



October 1994

# Carolina DX Association

## The Pileup

Newsletter of the CDXA

WD4R	Joe Simpkins	President
K2SD	Scott Douglass	Vice-President
W4UNP	Bill Jennings	Secretary-Treasurer
WZ3Q	Don Daso	Editor
AG4L	Bruce Gragg	Net Manager

### The President's Column

Welcome to our October issue.

Greetings one & all. Sorry I missed last issue. All is well within the CDXA. We're on the verge of solidifying our PacketCluster link to the rest of the Cluster by getting on the main 9600 baud link set up by the Pioneer Club. Roger & I are excited about this development; see his column for further details. We're also planning a new digi to broaden our coverage area to the south & east. More news on that as the activation date approaches.

Our PacketCluster "Tip of the Month" is this: You're connected to N4ZC or WD4R & want to send out a "test" DX spot. Please just use TEST as the callsign. It will accomplish your goal, as well as saving valuable cluster time.

Hearty thanks go out to Frank Dowd, K4BVQ & his wife Ann for opening their home to us for our annual picnic this coming Oct. 22nd. Plan to be there; it's the social highlight of the CDXA.

And, don't forget our location change for our Wednesday luncheon--Shoney's at the corner of South Blvd. & Woodlawn. As you walk in, turn right past the cashier, then go down the hall to our private meeting room. It's a clean, well-lighted place with the usual great salad bar & soups as well as the regular Shoney's menu. Every Wednesday at noon. Com'n down!

The CDXA continues to grow. We've just added some new names to the roster. Spread the word to your DXer friends; we're where the action is.

73 de Joe WD4R

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**5:00 PM Saturday 22 OCTOBER 1994**  
**CDXA BARBECUE AT K4BVQ's QTH**  
**(See map on The Back Page)**

Barbequed pork & chicken--all the trimmings including dessert. If you wish to share your favorite dessert, feel free to bring something. Assorted drinks will be provided. Cost is \$10.00 per person. Please let K2SD know if you plan to attend & how many will be in your party. Please contact Scott via PacketCluster (K2SD @ N4ZC), drop him a note at 2440 Williams Road, Matthews NC 28105, or leave a voice message or FAX at 704-847-7734.

A big thank you to K4BVQ for hosting this year's event! See you all there.

--K2SD

CDXA DX Information NET (will return when .36 is fixed)  
Wednesday evening 8:30 PM 147.36 repeater

## EDITORIAL

Well, boys & girls, here we are once again. It's October. The time of year when thoughts turn to the frost on the pumpkin, All Hallows' Eve, Garth Brooks (or maybe Lorrie Morgan if you're WA4VCC), or maybe, just maybe, the sport of sports for indoor radio recreationers. Yes, Virginia, we're talking radiosporting. Duelling Kenwoods, twirling monobanders, gray line propagation, sleep deprivation & ragechew depravation, PacketCluster spots, CT software, high rates & multiplier heaven. Yes, Virginia, we're talking contesting here--radio contesting! October brings the CQ-magazine-sponsored CQWW DX Contest--the SSB version on the final weekend of this month. The CW version is the final weekend of November. It's the largest radio contest in the world, justifiably so--everyone in the world works everyone else, what a concept!

Mixing metaphors & writing a few lines of wit don't begin to portray the excitement you can achieve with ham radio contesting, especially in the CQ WW.

Ultimately, it's competition, with all the negative connotations that word implies. And the competition is fierce. Ultimately, it's a sport, with a grueling regimen taxing mind & body in ways you've never thought possible. But when you stand up out of your chair after 14 hours & look over at the computer & see you've worked a thousand people, then realize there are over 30 hours left to go in the contest, you'll probably have to sit back down. The rush of adrenalin will hit, & you'll be ready to go again. Contesters think it's the best high in ham radio. Several thousand of them can't be wrong.

Obviously, what I'm talking about here isn't for everyone. God forbid if every ham got on the air ALLATONCE! (Fit material for another editorial--what chaos would ensue if that were to happen? It's worth thinking about whenever you encounter someone who's rabidly anti-contest. Just tell them how lucky they are there's only four major DX contests a year...) Obviously, what I'm talking about here is a lot of fun, if you like things to be intense, serious, & fast. If you're a 75M ragechew guy whose dial hardly ever comes below 3900 (*what are you doing reading The Pileup?*), then you're probably not going to have a good time in a contest. But if you'd like to learn something about: your operating abilities, your station layout, your station design, performance capabilities of your gear, your antenna system, something about propagation, geography, & just how all of the just-mentioned things function together (or not) in your own hamshack, read on. Maybe you'll learn something.

Many of you may think contesting isn't any fun (or worthwhile) if you don't have a super station--something with tall towers or a big amplifier. Check out the KT3Y score in last year's CW WW. Phil is 10th in the USA. He's running a 930 & a C-line into wire antennas hung in the trees behind his home outside Washington DC. Many of you may think none of this would be fun without high sunspot numbers. 305 records were set in 93's CW event--those are all time new records. Without 10 meters opening very much, either. Obviously this means lots of folks were competing against themselves (in terms of previous scores) or other locals. There were over 22,000 participants from more than 240 countries in all 40 zones. And that's CW (my preferred mode), which is the less-popular contest! You have to believe some of those 22,000 were having lots of fun playing radio that weekend, don't you?

So, once again this month, you've got an opportunity to try some of above-mentioned things. But why & how are they fun? People have been trying to explain this hobby for quite a while; contesting doesn't make the process any easier. And that's a key concept to consider. This is supposed to be a hobby, something we enjoy, relax with, something to ease our hearts & minds. All this talk of competition, testing gear & equipment, having to perform--how's that relaxing? Let's consider my "intense, serious & fast" description.

I like things to be intense, which Mr. Webster says means strong in quality or degree of emotion. Thinking about it for a bit, I guess I'd say that's true about a great many things. I like intensity in writing, films, athletics, conversation, flavors, friends, etcetera. I consider myself a serious kind of guy, who connects pretty well with the intense side of things. I like the "thoughtful & important" part of Mr. Webster's definition of serious here. When's the last time you found yourself in a QSO like that? We all have our own unique definitions for fast, I'm sure. In contest circles, the good guys are quick; it's just that simple. Speed is good.

Probably many of you would argue the concepts of "serious" or "quality" or "thoughtful & important" in terms of contesting. What's important about shouting 59-05 all weekend long, anyway? Mostly it's the simple fact that you're not shouting. Yet this claim continues to plague phone contest operators. Non-contest folks perceive what we do as shouting. It's easy to understand why. The exchange, though brief, is intense. Serious. And fast. All things which are missing from ordinary QSOs. So it sounds like shouting, unless you listen, which non-contest types seemingly never do. Probably because they don't want to, because they don't understand what they're hearing anyway, & probably because they don't know how to--never having experienced said intensity before. Factor in some missing dots or dashes for CW (which changes everything) & you can see just how intense things can become. Yes, I know, I know, the implications of a statement like that one are wide-ranging. We all should know the code & upgrade as high as possible & so on & so on, ad nauseum. This isn't that editorial. This editorial wants to focus on operating...

Contest operators seem to be the cream of the crop. In over 30 years of hamming, they're the ones who've been able to do the most with their equipment, under the most adverse conditions. It's been demonstrated time after time in my 30 years of operating. That's a positive editorial statement. So one has to ask, how'd they get that way? The answer seems pretty simple--they got that way by operating. And the type of operating they learned from was the best kind for teaching quality operating skills--intense, serious & fast. Contesting.

If you'd like to experience it, maybe even learn how to do it, call N4ZC. He's worked hard to rebuild his contest station. In a few weeks, we'll get to see how successful he's been. In a few weeks, the CQ WW contest will be here. If you come out, you can have the time of your life. Operating. Seriously. In the contest.

--WZ3Q

## Long Path & Skew Path MF Propagation

I had been fairly successful without using beverage antennas on 80M. But I quickly discovered they are an absolute "must" if you want to succeed on 160M. In December of 1984, I put up my first beverage--without a matching transformer, a crude beverage at best. By fall of 1985, I had the seven-antenna array (oriented as shown) up & working. All were properly terminated & ranged from 600-800 feet in length. All of this was in a rural Colorado setting.

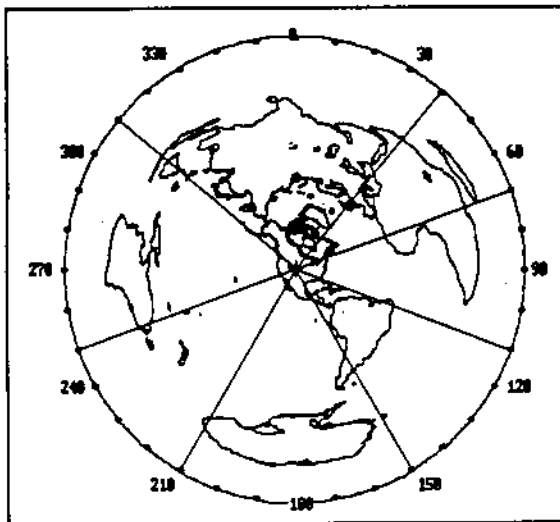
Long path is probably common to any modern DXer. Indeed, long path on 80M at sunrise is probably common to any modern DXer. Similar to the high bands, propagation to Europe, the Middle East, Central & even Southeast Asia (depending on the time of year) is possible at this time. I've noticed that signals tend to peak near 210 degrees--although the 200-220 degree arc is often talked about as a long path heading. Although we cannot know the exact path, my premise is this: During our winter, there's constant sunlight over the South Pole, maximized at our winter solstice. Tangential to the west of this sunlit area is, of course, an area of twilight at our local sunrise. I believe signals duct around this greyline area, hence the constant 210 degree bearing during our winter long path season--November through February. Antenna resolution (whether beverages or a big Yagi) isn't great enough to detect differences of a few degrees, but you can easily determine the signal's truly better on the long path. How do you use such information?

Experience will demonstrate the path usually peaks about 20 minutes before local sunrise. It exists about two hours prior to & 30 minutes after your local sunrise. It seems to peak about 10-20 minutes after local sunset on the DX end. (This sunrise-sunset "window" is directly related to your own latitude. For instance, ON4UN's table or software is an excellent reference tool for any DXer seeking greyline information.) Signal strengths on this path are, typically, weak, & this is when the directional antennas begin to pay dividends.

*Bill's observations will run counter to what many of us have experienced here on the East Coast. Our 80M long path experiences will typically have been at our sunset. This is the time we've heard (& some of us have actually worked) Southeast Asia. The signals peak Southeast. Interestingly enough, Bill's premise would hold here if you simply figure on the ducting taking place along the eastern edge of the sunlit area, circa 140-150 degrees. And again, living in this part of the world, we experience little in the way of the morning path during minimum sunspot years.*

Skew path propagation is any path in which the signal is skewed by less than 90 degrees from its true Great Circle bearing. I feel it's caused by auroral disturbances, where signals skirt or avoid the auroral zone. For instance, my 40 degree beverage is typically best for Europe. But when the geomagnetic field is disturbed (an A-index over 10), signals often peak around 70 degrees. I once worked Sweden on 160M when the A-index was 103--a severe ionospheric disturbance. Signals peaked at 110 degrees & the SM confirmed receiving me over South America.

--WØZV



Great Circle chart of WØZV beverages

*Bill's credentials are pretty good on the low bands. He's even made two long path QSOs on 160M, which is pretty rare indeed (a UA9 & 4S7)! The Pileup hopes to hear from Bill regarding his present receiving antenna setup back here in the Carolinas. We hope to see him at the picnic.*

## A Quick Look at the *ARRL Antenna Book*--17th edition

The ARRL's *Antenna Book* has been a valued part of my amateur radio library for the past 40 years. The latest edition, published this summer, adds important new information to an already excellent compendium of antenna & propagation data. The price has jumped from \$18 to \$30. New material includes a chapter on Yagi design, as well as new information in the chapter on propagation resulting from extensive computer simulations from various locations around the world. The price includes an IBM-compatible diskette (3.5-in) containing five subdirectories:

\Yagi	contains instructions & a program (YA) which allows interactive design of Yagi antennas from HF through UHF & another program (SCALE) which converts YA-derived files to formats compatible with other analysis programs (not included)
\PROPAGAT	includes ION_HDX, the program used to produce <i>QST</i> 's monthly propagation charts. Using this program, you can custom make your own charts
\ELEVAT	contains 62 summaries of IONCAP runs for various US locations to DX locations
\XMSN_LN	contains TL, a pretty neat transmission line analysis program. Figure out how many db you are really losing in that 20-year old RG-58 feedline on 432 mHz
\GENERAL	contains TAPER, which allows you to design tapered antenna elements, & GAMMA, which facilitates the design of gamma matches (both large & small)

This software works as advertised, but it's not very user-friendly. A bit more time spent in designing an overall diskette menu would have helped many of the computer-challenged in the ham fraternity. Like many ARRL publications, portions of previous editions have been retained. In most cases, the older information is still valid; the laws of physics haven't changed. And once you describe how to build a dipole, why rewrite the description?

I'm not an antenna nut. However, I hang out with a number of CDXA members who are true fanatics about antennas (you know who you are). If they were youngsters (they no longer are), they'd be caught by their parents reading this manual under bedcovers by flashlight. For the rest of us, is this manual worth the \$30 price tag? Absolutely! You'll use it again & again.

--K2SD

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## PacketCluster News

The W6GO QSL Manager Database files should be available on the N4ZC node by mid-October. This will make retrieval of this info easier & eliminate problems encountered when we get disconnected from AC4TN's node.

The biggest contest in the world will be upon us shortly--the CQ WW SSB test the final weekend of October. There will be a tremendous number of spots on the Cluster that weekend. Those stations who are marginal into either WD4R or N4ZC should NOT keep trying to connect. Just put your TNC into monitor mode & watch your screen. It's a little difficult, perhaps, but your disconnects will just slow down the entire system. Endless retries are too time consuming.

Please read MSG #3 on N4ZC--N4ZC NODE CONTEST PROBLEMS. I put this message on after last year's CW WW. The problems apply to both modes, however. WD4R connectees can read this message by looking at WD4R's DIR for a message with that subject title & Joe's appropriate number. During the 48 hour contest period, we will both disable the following features: SH/QSL SH/BUC BULLETIN MAIL ANNOUNCE & HELP FILES. If TALK is abused during the contest, we'll also disable that function.

--N4ZC

## There's No Meters Like Forty Meters

Forty meters will play a bigger role in the DX theater as sunspots continue to decline. Soon, 40 will be the only band open on some paths. Here are some thoughts & suggestions on how you can make this band work for you. First, you need to remember that 40 is actually two bands, near each other in frequency, but worlds apart in character & operating requirements. Let's look at the low end first, along with a general overview of the band.

CW DXing will be transceive for the most part, except for the rarer stations who will probably listen up a few kHz. (Your RIT control can handle most of these; occasionally you'll need a second VFO.) Over half of the "good DX" will be found within the bottom 10-15 kHz of the band. Contests, some busy weekends, & major DXpeditions can cause some DX to migrate near or above 7025. But generally, DXing on 40M is an Extra class sport. (In short, if you want to work the really good stuff, you gotta get that Extra class ticket!)

Operating 40 CW without a good filter is going about it the hard way. (*Unless you're K3ZO....*) If your rig has two IFs, invest your money in filters for the lower IF frequency. Bandwidth at the -60 db points will be narrower--just what you want. 500 cycle filters will suffice 90% of the time, although a 250 cycle filter can be a blessing sometimes. It's always good to tune the band with the CW filter OUT. The increased passband can give you a much quicker picture of conditions, activity levels, who's calling, etcetera. Then when you start the chase, switch in the CW filter to find the hole where you put your own signal. While we're talking receiving, it's often a good idea to switch in an attenuator pad (if your rig has one) to see if some of those clicks, thumps, bumps, grinds & extraneous noises are real signals or IMD products. It will help.

Forty begins to open about two or three hours before local sunset. Without a good antenna & power, it will be difficult to get through at first. As we approach sunspot minimum, you will see the MUF actually fall below 7 MHz. In winter-time sunspot lows, Europeans will drop out shortly after sunset until their sunrise. These periods (right before & after sunset & sunrise) can provide great DXing opportunities--if you know what to watch for. This "gray line" propagation to the other side of the world creates very specific openings. A DX Edge or computer program can show you the possibilities for such propagation around the world.

Just like 80M, the peak times will be around sunrise & sunset on each end of the path. Peaks on 40M last longer than 80M, so you can catch the critical 10-20 minute window on 80M & still find good DX on 40. Check the DX Edge or computer program to watch what areas of the world are moving into sunrise or sunset. DX can be worked throughout the night, but you will notice peaks as the sun sweeps around the world.

A good mid-October example is the Indian Ocean. Here's the scenario: VK6 at 2200Z, 3B8 & FR at 0200, 5H3 & 5Z4 at 0330, ZS at 0400--as the sun comes up in each location. The peaks will extend over an hour at each location; the trick, of course, is to have the DX station remain on the band. Their thinking is often like ours, & they QSY to the higher bands when the sun comes up, leaving just as the band starts to peak.

Just after local sunrise here, look for long path to Asiatic Russia, VU, 4S7, YB, & all points in between. With a beam, you can be surprised to hear VS6, KH2 & JA peaking on what we call "the crooked path" to the southwest. This is a "long path" opening, but not a reciprocal bearing as we might expect. Indeed, don't waste your time turning the antenna southeast. The sunrise path to Asia can also be over the North pole. I've seen the path change very quickly from the crooked path to the polar heading within 10 minutes. On rare mornings, the path will be open equally well in both directions. Normally, the Asian path switches to the polar path about 20-30 minutes after our local sunrise. By mid-winter, you can expect this long path opening to extend into Europe as sunset, say in St. Petersburg, matches sunrise here.

## Forty Meters, *continued*

Now for something completely different. For those of you who do not like "talking with your fingers..." we have 40M phone. What we've said about propagation still applies, but we now encounter foreign broadcasters within the spectrum. Nearly every nation in Europe & Africa has to uphold its national pride by having a 100KW broadcast station on 40M. The larger the nation, the larger the broadcast station, or so it seems. Even our own VOA has transmitters in Europe. These big time signals make finding a hole for your puny KW a problem.

You'll find most of the DX phone operation between 7050 & 7100; most of it will be near 7100. A "gentlemen's agreement" is the only thing keeping SSB above 7040; contests will often drive operation as low as 7030. Only VK/ZL, US possessions, & stations in NA & SA can operate within the "American band." They can also be found in the 7075-7100 window. From time-to-time you may encounter DX stations in the US band. WFWL, as usual. You'll often hear DX working each other below 7100. Sometimes, people will tell them to "listen up" the legal way--on CW. More often than not, people just tell these stations to listen in the American band like that--by saying "listen up" & forgetting to give their call signs.

When you do find a station you want to work, find the pileup & zero beat the last station he works. Do not put complete faith in the frequency the DX station says he is listening on. His equipment may not be as accurate as yours. And half a kHz up or down can bury your signal in broadcast QRM. Since these clear channels or listening holes are so few in number, you may sometimes find more than one DX station using them. Make sure you give both calls--yours as well as his--when making the QSO. If you don't, you'll encounter a station later on (this is especially important during contest operation) who insists "we've worked before" but who is not in your log.

Write down DX stations' frequencies (transmit & receive) as you tune the band. When you hear a US station working a DX station, write down the frequency even if you cannot hear the DX. You may hear the DX later & not remember his listening frequency. And in a large pileup, DX stations often stop giving their listening frequency. Writing down such information as you acquire it can pay off later--again, especially during a contest. DX often moves around due to this heavy broadcast QRM, so having correct listening frequency information is vitally important.

Lower MUFs over the next few years will force everyone to operate the low bands at night. This "leveling of the playing field" will mean those with the most knowledge, the better stations & equipment will have an advantage. It will be approximately three years before sunspots return to the level we have now. Hmmm, think about that for a while. In the meantime, if anyone hears an A5, XZ, 1S or 5A on 40M, give me a call.

--N4ZC

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Forty meters is very different in different parts of the world. Here are some excerpts from K3ZO's journal of Thailand operations last year. I begin tuning the band at 1035Z (5:35 PM local time--sunset is 6:10). Nothing much on CW end except...Indonesian CB & Vietnamese & Chinese government stations...Fred quickly works BY7QNR & XU5SE--locals to him--then begins calling CQ himself...At 1104...K4DY in NC is the first to answer me...a few more CQs & WK9Z in FL answers, then HK1AMW, precisely at sunset. FO5JR calls at 1111 & ragchews...JA0DA1 is the first JA at 1116...by now the band is wide open...KN4F, VE3MLP, XU5DX, RA0FN, K2KIR, W1MK...several JAs...WA7BOD, VS6WO, VS6BG, K4XO, W1YY, W1GIH, AC4QT, K2SX/1, WB2WBU, K7OXB, W2RQ, one VK & a few more JAs...finally, about 1156, N2FB calls in with a crashing signal...at 1211 the East Coast peak seems to occur with KG4W...the loudest 40M East Coast signal I hear on my trip...the grayline moves southwest across the US & the W4s dominate...by 1226 the Midwest begins...by 1342 the Midwest has faded & I give the patient JAs their chance...that's how it stays until 1455 when W6YA calls...I ragchew with K6NA who is equally loud...1455-1530 seems to be the CA peak...the path moves to the US Northwest...the last VE7 is 1713, from then on it's all EU & Africa...at 1917 I QSY to 20, telling the Ws to watch the grayline at about 2200...back on 40M at 2139Z, JAs are still in & so are the Europeans...TL8NG booms through & exactly at 2200 N2LT calls...FM5CD, VR6AJ, LU1ICX...no more Ws until 2222 with K5NA. Richard says lots of Ws are calling but I can't hear them through the Indonesians & the Bangkok line noise. He's followed by K1IU, then WZ3Q operating my home station at 2226. Then W4DR, W3GG, then W1-W4 & W8 stations...

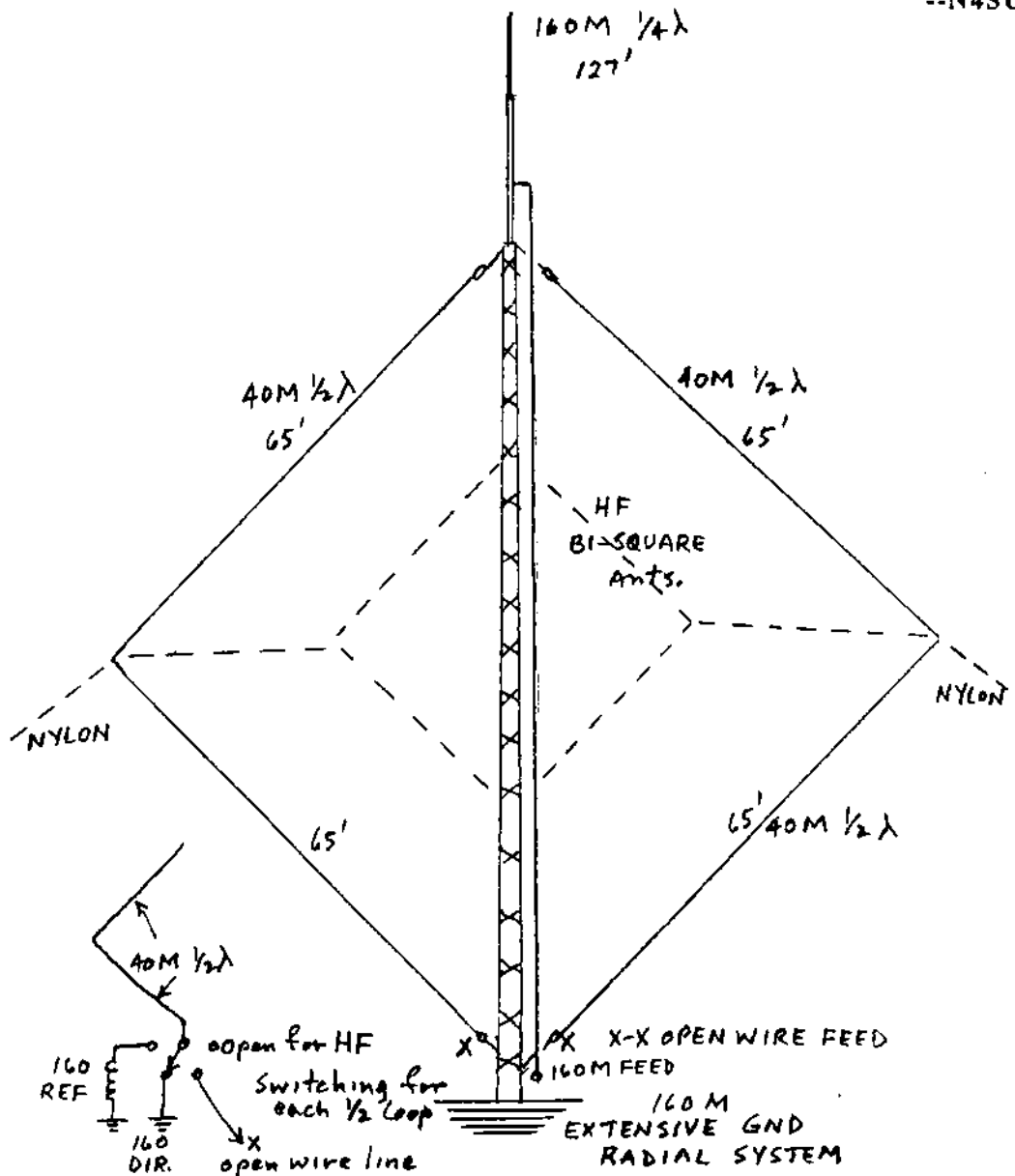
(September 1993 Potomac Valley Radio Club Newsletter)

## Low Band Antennas at N4SU

The accompanying drawing details the low band (160, 80, 40, 30M) antenna system at N4SU. On 160M, the fold-over aluminum tower is fed near the top as a unipole. (It's a Heights 100-ft crank-up; the top 27-ft is a whip. Dave says it's a real "traffic-stopper" whenever he folds/cranks it up/down. People stop to ask if the tower's falling down.) Feeding near the top increases the feedpoint impedance as I use one 450 ohm open wire line to feed all the low band antennas. There are four big 1/2-wave loops (open at the top) at right angles to each other. Any pair of loops forms a 4-el 40M bi-square antenna. On 40 & 30M directivity is bi-directional broadside to the loops. On 80M a pair of 1/2-wave loops forms a vertical 8JK 2-el beam with end-fire directivity. (The loops are #16 wire & the support ropes are 1/4-inch nylon.) The tower in the middle of the 8JK is a passive reflector both ways on 80M. The tower appears to have no effect on 40 & 30M. On 160M, the big half-wave loops are left floating or used as parasitic elements to form a vertical 3-el half yagi. The parasitic elements do seem to give a small amount of gain on transmit. (Note the switching arrangement: I use remote controlled high voltage rotary solenoids for rf switching at the base of the tower.) For further details, see K2RR's article in May 1986 *ham radio* magazine.

The secret to low band success is hearing. My secret weapon is my beverage system. I have seven, two-wire reversible designs, giving me 14 receiving directions. They work on all these low bands--160 through 30M.

--N4SU



## MEMBER PROFILES

### *Reagan Rowe W4FHI*

Reagan's that rarity, a Charlotte native. He was raised down on Providence Road with lots of family members around--he describes it as four families (12 folks) in one home. Of course, since Reagan's 65, you all know this was a long time ago indeed, & that this one home included 10 acres & the ability to grow all your own food, etcetera. His uncle repaired radios for folks during WW2 and young Reagan's curiosity was aroused. Enough so that he went on to Clemson where he graduated in Mechanical/Electrical Engineering in five fun-filled years. Then it was on to the US Air Force, spending some time in radar electronics school in Biloxi, MS, where he finally met some real hams and passed his Technician license. After being sent to Goose Bay, Labrador, he passed his Conditional license.

Flash forward to back home in Charlotte, where he upgraded to Advanced and began chasing DX & participating in the local radio club. Finally, in 1986, while palling around with the Gismo Gang (once upon a time Charlotte had a local radio emporium), Reagan upgraded to Extra. His current DX total is 265; he's saving the rest for retirement. At the regular Rowe estate, Reagan's running an IC-781 & 4KL linear. He has a 70 foot tower (made out of a crane boom arm; climbing it will test your groin muscles) with a Mosley 67 and Cushcraft 402-CD on top. He also likes QRP work, running a Ten-Tec Argosy sometimes. At the Rowe summer lake home, he uses a KWM-380 & 30L-1 combo; on the Rowe sportfishing boat, he uses an IC-735. Obviously, Reagan likes a little radio wherever & however he goes. One of these days, he even promises to put his PacketCluster station together & get back to DXing.

### *Frank Dowd K4BVQ*

Frank was born in 1927. His family also occupies an integral place in Charlotte history, which you'll encounter when you read local history. Their foundary was the first ironworks in the South after the Civil War. And of course, you encounter the family name on streets & buildings around town. Opening the card catalog at the library really brings such history home to you.

Frank learned radio in the Navy in 1945-46, but had no knowledge or interest in ham radio until 1954. His newly acquired television's reception was being destroyed by something. Tracking down the source was easy; it was a local, W4AH (who still lives in the area). Frank's complaint turned into fascination. Indeed, he was licensed in 1955 as KN4BVQ. He upgraded in '56. W4AH was a DXer (running 450-TLs, breadboarded, modulated with 833s) & Frank was soon hooked on that aspect of our hobby. He got his DXCC in 1956. His current total is 365.

K4BVQ's station has run the gamut from simple to complex, but his Viking Ranger & Desktop Kilowatt were "the neatest rig I ever had...." In 1989, the big blow wiped him out. Hugo folded Frank's 100-ft Aeromotor tower with the classic Telrex xmas-tree array right over at the 40-ft level. He rebuilt with Rohn 45 holding up a Hy-Gain TH-7. "Works good," he says. "I'm sort of in a down cycle right now, in sync with the sunspots, I guess," Frank claims. But like all good DXers, he's building & tinkering. He plans to have a beverage & half square up for 80M's winter season. And he hopes to replace his 402-CD, also damaged by Hugo. Inside the shack, he has a TS-850 & a Henry 2K, along with an assortment of other gear. Like many of us, Frank has gone through periods of using a variety of gear, from military surplus to Collins rigs. He mentioned the old auto-tune aircraft transmitter, the ART-13, as a piece of gear which provided lots of fun with a simple long wire. (*Frank's also played with trains; just ask him about trains--you'll see....*)

We're all looking forward to the up-coming picnic at Frank's relatively new QTH down in Waxhaw. Plan on attending & meeting Frank (& FHI, too) & see why we've referred to them both for so long as "the captains of industry" on 147.18. A good time will be had by all....

# The Back Page

