October 1998 Pileup

Presidential Ponderings

Hey CDXA members…

That popular, pervasive greeting of the Carolina's is neat-you can say "Hey" with all sorts of inflections and mean lots of very different things. Here, in print, I'll have to describe the inflection-"hey," meaning a warm welcome to CDXA fellowship!

Lots of us braved the heat at the annual Shelby Hamfest to peruse the "deals" available there, and to visit with friends, old and new alike. The heat was too much for me by mid-day Saturday, so if you came after that, I'm sorry I didn't have a chance to visit with you in person.

UHF Packet radios are doing great in the field, I'm told. I stay busy converting them daily. If you haven't reserved one yet, let me know at K4MD@juno.com as there will be plenty to go around. Again, these are GE Phoenix radios that I convert to 9600 or 1200 baud. You choose whether you want one baud rate, or both.. Club member prices are $125 for one baud rate, and $140 for both. Non-members prices are $15 more. And, if you get your TNC to me, I'll set the deviation at no additional charge.

The weather is getting ready to turn cooler here in Charlotte, and that always stirs the outside project juices. Have fun and be safe.

73 Joe K4MD

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Editorial

Last month's editorial drew a few comments; the previous month's editorial drew 10 responses. I was surprised, to say the least, considering they were not "pure radio" oriented writing. Even Reagan Rowe, W4FHI, responded, truly surprising me. Reagan was a "captain of industry" in Charlotte for many years, whose recent whereabouts and wanderings have been a source of mystery and mumbling for us all. His communiqué answered few of those questions, suggested several more, while congratulating me for my efforts on behalf of the club. Consider them duly noted-from all who responded! And thanks. This month, we continue down this somewhat un-radio-like-path, in thinking about dreams.

Not the "build it and they will come" sort of dreams-I'd need someone on the stature of a James Earl Jones to help me out-but with the idea that it's never too late. For dreaming, or perhaps anything else in life. I've long dreamed of doing (okay, accomplishing) certain, specific things in this hobby. One of them is to operate a contest from the Caribbean. By now, most of you know I derive my main satisfaction in our hobby from contesting. It's something I've done from the first day my license arrived-in 1963 during the middle of the Novice Roundup. I had no idea what CQ NR meant or what a contest was or why no one would answer my questions, once I called them and began to ragchew. Later in the week, I'd finally figured it out, and the quest was on-with a venerable & old (even then) AT-1, a long wire, an AC-1 antenna tuner and a Knight-Kit Star Roamer receiver. I believe I made 15 QSOs. But I was hooked-the fun quotient was that high! Thirty-five years later, I still find this to be true. And I'm no longer tuning the entire band, looking for replies to my CQs. For a modern DX contest guy, the Caribbean is "the place to be" for sustained high rates into the population-dense EU/USA pools. This October, for the CQ World Wide Phone Contest (the most popular contest in the world), I will be operating from St. Maarten. I hope to be signing PJ8Z.

I'll be running with the big boys, doing a single op, all band, effort. Naturally, I am thrilled, as well as scared to death. Apprehensive as well as totally psyched. Nervous, as well as confident. This is, of course, natural. I want to do well. I don't want to embarrass either myself, or any of the mentors I have learned from over the years-some who I'll work, some who will be with me simply in spirit.

Each of those mentors had dreams, I think, about my abilities and me. Each gave me something, which I can only hope to repay. Each inspired me or led me to some conclusion or gave me some bit of wisdom, which enabled me to compete successfully in radio contesting.

I think about all of this whenever I think about the trip. I think about a myriad of things, of course, including how I can accomplish all the goals I'm setting, while still having a good time (it is, after all, a vacation). I think about the dream-this may be a "once in a lifetime" opportunity (or maybe I can go again), and I need to capitalize on it. I think about the dream-in all that it represents for me. I want you to share in it. I want to work each CDXA member on each of the six HF bands during the contest. K4MD asked me once what the club could do to help me with the trip, and that's the simple answer-just give me the contest contacts, a QSO, plain and simple.

--K4ZA

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DXCC & DX Advisory Committee News

Currently, there are 328 entities (or countries, as we used to call them) on the DXCC list. After October 1, 1998, there will be three new additions. The DX Advisory Committee recently voted and accepted three new-country petitions; our vote has been accepted by the ARRL Awards Committee. These changes resulted from what we refer to as the "DXCC 2000" rules.

The three new countries are:
(1) Temotu Province, H40, the eastern most province of the Solomon Islands in the Western Pacific;
(2) Austral Islands, FO, a group of islands belonging to French Polynesia in the South Pacific;
(3) Marquesas Islands, FO, a group of islands belonging to French Polynesia in the South Pacific.

The DXCC desk will start accepting QSLs for these new entities on October 1, 1998. Or, you may wait until the traditional "check in time" during the Charlotte Hamfest, next March. I'm unaware of any pending petitions or activities from the DXCC 2000 rules, but I am aware of some nice DX-peditions coming up within the next six months. As the sunspot count increases and the high bands come back to life, it's time to get your station and antennas checked out. Be ready when winter comes, so you can spend your spare time DXing. This will be a good DX season!

73 & DX Gary, K4MQG
Roanoke Division

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The end of light, as we know it…

This topic came up at work the other day. I found myself sounding professorial again. There were smiles, nods, even a few chuckles, all around when the little lecture ended. Herewith, some of the thoughts saved from the conversational graveyard.

Light bulb failure is an amazing thing. We've all seen it; we've probably all heard or read about the amazing miracle filament-the light bulb that would last forever, if only the companies would build it. Like all cliches, this one comes from fact. A lamp with a perfect filament would never burn out. Of course, even without semantic training, you're suspicious of any claim with the word "perfect" in a key role. And you're right. Simply put, that "perfect filament" would evaporate equally from all points on its surface. Meaning the filament would get thinner, and its resistance would go up. With higher resistance, and the same voltage, current flowing through that filament would go down. Meaning the filament would run cooler, and evaporate more slowly. Remember: because a filament's evaporation is exponential with temperature, the perfect filament would never fully disappear. It would continue to

get thinner and thinner. And dimmer and dimmer. But the filaments in the light bulbs we use every day have what we'll have to call manufacturing defects-places or spots that are a bit thinner than the rest of the filament. The resistance of such spots differs from the rest of the filament-they're higher, in fact. If you remember any high school physics, you'll know this means they'll run hotter. Which makes the tungsten evaporate faster, which in turn makes the spot even narrower, which in turn makes it run even hotter. It's a nasty cycle, until that spot opens up, and the light bulb "burns out."

Someone actually asked about the tendency of light bulbs to "blow" when first turned on. Here's what happens: the resistance of the cold tungsten filament is about 10 times lower than its resistance at normal operating temperature. So, when you flip your wall switch, there's a current surge until the filament has heated up. This is short in the workaday scheme of things-about 10 cycles of the 60 cycle AC line current. But the manufacturing defect areas will not only be heated up more by having higher resistance; they'll heat up faster, too. (They have less thermal mass-less mass to heat up.) This cycle of heating continues until the filament reaches its operating temperature. You've probably guessed that the hot spots will exceed the bulb's proper operating temperature. This overshoot is very short-only about 1/6 second, so the evaporation of the filament isn't significant to the aging of the bulb. But, if the bulb is very close to failure, these hot spots can reach their breaking point-where the tungsten melts, opening the filament. Obviously, turning the lamp on and off will not contribute significantly to its lifespan, but the process explains the arc we sometimes see as the lamp dies at turn-on. And yes, there are some obvious parallels to those vacuum tubes our old-time radios used to use, and to problems turning them on…

-K4ZA

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TRANSMISSION-LINE MAINTENANCE

This is a topic which receives little or no attention in most ham publications. However, it's worth your consideration-especially if you want to become, or remain, a big-time DXer. (Being "big-time" will be covered in a future issue of *The Pileup*, by the way.)

In today's technology-driven environment, most serious hams are using semi-rigid feedlines to their antennas. And if you think or believe such feedlines (we're talking "hardline" here, for any neophyte readers) are prohibitively expensive, remember that CATV hardline is very low loss, and is often available free-just for hauling it away. (We've already shown you how to make superior connectors for this cable-you should be using it.) Some of these hardlines, such as the "Heliax" line from Andrews Corporation, and the "Flexwell" lines from Cablewave (they're the largest manufacturers in the USA), are intended for a gentle bend, but not for continued flexing. In other words, they will bend, but only through a specific radius, for a limited number of times. The rotation loop, obviously, will have to be something flexible, like our old faithful friend, RG-213. So the hardlines simply run up the tower leg and stop. It sounds pretty simple. Here are some areas to consider before, during, and after such installation.

First, remember that the cable will be most prone to damage before you ever get it installed. It's not unheard of for over-zealous forklift drivers to damage the cable unloading it. (In case you don't know, the spools are large, and heavy, and the two ends are often NOT accessible on the spool, unless you

specify that.) That's why professionals always TDR the spool before they begin working with it. Because the cable is fragile, it's important to consider how you're going to deal with it on the ground-where it's going to go-where it's going to come from, as it's unwound from the spool. (And yes, this cable is fragile and easily kinked, if you're not careful. Have a plan, and work slowly and carefully.)

Secondly, the issue of support for the cable as you hoist it must be considered. Naturally, most hams will not be able to afford the manufacturer's hoisting grips. They'll have to improvise. The one thing you DO NOT want to do is install the connector, then use that as a pulling point. (Yes, I've seen this done.) Such cables are prone to damage from jury-rigged clamps and may be permanently deformed or crimped by your attempts to fasten a line to them. The simplest, easiest, and least damaging system I have found (and use) is a choker sling. If you're nervous (after all, a couple hundred feet of hardline IS heavy) about the ability of a simple piece of nylon to safely hold this much cable, I suggest you talk to a serious climber-someone who trusts his or her life to such tools. Then (for your peace of mind), secure the sling with some Scotch 88 and haul away.

Third, once you have your hardline up, against the tower, the issue of securing it has to be addressed. Tape, even Scotch 88, will NOT hold this much weight over time. Like most hams, I cannot afford the manufacturer's hangers. I use stainless steel hose clamps (both the clamp and worm screw are stainless), spaced liberally throughout the length of the cable-generally every 50 feet. In between, I use black nylon cable ties, covered with Scotch 88 tape. I've never observed a problem between the galvanized tower leg and aluminum or copper cables. (I make a point to ground the cables separately at the bottom of the tower, too.) And yes, you should take this cable's dimension into consideration when computing the wind loading you've placed on your tower.

Finally, a few words about maintenance, once you've got the cable installed. After years of use, with constant temperature shifting, the dielectric materials can harden, even break. The center conductor can "migrate" over to the shield, with obvious bad results. The tighter the bend in your cable, the more likely such problems are going to be. In other words, watch the radius of those bends! Climb the tower at least once a year and inspect each clamp and tape joint, and re-do any that look weak or suspect. Check the VSWR at periodic intervals for each antenna, and compare the results to what you had when you originally put the system up. Check all your ground connections. And finally, if you suffer damage, replace the cable. Don't try simply cutting out the "bad" section. Residue from arcing can move down into the cable, and create the problem again.

-K4ZA

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ITEMS OFFERED FOR SALE BY CDXA MEMBERS

FT-757GX, with 600 Hz CW filter, manual IF Shift & Width, includes manual, hand mike, miscellaneous cables, connectors & box. The radio has a thumbprint-sized smudge on the top of the case-near the front where my amp once rested. Otherwise, the rig's in great shape. To make up for the smudge, I'll throw in the Stone Mountain QSYer (CAT-a direct frequency input keypad).

Asking $ 450
-John Lambert N4ZX. Contact: N4ZX @K4MD PacketCluster or 704-542-0633 (home) & 704-382-6095 (office) or jlambert@dukeengineering.com.

KU4V has the following items for sale:

- MFJ 484B Grand Master Keyer $50
- Lunar 2M pre-amp (in-line design) $15
- Tokyo Hy-Power 2M Amp HL-30V (1 in / 5 out OR 10 in / 35 out) $50
- Henry 2M FM Model 130A20 (5-20 in / 130 out FM only) $85
- Tokyo Hy-Power Labs HRA-2 mast-mount N-connector preamp $135
- Complete Yaseu 901 Station: $1200
- 901DM (6146 finals) FV-101Z external VFO FTV-90R 6/2/432 transverter (all 3 modules installed)
- SP-901P speaker/phone patch FC-901 (3-position antenna tuner) Power output dial needs repair
- Rohn HBX 48 5 - 8' sections $290
- 40' push up mast 4 - 10' sections $20
- Antenna Mart SW-9 (9 position)
- UHF-connector remote antenna switch (with smaller control box) $100
- CDE HAM-III antenna rotor and control box $150
- BC" tower guy wire Approximate total: 1600+ feet
  Multiple rolls, various lengths: 135(3), 160(2), 175(2), 150(2), 100(2)
  Stronger than normally-used 3/16" $300
- BC" tower guy wire with ends
  3 sets: each has 30' with turnbuckles & Johhny Ball insulators $45
- BC" tower guy wire with ends
  3 sets: each has 30' with loop/hook turnbuckles $25
- 6M SB-200 Heathkitkit (2-572B tubes) You finish the conversion $200
- 2M FAA model 6155 (400 watts out) with 8930 ceramic tube. (all relays & switches included) $250

Telephone 919-854-2217 (office) or 919-303-2453 (home) or e-mail: wayne.starnes@eds.com

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Forthcoming in *The Pileup*

- Review of WIZARD - propogation prediction software
- Traveling to St. Maarten for CQ WW
- News from members - who's doing what, when, where, how, and why
- "How To Be A Big Gun" or " DXing Is Not For The Faint Of Heart"

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