.

And, in case you've forgotten, we have a ball chasing that elusive rare one. In fact, XW30A is on right now…maybe he'll be in your logbook by the time you read this.

As a reminder, the first of the year means it's time to renew your CDXA membership. Dues to CDXA are still only $15 per year for those not on the Cluster, and $30 per year for PacketCluster users. Please send your checks to K4MQG, Gary Dixon, 1606 Crescent Ridge, Fort Mill, SC 29715. A pre-

addressed envelope is included in this issue for your convenience.

Again, I thank all of you who give so much of your time and energy to this club! See you in the pileups!

Joe, K4MD

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Editorial

It's 1998-do you know what your ham radio future is? Did you make any resolutions? Did you get that new FT-1000MP rig for Christmas? Have you figured out what to do with a computer in the shack yet? Have you written Wayne Green yet?

Funny, isn't it, how moments of change (holidaze, birthdays, social events, even little things-like a headline) can start the thinking ball rolling, to mix some metaphors & examine the propensity we all have for reflection during the New Year. Lately, I've been thinking about the past. I've spent some few evenings reading over Don Chesser's (W4KVX) little magazine, DX, which he edited in the late 50s & early 60s-a real labor of love in the days before 2M spotting nets & Packet & most everything else we take for granted today. That was then, this is now, doesn't begin to do justice to the changes we've experienced within our hobby, from gear to band plans to operating skills & an overall appreciation of what it means to sit alone-at your rig--& talk with someone else on the other side of the globe. As I say, we take an awful lot for granted.

Part of the change prompting my reverie includes the 160-foot Rohn 25G tower next to the K4ZA home. Gosh, it's a pretty sight! With N4ZC pulling up sections, I've managed to get a bit closer to the dream of one day having a real radio station. A top plate, big mast & a top set of Phillystran guys remain to be finished. Then, we move to the more serious work of restoring & installing a TH-6/402-CD combination. And, plans are underway to install the N4ZC PacketCluster node at this new higher elevation, as well. Then, a second tower, a self-supporting 70-footer, will go up, holding a quad for SA/CA. If all goes well.

Already, people are telling me I shouldn't do it-that I've gone too high, that I'm foolish to be considering installing antennas made in the 70s, that I need monobanders, that as a contester, I should know better, & so on. I considered a trap dipole in a tree at 35 feet, but I knew that would only infuriate such sceptics. After all, we're talking "taking stuff for granted" here. I've always wanted such a tower, so much so I'm taking it for granted DX stations will be able to hear me. Even at this height, even using a TS-830S (a radio made in 1984) to call them, even at this point in the sunspot cycle. (For those die-hard critics, I do intend to install 200-feet of 55G with stacked monoband antennas, later, as finances permit.)

I take it for granted I'll be building this station for quite some time. Mostly by myself, & again, as finances permit. I've been collecting & storing stuff for years, more-or-less waiting for this opportunity. There was a certain smug satisfaction in spooling out 2200 feet of ¼-inch EHS guy wire. (I took it for granted I'd be using it all one day, as I sweated carrying 300 foot short-end spools out of the CATV yard two years ago.) There was a definite satisfaction in using insulators from W3GRF's

old 40-M tower. (I think Len took it for granted I'd use them; tnx OM!) There was pleasure in Roger's urging me to go higher all the time. (I think he took it for granted I'd someday have a taller tower.) There was a certain feeling of "having arrived" at ham radio's upper echelon each day as I climbed down. (Thanks are due to people like Paul Rockwell, W3AFM, Frank Donovan, W3LPL, & several other PVRC members, who took it for granted I'd try to accomplish something worthwhile with all the knowledge & information they so willingly shared over the years.)

I always took it for granted I'd be thinking of them, & thanking them at the same time. I do that every single day as I turn down my road & look up at this tower.

K4ZA

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Packet Cluster News

The biggest news regarding our Cluster is the impending move of N4ZC's node to the K4ZA location. The callsign will change to W4DXA, to better reflect the Carolina DX Association, & should benefit somewhat from Don's tower & technical attention. This does not mean N4ZC will no longer be involved with the Cluster; rather, that Rog will be more involved with the software side of things, while Don will hook up wires & keep the gear working.

K1XN, who manages the GOLIST, has a new policy for those who use SH/QSL to get QSL Manager info via packet. The GOLIST has, in fact, always been a business-not a free service. (I doubt many CDXA members would run a business in which they gave away 90% of their product.) John has recently rewritten his software. Now, once SYSOPs download the January issue, only those users who subscribe to "GOLITE" will be able to use SH/QSL to get MGR info. Once John gets your $10, he will add your call to the next month's download, but you won't be able to use it until that next month's download. It's simple: If you don't pay the $10 a year fee, you won't get any info. None of this money goes to the SYSOP. It all goes to keeping the GOLIST MGR data base going. If you wish to continue getting the SH/QSL MGR data base, you must send your $10 for "GOLITE" to:

John Shelton K1XZ
PO Box 3071
Paris, TN 38242

Make sure to include your home node, so he can list you correctly at that node. And, since N4ZC is having such a problem with his telephone service, we are changing the node that does the download from N4ZC to K4MD. It sometimes takes half an hour or more for Rog to get connected-creating long distance charges with no transfer of data.

DXBMR has been down for almost two months now. Randy, KB4YFV is the only person with a key who can work on problems at the Beamer Knob site. He is VERY busy, & it can take weeks for him to find time to work on a problem. Randy and Dave, NA4L walked through a foot of snow to get to the top of the Beamer site to change the TNC. Swapping TNCs still didn't solve the problem. We've now sent a new KPC-9612 & TM-261 to replace the old MFJ-1270B & TM-241. When Randy installs them, we hope this will solve the DXBMR problem.

DXYNG went down the same day as DXBMR. Stephen, K0SD is the only person with a key who can work on problems at that site. He's been there a number of times. And each time, it seems to work briefly, then the same problem returns. It's weird. For instance: we've changed TNCs. The DXGBO TNC that works okay at DXGBO will work for a short time at DXYNG, then have the same problem. This same TNC, when taken back to the DXGBO site, will then work okay. Whatever the problem, it's unique to the DXYNG site.

DXUYNG/DXYNG is currently on a dialpage 75-foot tower at the crest of the hill. This puts our antenna at about the same height, & only about 75 feet away from the 146.73 MHz repeater. This repeater has caused us a great deal of trouble during the past few months. Whenever it's keyed up for over 10-15 minutes, it causes all DXYNG users to disconnect. We don't cause any problem to the repeater. We've tried to work with the .73 folks, but their response is, "Don't talk to us, it's your problem." It doesn't look like our current "busy" problem at DXYNG is caused by this repeater, but it's hard to say for sure. DXUYNG & DXYNG use the same dualband antenna & power supply; there's no problem with DXUYNG. Some DXUYNG users have stayed connected for weeks at a time. If you've used DXYNG, & have 441 MHz gear, try DXUYNG. The current DXUYNG transceiver is a 10 watt Kenwood on loan from AA4R. As soon as we get a club Mitrek converted, it will be placed in service at DXUYNG.

We're working on getting a new site on Young Mountain-about 500 feet from the present site, which should solve the 146.73 interference. It will also allow us to go higher. The tower at this site is 600 feet high. We plan to go 350 feet up that tower, putting us about 250 feet higher than the present antenna.

Another club packet upgrade is replacing all node and digi TNCs with KPC-9612s. Currently, we have three kinds of TNCs in use at various sites. CDXA has ordered enough KPC-9612s to replace all node and digi TNCs. This will give us new, state-of- the-art TNCs for each location. We have bought spare KPC-9612s to make sure any TNC problem can be solved by a plug-&-play replacement , since all sites will have the same TNCs, with the same plugs & cables.

And, a new problem surfaced recently at N4ZC. The best PacketCluster minds in the country say it can't happen, but it does. It occurs only on 144.93 MHz. A user may stay connected for hours or days at a time. Then suddenly, that user gets disconnected, & cannot reconnect. This happens to one or more users on 144.93, while other users have no trouble. Hours, or days later, those with no problem experience this same difficulty. We know it's callsign sensitive. And this is what packet gurus say is impossible. When it happens, the user can put another call in his TNC & connect. Changing back to his callsign makes connection impossible again. Putting another call in the TNC makes everything work. Go back to the original call in the TNC, & it doesn't. NOTHING in the PacketCluster node software should be callsign sensitive. We hope replacing the node's old DRSI TNC with a new KPC-9612 will solve this problem.

--N4ZC & K4ZA

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DXCC Fees for January 1998

The ARRL DXCC Desk has announced new fees for DXCC, including a $10 fee for an initial DXCC application. This has been free for League members. It will also cost more for walk-in card checking at conventions or at League Headquarters.

All applicable fees are charged on each application. Applicant must supply return postage or an SASE for any cards or information requests. The new fees go into effect January 1, 1998.

Current Fee	**Item**	**New Fee**
Free	initial application each year, member	$10
$10	additional application, member	$20
$10	initial application, foreign nonmember	$20
$20	additional application, foreign nonmember	$30
$2	convention/HQ walk-in card check	$5
10 cents	per additional QSO*****	15 cents
$10	certificate fee (includes pin)	no change
$25+shipping	Honor Roll & 5-Band DXCC plaques	$30+shipping******
$40+shipping	#1 Honor Roll plaque	$50+shipping******

*****First application prices are for 120 QSOs maximum, and additional application prices are for 100 QSOs maximum. QSOs beyond those limits are charged at this price.

******includes pin

New fees also go into effect the first of the year for VUCC certificates and for WAS, Rag Chewers Club, Old Timers Club, Friendship, and WAC awards. An initial, replacement, or additional VUCC certificate will cost $10. Pins are $5. An initial WAS certificate will cost $5 plus return postage for your QSLs. WAS endorsements will be $3 plus return postage. The 5BWAS certificate will be $10 (includes pin) plus return postage, while the plaque will cost $30 plus shipping. The RCC and OTC awards will be $3 each while the Friendship Award will cost $5 (no charge for these awards from ARRL-affiliated clubs). The WAC and 5BWAC awards will be $3 for US applicants plus return postage for QSLs.

WASHINGTON POST: HAM RADIO REFUSES TO DIE

A recent Washington Post article lumped ham radio with mah-jongg, model rocketry, and something called squished penny (technically "elongated" coins) as "The Hobbies That Refused to Die." The feature, in the paper's Sunday edition, appeared November 14. The gist of the report was that there's still room for ham radio and other "diehard" avocations in the age of "extreme sports and the Internet."

The section on ham radio focuses on the reporter's visit to Hamfest '97 in Gaithersburg, Maryland, sponsored by the Foundation for Amateur Radio, and mentions the article on ham radio that appeared earlier this year in Forbes magazine. The reporter, Dave Nuttycombe, touches on such ham activities as traffic handling, using H-Ts, and restoring older tube-type equipment. He also quotes several hams, including Jim Parsons, WA4LTO, and Geoff Adams, N3QFX, and there's a picture of Parsons at a

ham station. Parsons told the reporter that part of ham radio's appeal to him is the challenge that's lacking on the Internet.

Some hams would balk at the article's overall premise that ham radio (he calls it simply "ham") is among the hobbies that have fallen out of fashion and are "now carried on by a valiant few." But Parsons--a graduate of Virginia Tech and an alumnus of its K4KDJ club station--said this week that the article sparked a bit of interest in the DC area. "Reaction has been great. We've gotten a few calls," he said.

The article mentions The Vienna Wireless Society, the Mount Vernon Amateur Radio Club and the Columbia Amateur Radio Association as contact points and gives a plug to Auto Call, the official journal of the Foundation for Amateur Radio. The circulation of the Washington Post Sunday edition is more than 1.1 million.

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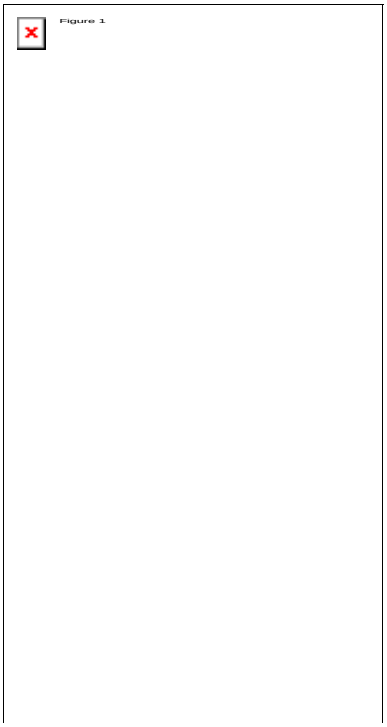
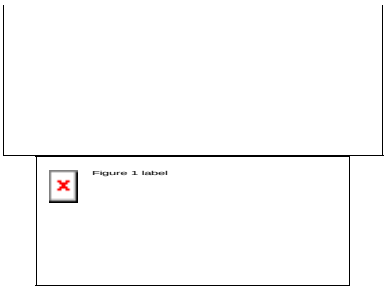
Some More Words About Fasteners

Most of us have taken electronic equipment apart, whether it was our own rig or a piece of old military surplus gear. At some point, we've all dealt with the screws, nuts & bolts & fasteners which hold such things together. Mostly, we've dealt with machine screws, in such instances. The holes or nuts which fit such screws have threads, with an opening just large enough to pass the body of the diameter of the screw at thread bottom. In some cases, the part or chassis must be shaped to receive & seat the head of the screw.

Such screws are usually made of steel, brass, stainless, bronze or plastic. Such screws (made under American Standards Association requirements) are classified as to: head type, body diameter, threads per inch, length, material & finish. (Figure 1 shows the various head styles) The flat head screw's seat angle (80-82 degrees) often gives many of us fits-trying to use a twist drill to make a good fit, which never seems to work, exactly. And for good reason: an ordinary twist drill's cutting angle is about 59 degrees; a special countersink bit must be used when working with flat head screws. Body diameters for machine screws are classified in numbered sizes ranging from 0-12, then in fractional sizes for ¼ to 6 inches. The 0-12 sizes are listed in decimal parts of an inch-a number 2 is .086 inch, a number 6 is .138 inch, a number 10 is .190 inch, for instance. The number of threads varies from 80 to 24 per inch on 0-12 sizes. The length of a screw is always measured from under the head to the end of the screw. Nuts are another story. Basically,



you need to know about two of the most-common types: finished & heavy. Finished nuts are designed for average use. Heavy nuts are thicker & wider. This explains why one of those ¼-20 nuts you're working with on the tower or beam takes a 7/16-inch socket, & why another takes a ½-inch socket-one is finished; one is heavy. (Finished refers to the quality of manufacture & tolerance, & not the quality of the surface, by the way.)



All this talk of screws & nuts would not be complete without mentioning something about the holes they go into-or the threads that receive them, to be specific. To get started, we need a drill (I'm referring to drill bits). Drill sizes are commonly denoted in three ways: smaller drills come in numbered sizes from 1 to 60, with the largest being number l, which is .228 inch in diameter, & the smallest, number 60, is .040 inch. (*That's a lot of drills, Don! Do we really need such a set?* And the answer is no, probably not. I'd buy several of the most-common sizes, instead. Figure 2 lists such sizes) You may have seen drills listed with letter sizes, which are commonly called jobber sizes, running from A to Z, from .234 inch to .413 inch. A third system overlaps the numbered & lettered sizes. It's called fractional sizes. (It's the system you'll see at hardware stores, if you try to go out & buy drill bits.) Sizes range from 1/16 to ½ inch.)

Number Drill	Diameter	Will Clear Screw	Drill for for tapping screw hole
10	193.5 mils	10-32	-
18	169.5	8-32	-
21	159	-	10-32
28	140	6-32	-
29	136	-	8-32
35	110	-	6-32
42	93.5	-	4-40

Figure 2

The bane of drills (like electronics) is heat. Avoid pressure when drilling. Let the bit do the drilling; don't try pushing your way through. Burning the cutting edges of the drill ruins the bit, or may cause it to break or bend. Obviously, for best results, any drill should be sharp. Remember that drilling angle of 59 degrees? Add a lip angle clearance of 12-15 degrees, an angle between dead center & the cutting edge of 120-135 degrees, & you quickly get the idea that sharpening a drill bit can be difficult. With practice & the proper tool (several are now available to hold the bit with the proper orientation & angle), you can learn to sharpen bits yourself….just in time to learn something about cutting threads. To cuts threads in material, you use a tap. To put threads on material, you use a die. Internal versus external threads is the way you remember the distinction. Taps can be purchased three ways-taper, plug, & bottoming taps. Taper taps are used to start threads; the tip is ground away for a gradual start. If the material's thick, a plug tap should be used once you've started threading it with a taper tap. Bottoming taps, as their name implies, are used to finish threads at the bottom of a hole which doesn't go all the way through material. Taps are usually held in a tap wrench (various types hold various

sizes), but the most important thing to remember is that lubrication is vital to the tap's life. (You may purchase commercial lubricants, but kerosene works well on aluminum as a lubricant. ALWAYS use care & common sense with any machine shop work, but especially when drilling & tapping.) Holes drilled in the material to receive a tap must leave enough material in which to cut the threads. (Figure 3 lists some common sizes) Move the tap back-and-forth. The backward motion clears the cut metal from the tap. Go slow & don't force the tap.

There are, as you might expect, a variety of other fasteners, applications, procedures & methods used in holding things together. Indeed, it's an industry, as any "fingers walking trip" will tell you. These articles have tried to acquaint you with the basics.

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A Book Review

By now, you've all probably seen a review, or mention, of the latest ARRL publication-*DXing on the Edge, the Thrill of 160 Meters*, written by Jeff Briggs, K1ZM.

As such, my review will be brief. Buy this book. Read it. Then read it again, studying chapters 11, 12, and 13 in particular. Then, go back and read the history. Then, start listening to the band.

The book is not only one of the most interesting titles ARRL has ever published, it is indeed the most lavish in its use of photographs. The historical chapters-chapter 1-9 detail 160-meter chronology-are a wealth of Who's Who on topband photos. Especially noteworthy is the complete story of "Mr. 160," Stew Perry, W1BB, whose efforts and operating lead to the description once given to 160-meters as "the gentlemen's band," in deference to Stew himself. Chapters 11-13 describe transmitting and receiving antennas, as well as operating techniques. And, to top it off, the book includes an audio CD, called "Memorable Moments on 160 Meters." Its 16 tracks contain not only interesting historical QSOs, K1ZM's narrative makes fascinating listening, as well.

If you're at all interested in topband-our lowest frequency amateur band-you'll relish the stories and information contained in K1ZM's book.

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Member Profile

Gary Branch, N5BI

In order to introduce newer CDXA members, this month's profile of N5BI (by the way, Gary deserves our thanks for his quick & courteous help aligning gear used in the PacketCluster system), who says:

I grew up in Arkansas, and was Elmered by K5KZT, my band director, with my first license as WN5BIV in 1962. Shortly before my year as a novice was up, I discovered girls. Ham radio was no longer quite so interesting. I dabbled in electronics, fixing TVs, radios and the like for the next few

years, and took some home study electronic courses. I attended the University of Arkansas and Arkansas State College, majoring in electrical engineering. I joined the Navy and attended Nuclear Power School, Sub School, and various field related schools. Served aboard several surface ships and submarines. When I was discharged from the Navy, I decided to become a professional entertainer. For the next nine years, I toured the US and Canada with a Las Vegas Show Group. After the touring was over, I opened a recording studio and performed with the Portland Symphony Orchestra and the Westbrook Symphony on a part-time basis. I recorded and performed with such groups as: Sly and the Family Stone, Andy Gibb, The BeeGees, Blood Sweat & Tears, The Doobie Brothers, and so on.

Then, for the next 20 years, I worked in the manufacturing industry in maintenance management positions. I changed careers a couple years ago after being bitten by the ham radio bug once more. I'd decided to get a license again because I had just become a Grandfather and thought it might be productive and interesting to expose my grandchildren to ham radio. Ham radio also influenced me to change careers back to the RF field. I now work as a system manager for Arch Southeast Communications. I get to climb towers and visit and repair remote transmitter sites. I dearly love my new career!

I had joined several radio clubs in the past, but none offered much more than 2-meter repeater communications as a common interest. I clearly was looking for a different kind of club. The CDXA is definitely an answer to my prayers. I joined the group to learn more about becoming a better operator, and to become more knowledgeable about DXing. CDXA members are everything , if not more, than I expected. The group welcomed me and immediately made me feel at home. The vast experience and knowledge available is sometimes overwhelming, but I have never once felt uncomfortable. I like to operate CW and RTTY, and am just starting to get my feet wet in CW contests. The CW ops especially have been a big help and motivation. I enjoy the Wednesday luncheons. And, I hope to get more involved with CDXA in the future.

Gary says he enjoys QRP and CW mobile operation. He spends long periods on the road and these two styles fit his travel mode quite well. Apparently, Gary enjoy some free time-being a Chief Examiner for commercial radio licenses, an inventor and holder of two US Patents.

I couldn't resist including this tag line-the signature Gary uses on the Internet:

MELT SOLDER!! 72/73 DE N5BI , GARY ex WN5BIV--KD4MRC--KR4FC
VISIT WEB SITE AT WWW.CLTONLINE.COM/RIGGER
NWD 450S/AT--AL-811 --OHR40--38 SPECIAL--TENTEC CENTURY 21--
R7 VERTICAL. TH3MK4 TRIBANDER, HOMEBREW 3 ELE. 30 MTR YAGI AT 110 FT.

Clearly, all those years touring paid off-Gary's obviously an entertaining engineer. Rest assured, we look forward to his continued enjoyment of all that CDXA has to offer.

Click here to go to a photo of the N5BI station.

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On a recent trip to the DC area, W6AXX gave me part of his magazine collection. Included were copies of W4KVX's DX magazine. Along with a wealth of DX history, I found this photograph of K4BVQ's station, circa 1959. The original caption follows:

Here is the very convenient and beautifully neat station of Frank Dowd, K4BVQ, top DXer and shining light (also Director) of the Charlotte Amateur Radio Club. It takes such a fine layout to compete successfully with the other skills (such as K4IEX and W4CEN!) in that DX-conscious area. "The rig is recessed into a plywood false wall," describes Frank. "The coaxial antenna selector switch, phone patch, and SWR bridge are mounted on the metal panel between the amplifier and power supply racks. The amplifier, incidentally, is a 4-1000A with bandswitching pi-network. The modulator deck on the bottom contains Class B push-pull 250THs. It works fine on 80, 40, 20, and 10, but I avoid 15 meters like the plague! The antenna-3 elements on 20 and 15 meters and 4 elements on 10-are mounted on a 97-foot steel tower."

Frank looks pretty much the same, I think, & those of you who perhaps wandered into his hamshack at the recent gathering at the Dowd estate, can appreciate his sense of style & design, still evident today.

Conditions seem to be improving. Some of the CDXA gang found plenty to work with in the recent ARRL 10M Contest. NC4NC managed to find 1075 SSB folks to chat with, in fact. Claude worked 54 states/provinces & 32 countries, for 184,900 points.

K4ZA is still on top of the high-claimed scores in the CQWW CWsingle band 15M effort from the N4ZC station. The highlight of the contest had to be those four hours of 120/hr on Sunday morning! (At one point, I had the CW speed cranked up to 46 WPM, & felt I could have been going faster...)

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