The Carolina DX Association

The Pileup

Carolina DX Association

JAN-FEB, 1993 BILL TAYLOR - KD4IL - EDITOR

From The Presidents Desk

PILEUP PONDERINGS January 1993

By the time you see this in print, a whole slew of your good ideas are already in place, like our weekly fellowship luncheons. The location is the Shoney's restaurant on Independence Ave. across the street from Midtown Square Mall. There is no program, just visiting over lunch. We had 8 at the first get together, but there is plenty of room for more. We meet in the back meeting room, so come on over any Wednesday at noon!

More of your ideas are providing the base for an exciting and stimulating year of activities. The momentum of any group of people is directly related to the involvement of its members. So jump in where you like and enjoy the fun!

The DX King Contest is off to a great start, so even though the contest is a year long, get an early start on your effort. If you have any questions, contact Ric Porter, AA4SC. I've already heard a band/country count of over 250!

Our upcoming technical program in February is designed for the " Serious Ham" in all of us. Our quarterly meeting at Valentino's on Saturday night of the Charlotte Hamfest weekend, 13 Mar 93, is designed for our spouses, girlfriends and other "Non-Serious Ham" type folks, whether licensed or not. So even if you must miss a technical program, don't even think of missing a chance to let "her" enjoy your perversion (er. ..hobby) too! ! !

The Packet Cluster is undergoing some occasional growing pains, but the result will be an even more efficient communications link. A big "Thank You" to our CDXA members and the Pioneer Club members who are helping us improve our links! The initial input of ideas was great, but don't stop there. Continue the flow of input to your officer! For those who might have missed the December meeting at the Branding Iron election results...the 1993 slate of officers follows:

President	WD4R	Joe Simpkins
Vice-President	AA4SC	Ric Porter
Secretary-Treasurer	W4UNP	Bill Jennings
Newsletter Editor	KD4IL	Bill Taylor
Net Manager	AG4L	Bruce Gragg

I can tell you honestly, these folks are GREAT to work with, and they are working very hard for you! Let us hear from you! Good DX and health to each of you!

73 Joe

DX Net Report from N4UH

Here is my last quarterly DX Net report and it covers the period from October 14 to December 30. There were 36 different calls checking in this period. One more than the last quarter. The Net is slowly building up a following of DXers., although not consistent in their attendance.

The average attendance this period was 13.6 check-ins, which compares to 12.6 the previous period. Having perfect attendance was Roger, N4ZC. Missing only one secession was Gary, WA1EHL. Bruce, AG4L and Bernie, N4YDT missed two secessions.

The December 30 Net meeting was my last. Bruce, AG4L has graciously offered to continue in my place as the Carolina DX Association Net Control Station with me as backup. I want to express my appreciation for the members that participated in the Net activities, thus adding to my enjoyment of DXing with them.

Remember, all amateurs are invited to check into the CDXA DX Net at 8:30pm local time each Wednesday, on the Boone repeater, WA4KDB 147.36 mhz

Vy 73,
Henry Elwell, N4UH

DX Net Report From AG4L

Hope everyone had a great holiday season and is ready to work plenty of DX in 1993. I want to thank Henry, N4UH, for his years of service to the net. For those of you that have not checked in with us, we meet each Wednesday evening at 8:30 PM Local time on the 147.36 Boone repeater.

If by chance the Boone machine is down, we will use 147.075 Newton repeater as a back-up. I will have other net statistics later but for the first net of 1993, we had 17 checkins. Please join us for the net,all are welcome. Gud DX and see you on the net!!

Bruce AG4L

PacketCluster News

There has been a lot of activity on the technical side of the PacketCluster System since the last PILEUP. We now have the backbone from CAT to our Greenville node on 220 Mhz and running 9600 baud. We have installed a DB Products 220 antenna at CAT and have established 220 communications to both KD4IL and N4ZC. A problem with the DRSI 9600 board for the Node PC's has slowed down changing the total feed to 9600 baud and 220. There are several alternate ideas being studied now.

Some of you may have noticed that on several occasions, there were over 50 nodes on line. This was because of a connection to the midwest nodes. The node allowing this connection was asked to quit(The nodes in Ky) and they refused. As a result that part of the PK system has been disconnected in Atlanta and we are back to about 23 nodes on the system. There was also a quick connection to the NE Nodes during Christmas but this was quickly removed.

We have new nodes in Elizabeth City and the Virginia Beach area but there are not connected north. The problem with all these large connections is that the system as we know it today will not handle all the traffic generated by 50 or 60 nodes on line at one time. As we progress to faster and more efficient backbone routes, this area may be addressed again.

Bill Taylor Editor/KD4IL

CDXA Technical Meeting 2/09/1993

AT THE WOODSHED IN STANLEY

GUEST:W4BZ BILL CULPEPPER

BILL WILL PRESENT A PROGRAM ON "GROUNDI FOR LIGHTNING PROTECTION". BILL IS WIDE RECOGNIZED AS AN AUTHORITY ON THE SUBJECT. HE IS A BROADCAST ENGINEER. TALK-IN WILL BE ON THE 147.18 REPEATER

HAM RADIO FROM CHAD

Leaving Charlotte on USAir with 84 pounds of excess luggage as Radio, amps, antennas and regular baggage, I was already wondering if I had made a mistake. I should state quickly now that I am indebted to INDEXA for the loan of the amplifier and to WA4UUP for the use of the heavy duty transit box for carrying the radio and the dipole antennas and coax. Armed to the teeth and with logs,pencils, crackers and all of the gear necessary for a routine trip to Chad, I was feeling fine until I got t the cost of the excess baggage to be collected by USAir for Air Afrique and others in Africa. USAir flew me to Philadelphia and on to Paris Orly where we arrived at 0800. My connecting flight was from Charles DeGaulle, a 30 minute bus ride for Orly, and I must say exciting with all the gear! I had a days layover in Paris for business with some of my Italian friends and when they saw the gear they said I had no chance to get all of the gear through even the French customs to Air Afrique. It turns out that all of the gear was acceptable with no questions asked, fortunately.

The trip to N'Djamena was uneventful. The flight leaves Paris at2200 and arrives in Chad 0330. As the flight begins to land, the airport lights come on and as the planes touches down the lights go off!!!! It is truly a spooky sensation©©©rolling down the runway at more than 180 miles per hour in the dark except for the plane lights. (Not enough fuel to run the generators so they leave only the lights only long enough for the plane to touch down.) Customs at the N'Djamena airport is a real hoot! Even when you have nothing out of the ordinary, they go through every article piece by piece. You can imagine the excitement when they opened the carton with the amplifier and the case with the radio! Well,after more than an hour of explanations and pleading and bribery,I got all of my possessions but INDEXA's amplifier. They decided that it was not proper for an individual to have more power than the army barracks in N'Djamena. I frankly thought that I had seen the last of the amp. So with my Yaesu 990, G5RV, R5 Vertical and Coax, I proceeded to the hotel. We had 2 days of business N'Djamena and I was sure that I would be able to get on the air from a friends house there, but he was in the States on R&R and his house guard would not let me use the gear. Stymied again! On the third day we left by charter to Sarh in the south near the CAR border. My job here is consultant to CotonTchad, a parastatal company owned by the country of Chad and a group of French investors. This trip was to analyze the possibilities of re opening huge textile plant in Sarh. Lo and behold when I arrived, I found that we were less than 400 yards from the ESSO compound where the well digging and exploration teams are living doing their work in Chad. At this location is my friend and soon to be met in person Al Link, KL7QH. Al is in charge of the maintenance of all of the computers, communications and for that matter anything electronic that is in the hands of ESSO in Chad. He maintains a network of repeaters from all of their sites and a base station in Sara. I went as soon as was practical to visit and found him at the workbench working on portable radios. He showed me around the compound including his station, an ICOM 735 with B&W Dipole. This is the rig that I used the first night on the air with the terrible signal. Al lives in what was once a 20 foot

container that has a shop, toilet, and living quarters. ESSO has about 150 employees from the States and others in their employ there in Chad. We had our pleasantries the first evening and were as casual as I could be about moving in with him. He really enjoyed the company. On the 2nd day we got the G5RV up from the top of his tower in a sloping configuration favoring the NNW, the direction that we guessed would give us the best propagation to Europe and the USA. It turned to be everything it was advertised to be! Everyone said our signals were twice on the last two days than from the first evening. The SWR was flat on every band and the 990 seemed to operate with no problems utilizing the tuner built in the radio. We were using 110 volts AC being generated for the entire compound so electricity was no problem. It would have been real nice to have had the amp that the police were holding in N'Djamena. We worked 10, 12, 15, 17, 30, 40, & 80 meters. Although I had no privileges on 40, I did manage to work TL8NG, Gene in the CAR fora brief QSO. I think ours was the first WARC band legal operation from Chad. This was my first ever experience on the other end of an incredible pileup and for the first hour I was scared to death. I was able to limit the band spread to about 15 KCS, by moving quickly across the span picking the calls that I could hear the best and then working the top and bottom just below the edges of the pileup. We had not one minute of quiet radio unless I cut the audio off to get a break.

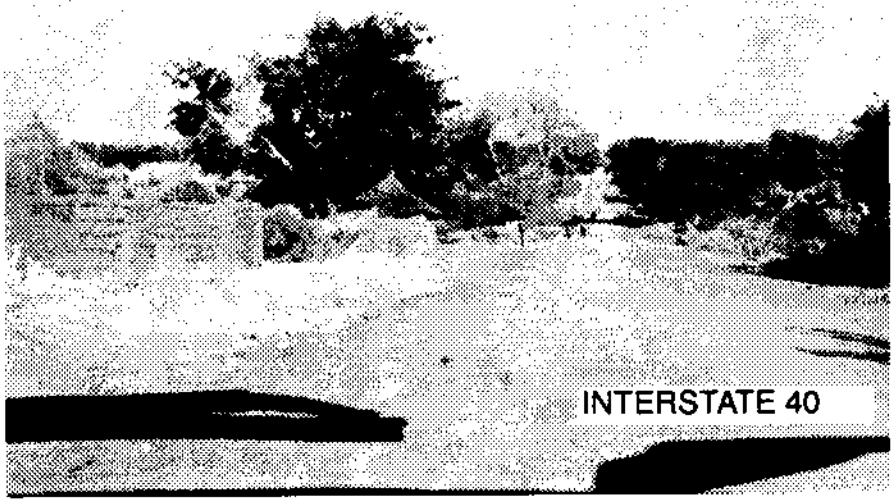
Being such a great CW operator, it was delightful to have the straight key scotched taped to my leg working 30 meters with guys who I have never met and probably never will. I was scared to death. It must have been some of the worst CW that has over polluted the airways! I made 6 contacts, I believe and was sweating like a horse when they were done. I had promised to work W4MPY, but he could never hear me and I did not get the job done!! NEXT TIME, with auto keyer, I might just surprise everyone!

All in all I worked more than 1100 contacts and have received more than 600 cards already and few DX stations have arrived here as of this writing. INDEXA is providing the cards and they should all be sent by 01/26/93 to all cards received by that day.

As we were leaving Sarh by pickup truck to Moundou, we were stopped at a police checkpoint where we had to unload all our possessions,and it was at this rural point where I lost the 2nd G5RV, Coax, and the R5 Vertical. I was effectively out of business, but was not aware of just how dead in the water I was. I felt surely I could get some wire that would let me back on the air for I had about 50feet of coax left with connectors that Al Link gave me while in his shop. But I was wrong. In rural southern Chad wire of any sort is a much sought after item for bailing wood and many other things. I have been told now that in the future, I should bring some baling twine so that I could keep my antennas.

With no more prospects of radio, I settled in for 4 days of hard work and checking of logs and entering into the computer. Rural Chad is controlled basically by the old government and Urban Chad is in the control of the new government, and the two leaders are brothers in law, but have no good feeling for one another. My license signed by 6 different government officials, including the presidents office held little or no import to the police who have not been paid in more than 6 months, and probably were in the employ of the deposed president rather than the president in power. We think we have trouble with our politics at times, but they are nothing compared to the power plays that go on in Central, sub Sahelian Africa, particularly Chad.

Southern Chad is a savannah type rolling landscape with lots of scrub trees and many grassy plains. The people are largely farmers or herders and next to cotton, beef is the most important money for the government. Of the huge cotton crop only 2% or less is used by the Chadian population. One


INTERSTATE 40

reason for my job in Chad is to up this to 15-17% in the next 7-10 years. (I am not sure that I will live that long, but there are signs of promise.) Normal Chadians live to make it through each day at the time. Most have no electricity, running water, many have never seen a television,there are virtually no in house bathrooms, and in many cases no houses, just a mud covered bunch of straw with straw roods. Central air conditioning is unheard of even in the major cities except for the government building and the hotels. Electricity cost about $.34/KW here against about $.015 © $.05 here, and many hours of every day are without any electricity. A guy in the yarn business would starve to death here for the clothes that are worn even in the cities are wrap arounds usually with no under clothes and certainly no socks or panty hose. The population being mostly Moslem dress in traditional garb of the desert. Few have more than 2 changes of anything. Someone asked me what Chafians do for entertainment. My answer is that they strive to stay a live from day to day, but at the same time are a very happy people who don't know that they are destitute and without all of the material things that we take for granted, they are not influenced in the same manner. Children play soccer avidly, men farm and women keep the compounds, fetch water and wood and cook. Everyone from the age of 7 smokes something here. The beer is called GALA, and it is some of the best beer that I have ever had. It is served in a 12-16 ounce bottle and contains 6% alcohol. A few of these and you think that you are one of the owners of the land!

Returning to N'Djamena, we drove about 1500 KMS in a Toyota diesel pickup truck. The fuel line stayed clogged the entire way and it took us about 40 hours to go the 900 miles, not driving at night! This is a separate story!

On the return to Chad, I had just enough tome to take shower and get to the airport to fight for the amplifier. Much to my amazement, it was still in police custody, and with little or no hassle it was returned. With my important gear in tact, I boarded UTA for the flight to Paris and on to Charlotte. We were gone for 15 days and I sure would liked to have had more time on the radio!

In March when we return, I know now how to get the things done that need to be done. For all of those who did not get all the contacts that you wanted from Chad, look for me on all the bands CW and SSB around the 15-20th of March. If not from Chad as TT8OBO, from Malias TZ6OBO or Benin as TY8OBO. All of these licenses are in hand and I have applied for 6W8OBO. Thanks to all the guys who have helped make this an enjoyable trip by keeping my family advised that I was alive and well and to Gary Dixon who helped with the times and the frequencies. I was good fun that I hope to do again real soon with a lot more contacts now that I have a bit of the"Snake that Bit Me".
Best rgds 'n 73. CU in the next pileup from AFRICA or somewhere!
WA4OBO - Ken Winston

YUGOSLAVIA & ITS BREAKUP .... QSL INFO

....de AA4R

Three new countries, Croatia, Slovenia, and Bosnia-Hercegovina, have been added to the ARRL DXCC list of countries. Contacts with these countries must be after the following dates to be valid: Croatia and Slovenia, June 26, 1991; Bosnia, October 15, 1991. Macedonia is also being considered for addition but the vote is still pending. Meanwhile it still counts as Yugoslavia.

The following QSL routes may be useful to you. CDXA cannot verify accuracy of these routes however.

BOSNIA

Station	Via
4N4A	YU4EJC
4N4ANT	KA9WON
4N4AX	WA4WTG
4N4CX	WA4WTG
4N4DD	9A2GU
4N4MX	WA4WTG
4N4VO	9A2AJ
4N4XA	KA9WON
4N4XX	YU4XX
4O4D	YU4FDE
4O4K	YU4EKK
4O4XR	YU4EBL
YU4AX	WA4WTG
YZ4Z	WA4WTG

CROATIA

Station	Via
4N2AJ	YU2AJ
4N2GIJ	YU2GIJ
4N2PM	KA9WON
9A1CCB	YU2CCB
9A1CCY	YU2CCY
9A1CRU	YT2IX
9A2AJ	4N2AJ/YU2AJ
9A2IX	YT2IX
9A2LH	YU2LH
9A2MP	YU2MP
9A2OM	YU2OM
9A2PM	KA9WON
9A2TW	YU2TW
9A2VC	YU2VC
9A3ER	YU2LLL
9A3IX	YT2IX
9A3NR	WA4JTK
9A3SM	YU3PB
9A3ST	YT2ST
9A3TR	YU2HDE
9A4AA	4N2AA
9A/DL9JH	DL9JH

SLOVENIA

Station	Via
4N3AA	YU3VM
4N3E	YT3AM
S51DQ	YU3DQ
S51QZ	YU3QZ
S51RU	YU3RU
S52DD	WA4WTG
S53RY	WA4JTK
S57AL	YT3EW
S57EK	YU3RO
S58AL	YU3EF
S59EKL	YT3AM
S59UN	YU3ZV
S59ZA	OE8SKQ

MACEDONIA
(Still Yugoslavia)

Station	Via
4N5CEF	YU5CEF
4N5DX	YT5AA
4N5GB	YU5GBC
4N5GX	YU5GBC
4N5JA	YU5XTC
4N5KO	YU5FSO
4N5PK	YU5XVD
4N5RB	YU5XTC

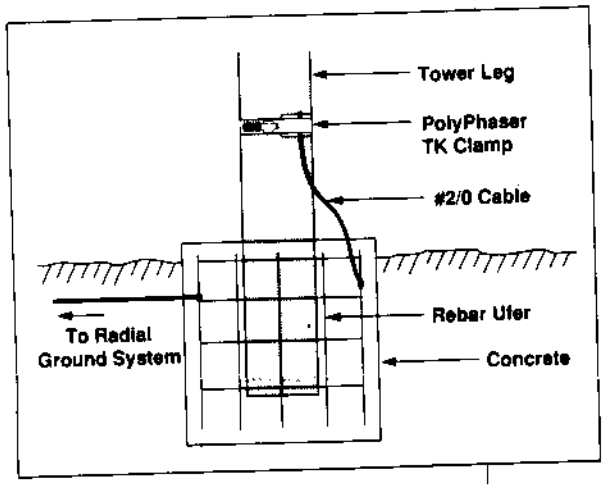
YUGOSLAVIA

YU1CV	DJ0IT
4N7DW	YU7GMN
4N7M	YU7KMN
4N7ZZ	YU7FIJ
YZ7UN	YU7GMN

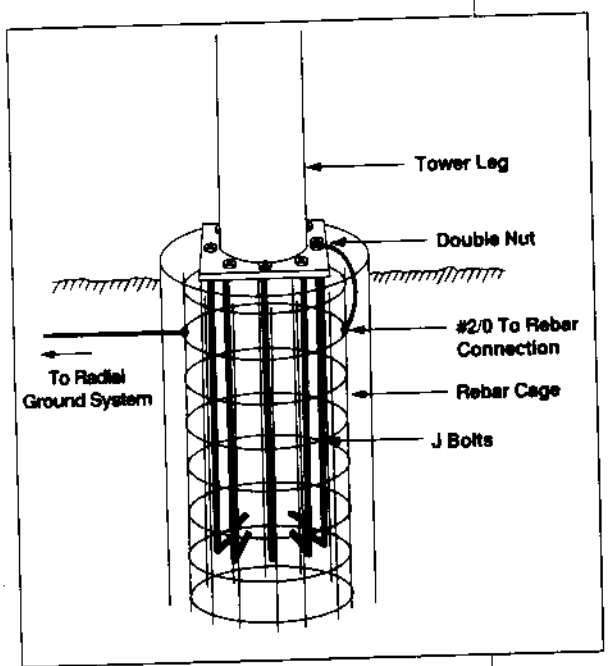
Ufer and Tower Grounding

CONCRETE is a fair conductor and can be used safely and effectively to augment your tower grounding system. The characteristic which makes this practical is the concrete's ability to quickly absorb moisture and release it slowly over a long period of time. The pH of the released moisture in turn enhances the conductivity of the surrounding soil.

It is a common misconception to think that a lightning strike will blow up a concrete pad. However, consider first, a myth-perpetuating case of an improperly designed system where the tower leg "J"-bolts are imbedded directly into the concrete pad. In this case, due to the poor nature of the tower ground system, each of these J-bolts will actually share a significant amount of strike current which in turn will flow through the concrete. Since the surface area interface between the J-bolts and the concrete is small, the surge current density is very large. The corresponding heat generated by the energy transfer can turn the concrete moisture into steam and possibly crack the pad. We have only seen this happen once on a mountain top in the Nevada desert. However, a few poorly implemented occurrences can give a valuable technique a bad reputation



▲ *Ufer ground detail of tower anchored into concrete.*



▲ *Drawing of Ufer ground showing tower anchored to "J" bolts..*

Now, consider a proper implementation of a Ufer ground system as shown in the accompanying sketches. If, during construction, you incorporate all of the rebar in the concrete pad as an integral part of your ground system the overall surge current density will be several orders of magnitude lower than the myth-perpetuating case above. With the surge current distributed over all of the rebar there will be little to no opportunity to develop the temperatures necessary to vaporize the imbedded moisture. Thus, the pad will not crack.

To successfully implement a Ufer ground system it is necessary to bond each of the independent pieces of rebar together. This is best accomplished using an exothermic process. Failure to bond all elements of rebar could allow for a spark gap between the unconnected elements and thus an opportunity for localized heating of the imbedded moisture. The electrically unified rebar is connected to the tower leg with a pigtail as shown in the sketches. The subsurface radial lines, used with ground rods to further dissipate the strike energy, are also bonded to the rebar as shown. The Ufer ground is enhanced by the fact that the local earth resistance will be lower due to the leaching of the concrete pH into the earth which in turn lowers its impedance. The better the ground system, the more current flows through the tower leg into the Ufer ground. Also, since the strike charge is all of the same polarity, it naturally wants to spread out. With the large surface area of the rebar closer to the earth surface than the tower J-bolts, the current passes easily through the concrete to get to earth where it continues to spread out even further.

As well as the Ufer ground works, it should not be used alone. We always recommend that radials or radials with ground rods be used as the main ground system and that the Ufer ground be used to further reduce the ground resistance of your system. Many tests have been done, dating back to 1968, which prove that the Ufer is a safe and very effective way of augmenting a ground system. For more information on Ufer grounding, see Chapter 2 of the newly updated and soon to be published **"The Grounds for Lightning & EMP Protection."**

In 1980, the National Electric Code incorporated the use of a Ufer ground (called encapsulated ground) as part of the code requirements for a residential house safety ground. It is primarily used for ground fault protection. In this usage there is actually more energy than in a lightning strike due to the comparatively long delay involved in waiting for the circuit breaker to trip. ■

Notice: Check your mailing Label.

If it does not say "93", your 93 dues are due!

The MARCH HAMFEST issue of the PILEUP will be the last one that members who have not paid 1993 dues will receive. Don't miss a single issue!!! The current rate for CDXA dues are $30 for packet using members and $15 otherwise. Dues payments should be sent to:

W4UNP, Bill Jennings
630 Whitepine Drive
Catawba, SC 29704

CDXA OFFICERS

President	WD4R	Joe Simpkins
Vice-President	AA4SC	Ric Porter
Secretary-Treasurer	W4UNP	Bill Jennings
Newsletter Editor	KD4IL	Bill Taylor
Net Manager	AG4L	Bruce Gragg

THE PILEUP
PO Box 232
Fort Mill, SC
29716

CHARLOTTE, NC PM 1995 282

First Class

WA4UNZ 92
Ken Boyd
202 Horseshoe Circle
Fort Mill, SC 29715