The Pileup

Newsletter of the CDXA

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CDXA Scores in 2010 ARRL International DX CW Contest

Dick Williams, W3OA

The final results of this year's ARRL International DX CW contest have been published. Listed below (on page 7), in alphabetical order, are the CDXA members who scored in the top half of their class. The last column shows the entrant's place in his class in the geographic area shown and the number of entrants in that class from that area. Additionally, K4ZA was one of the operators at EF8M, a multi-operator, two transmitter entrant that placed first of 3 entrants from Africa.

W4ZV took first place for U.S. and Canada on 160 meters for the third year in a row.

We hope to have the results of the ARRL phone contest in next month's Pileup. At that time we should also know how we did in the Affiliated Club Competition.

(Continued on page 7)

CQ Publishes Results of the 2009 CQWW SSB Contest

Dick Williams, W3OA

The final results of last year's CQ World Wide SSB Contest are published in the August issue of CQ. Once again, CDXA is well represented.

This was the fourth year we have entered the team contesting competition. CDXA's five-man SSB team (KI4TZ, KZ2I, N4PQX, W3GQ, AND W3OA) scored 5,300,619 points. That was enough to place us seventh among the 21 teams entered. Unfortunately, our score didn't show up in the printed results. I have contacted the contest manager, K3EST. He tells me this will be corrected in an erratum in CQ.

Listed below (on Page 7), in alphabetical order, are the calls of CDXA members who scored in the top half of their class as listed in CQ. The last column shows the entrant's place in his class and the number of entrants in that class. Those calls show in bold face will receive certificates from CQ.

K4LY placed first in the U.S. and second in the World in the QRP category.

(Continued on page 7)

CDXA PacketCluster & Other Communication Systems	
K4MD (AR Cluster via Telnet)	k4md.no-ip.com
NA4L (AR Cluster via Telnet)	cdxa.no-ip.org
CDXA Repeater 147.18 MHz (+600)	W4DXA, Near Fort Mill, SC
World Wide Web Homepage	www.cdxa.org
Wednesday Luncheon (11:30 AM)	Skyland Family Restaurant, 4544 South Boulevard, Charlotte, NC

The Coax Mast

By Richard A. Genaille, W4UW

(This article first appeared in the August 1988 issue of CQ Magazine. It is written by long-time CDXA member, Dick Genaille, and reprinted with permission.)

Are you one of the many amateurs who have a piece of property that lacks suitable trees on which to hang antennas? Do you have trees that you could use but which aren't located in the right place? If you fit into either of the above categories, you probably have to install a mast, tower, or other support from which to hang antennas. I have a solution that you might find interesting and practical and at the same time you will construct not only an antenna support, but also your transmission line.

In my article entitled "Low Noise, Coaxial Link Antennas for HF Receiving" (see January 2010 Pileup-Ed.) which appeared in the December 1987 edition of CQ, I suggested the possibility of fabricating a coaxial link antenna from 3 inch diameter aluminum irrigation tubing with a 12 gauge wire centered with spacers every few feet for support. Unhappily, the 15 foot square loop that I constructed did not live up to my expectation, but the fallout from the experimental work I did proved to be quite interesting and resulted in additional experimental work plus this article.

I didn't give it much thought at the time, but by inserting a conductor into the irrigation tubing, I had constructed a length of coaxial transmission line. When what I had done hit me, I decided to find out the surge impedance of the line that I had manufactured. It turned out to be about 214 ohms when measured electrically, and when calculated by formula it likewise turned out to be about 214 ohms. Son of a gun! I had made myself a section of rigid, 3 inch O.D. coaxial line! Now what could I do with my newly discovered capability?

I had been contemplating the replacement of my 40 meter, two half-waves in phase, wire antenna and decided to try a folded dipole constructed of ladder line using several sections of the rigid coax pipe as the center support and feedline. Two 15 foot sections of the rigid coax were spliced together to give me a support mast 30 feet in height. Since the surge impedance of the coax mast was 214 ohms, I had to provide line matching at the bottom of the mast. I used a 4:1 balun which I reconnected to give me a transformation from a 52 ohm unbalanced feedline to the unbalanced feedpoint at the bottom of the mast. (Close enough for non-government work!) Since the feedpoint impedance of the folded dipole was supposed to be approximately 200 ohms, I constructed a line transformer for the top to give me a 1:1 transformation at 200 ohms from the unbalanced top of the coax mast to the balanced 200 ohm feedpoint of the folded dipole. Again, "close enough for, etc." My coax mast is diagrammed in Figure 1, below.

(Continued on page 3)

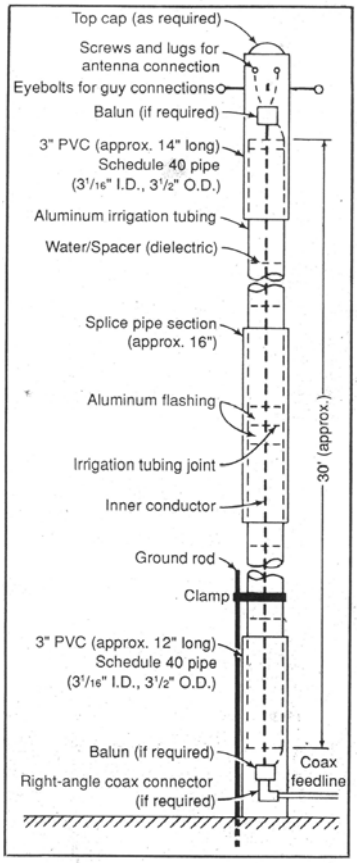

Fig. 1 – Coax mast details.

The Pileup
Official Newsletter of the Carolina DX Association

Published monthly 10 times per year, excluding the months of June and December.

The purpose of the association is to secure for the members the pleasures and benefits of the association of persons having a common interest in Amateur Radio.

Members of the CDXA shall adhere to "The Amateur's Code" as published from time to time in *The ARRL Handbook for Radio Amateurs*, and shall consist of those valid licensed amateur operators having an interest in promoting amateur radio. Long distance communications (DX) is of special interest to members of the association, but said interest is not a requirement of membership.

Dues are $35 per year for those using the PacketCluster maintained by the Association, $20 otherwise, payable each December. Dues are payable by check to the Secretary/Treasurer:

Cliff Wagoner, W3ZL
P. O. Box 577
Davidson, NC 28036

Address, telephone, and email address changes should be directed to the Secretary/Treasurer at the above address or via email at: jcw53@cornell.edu.

(Continued from page 2)

Erecting the 30 foot long coax mast was almost a one-man task due to its light weight, but I had prepared some guy ropes and installed some stakes so that my wife could tie the guys at the stakes once I raised the coax mast to the vertical position. After the coax mast was secured, the ends of the folded dipole were raised and the antenna was checked out. The SWR was about 1.6 at the frequency to which the folded dipole was cut, but by lowering the dipole ends, to provide a slightly inverted-Vee configuration, the SWR went down to 1:1 at the operating frequency. The antenna performed superbly! However, this is not an article on antenna construction. These details have been provided only to tell you that the coax mast worked.

Now, let's get down to some details on fabricating your coax mast, and if some other unique uses for the coax mast haven't already occurred to you, I have some interesting suggestions later in the article. You don't necessarily have to construct a coax mast with 214 ohm surge impedance! I just made use of what I had left over from another project, but the surge impedance could have been made almost any value desired with material that is available almost everywhere.

Construction

First of all, let's talk about the aluminum irrigation tubing. Some time ago, when I first started to experiment with low-noise receiving antennas, I visited one of the local farm machinery and supply companies to see if they had any used irrigation tubing and what sizes were stocked. I found that they had abundant supplies of 5 inch and 3 inch tubing. I bought two 30 foot long sections of 3 inch tubing that were virtually free of any dents or other perturbations of the tubing at very little cost. The problem was getting it home, but the company that I bought it from delivered it for a nominal charge. If transportation is a problem, you could carry along a hacksaw and cut the 30 foot sections in half and lash them down to the top of your vehicle. Where there is a will, there is a way. I had the 30 foot sections shipped because I wanted to construct a 60 foot mast with only one center splice. By the way, the aluminum tubing can be spliced easily both electrically and mechanically, but I will tell you more on that later. I have not gone higher than 60 feet, however.

The used irrigation tubing usually comes with couplings at each end, which can be cut off. Each of the two sections I bought had about a 3 foot piece of galvanized pipe fastened at one end upon which a rugged-duty "Rain-Bird" sprinkler was mounted. I still use those sprinklers for irrigating my lawn and garden!

For the purpose of this article we will assume that you want to make a 30 foot coax mast and that you had to cut the 30 foot length in half to get it home. This means that we will have to make a splice. Even if you don't have to splice, suggestions on how to splice might be of interest if you decide to make a 60 foot coax mast out of two 30s. Whatever. After removing the excess hardware from the irrigation tubing you should have two clean sections of tubing each approximately 15 feet long and of constant inside diameter.

Before going any further, you must decide what impedance coax mast is required. That, in turn, is dependent upon what type of antenna the coax is going to feed, what the feedpoint impedance will be, and whether the feedpoint is balanced or unbalanced. The point is, the surge impedance of the coax mast can be made from almost anything that you desire. The basic formula for determining the surge impedance of a coax line using air as the dielectric is $Z_0=138\log_{10}D1/D2$, where D1 is the inside diameter of the outer conductor and D2 is the outside diameter of the inner conductor. The various amateur handbooks contain information in chart form which, for example, shows that if the ratio of D1 to D2 is 2.38, then the coaxial line will have surge impedance of 52 ohms, 3.21 will produce a coax of 70 ohms surge impedance, etc. If the line is filled with a dielectric other than air, then the characteristic impedance of the line will be reduced by a factor proportional to the dielectric constant of the material used as the dielectric within the line.

The homebrew coax mast uses dielectric wafers spaced every few feet to position the center conductor, which produces a very low loss line. I used $^3/_8$ inch thick wafers of polyethylene that were sliced for me at a local plastics shop, but I see no reason why you could not make similar wafers of Styrofoam using a tin can of suitable diameter as a "cookie cutter" to punch out the wafers. The dielectric support of the inner conductor within the tubing can be left to the ingenuity of the builder. Obviously, the spacers should be made of some sort of low-loss material!

Using 3 inch outside diameter irrigation tubing, which has an I.D. of $2^7/_8$ inches, you could use $1^1/_8$ inch O.D. tubing for the inner conductor, which would produce a coax mast with a surge impedance of 56 ohms. This coax mast could be fed with 52 ohm coax at the bottom without the need for a balun or line transformer. A 1:1

(Continued on page 4)

(Continued from page 3)

or 4:1 balun at the top of the coax mast would provide a transition to 52 ohms or 200 ohms balanced, respectively. The impedance possibilities are many. Not only are you getting a mast to support one end or the center of your antenna, but consider the power handling capability of such a rigid coax mast!

A Pictorial Explanation

Photo No.1 This photo, below, shows a portion of my 30 foot section of 3 inch irrigation tubing with the inner conductor consisting of No. 12 gauge insulated wire with polyethylene spacers ready to be pulled through the tubing. A pulling wire, electrician's fish-tape, or plumber's snake can be used to pull the inner conductor in through the tubing. Just make sure that the dielectric wafer/spacers are small enough in diameter to be pulled easily through the tubing. The do not have to be a snug fit!

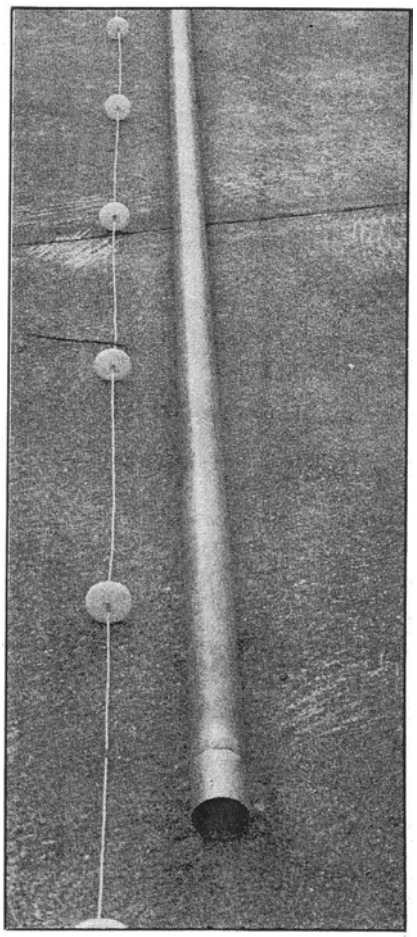

Photo 1– A portion of the 30 foot section of 3 inch irrigation tubing with the inner conductor consisting of No. 12 gauge insulated wire with polyethylene spacers ready to be pulled through the tubing.

Photo No. 2 The method of splicing two sections of tubing together is shown in this photo. I used a section of 3 inch PVC, Schedule 40, Rigid Conduit about 16 inches long. The PVC splicing section has four equally spaced, 4 inch long slits at each end and is slid onto one of the tubes prior to assembly. The two sections of tubing are butted together, and a 6 inch wide piece of aluminum flashing is centered at the joint and wrapped around the tubes so as to make one thickness turn. The ends of the tubing should be cleaned with fine steel wool before applying the flashing wrap to ensure a good electrical joint. Pipe clamps can be used to temporarily secure the aluminum flashing while the PVC pipe is slid along the tubing to cover the joint and centered across the joint. When the PVC pipe is positioned, four pipe clamps are installed as shown, securing the pipe to the tubing and making a very mechanically secure, non-slip joint. The aluminum flashing, which fits snugly under the PVC pipe, maintains the electrical integrity at the joint. Silicone sealer can be used over the slits and at each end of the PC pipe where it meets the irrigation tubing to keep moisture out.

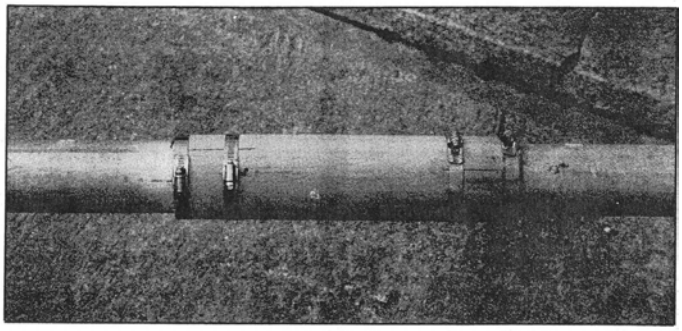

Photo 2– The method of splicing two sections of tubing together.

Photos No. 3, 4, and 5 My method of mounting the balun and transmission-line transformer at the bottom and top ends of the coax mast are shown in photos 3 and 4, respectively. (See page 5) The balun is described in Fig. 2 (See page 5); the matching transformer is shown in Fig. 3 (See page 5). The protective covers made of PVC pipe are also shown. The one used at the top of the mast has four eyebolts mounted equidistant around the pipe for guying. Two screws with lugs on the inside and outside are run through the PVC pipe for connection between the transformer located inside the pipe and the outside world. The feedpoint of the antenna is connected to the lugs on the outside. The upper

(Continued on page 5)

(Continued from page 4)

protective pipe is adorned with a cap, as shown in Photo 5, (this page) to keep out the elements and birds that might find the top of the coax mast an attractive nesting area! Both the bottom and top protective pipes are slit and clamped with a single pipe clamp.

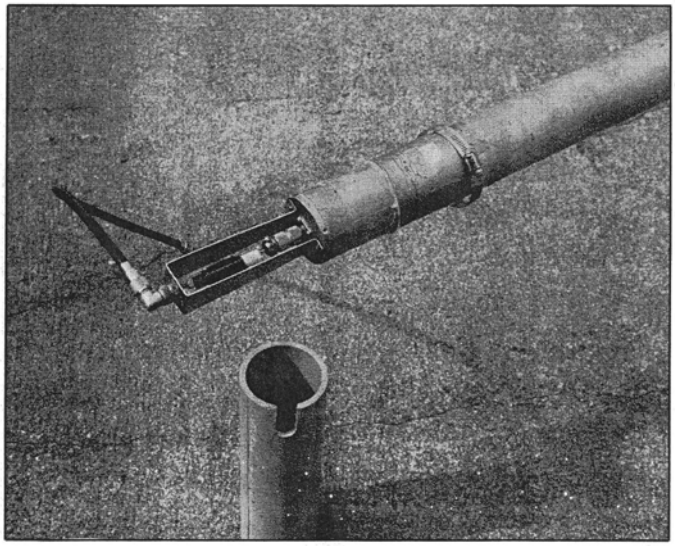

Photo 3– Method of mounting the balun and transmission-line transformer at the bottom of the coax mast.

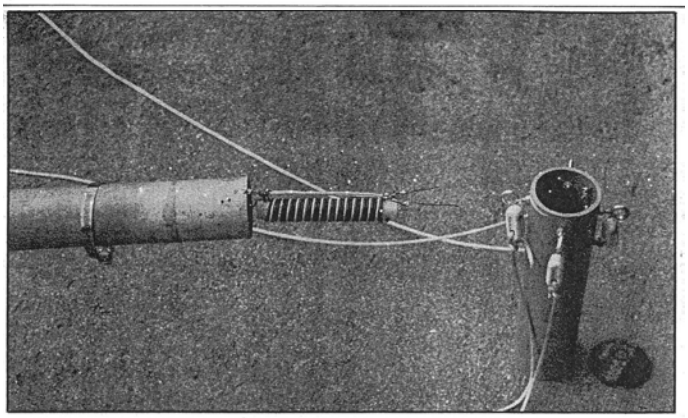

Photo 4– Mounting the balun and transmission-line transformer at the top of the coax mast.

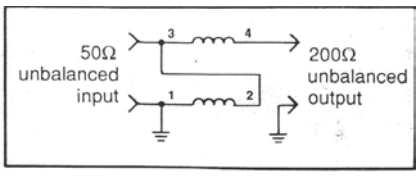

Fig. 2– Fifty-two ohm to 200 ohm unbalanced auto-transformer (bottom of mast). Eleven bifilar turns No. 14 enamel wire, close wound, on an Amidon R-61-050-400 rod. (Rod is 4 inches long, ½ inch in diameter with 125 permeability.) A standard 4:1 balun can be used, providing the windings are reconnected in the same configuration as shown in the diagram.

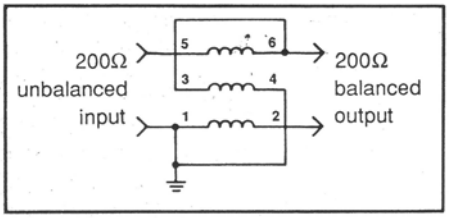

Fig. 3– Two-hundred ohm 1:1 balun (top of mast). Sixteen trifilar turns No. 12 insulated wire on ¾ inch PVC pipe form (⅞ inch O.D.) 7½ inches long. Wire type used was THHN/THWN and was close wound on the form. The insulation provides the necessary spacing between the conductors to obtain the 200 ohm (approximate) impedance.

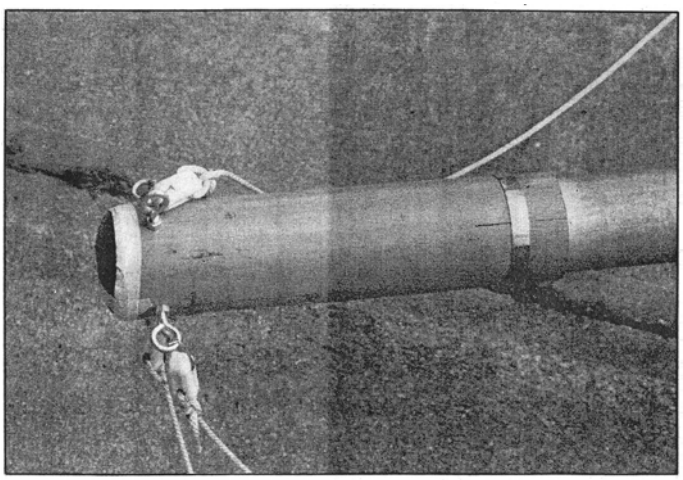

Photo 5– Upper protective pipe with a cap to keep out the elements and birds.

Photo No. 6 This photo (See Page 6) shows my completed mast with guy ropes connected, ready to be erected.

Photo No. 7 The erected coax mast, with guys and the ladder line of the folded dipole just barely visible in the upper left corner, is shown on Page 6. As can be seen, I have no shortage of trees on which to hang antennas, but the center of my antenna was positioned where there was no tree or other support available in the middle of the yard. The coax mast was a natural in this situation, especially since the antenna became an inverted Vee.

Suggestions

As I mentioned previously, a coax mast or rigid coaxial transmission line fabricated in the manner described could provide you with a fairly inexpensive antenna support which would also serve as a transmission line capable of handling high power with relatively low loss.

(Continued on page 6)

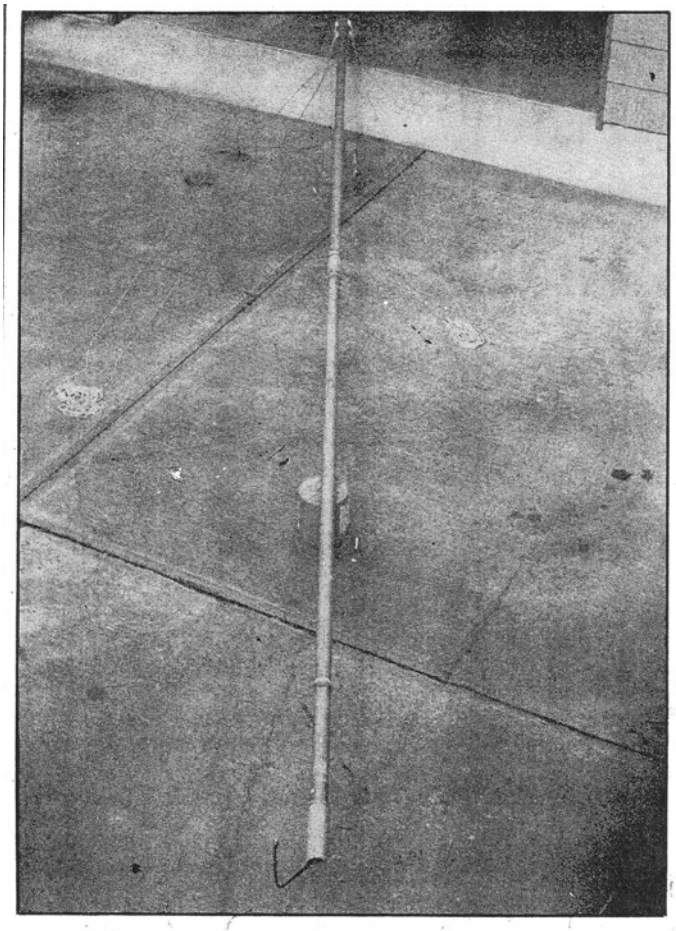

Photo 6– The completed mast with the guy ropes connected, is now ready to go.

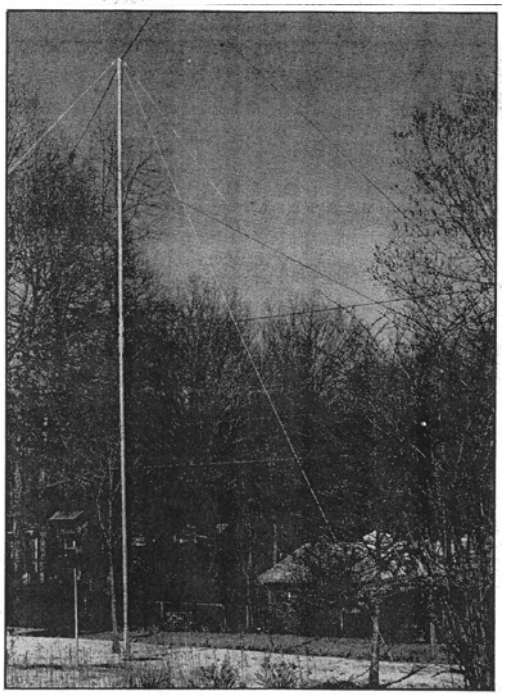

Photo 7– The erected coax mast, with guys and ladder line of the folded dipole shown in the upper left corner.

(Continued from page 5)

You could use the coax mast as the support for one end of a delta loop fed at one of the upper corners. It could be quickly assembled at site and used for portable or Field Day operations, especially in areas devoid of trees or other supports for antennas. When using the coax mast for inverted Vees, the antenna wire elements rather than rope could be used as guys.

How about a disguised feedline in the form of a copper or aluminum downspout? No one ever said that a coaxial line had to be round. It would be interesting to run an inner conductor down the center of a rectangular downspout to see what the surge impedance might be! It would be interesting to build one about 45 feet high with an impedance of 50 ohms upon which an omnidirectional 2 meter antenna or a small rotator and a 2 meter beam are installed. I would think that this coax mast, being guyed properly, should support the weight of the antenna system and rotator. If you are careful in fabricating a rigid coaxial line, as described in this article, it should be possible to use it at UHF frequencies if you don't introduce impedance bumps due to significant mechanical variations such as dents and poorly constructed joints.

One last thing. Grounding. In my installation I drove two ground rods into the ground on each side of the coax mast and clamped them to the side of the irrigation tubing near the bottom for safety. This also provides anchoring for the base of the coax mast.

I'll bet that someone reading this article right now has figured out a unique way to use a coax mast! Good luck!

Pun Phun

Here's a few "groaners" to help you through the hot weather we've been having of late. . . .

- Two silk worms had a race. They ended up in a tie.
- Atheism is a non-prophet organization.
- I thought I saw an eye doctor on an Alaskan island, but it turned out to be an optical Aleutian.

(Continued from page 1)

2010 ARRL International DX CW Scores

Call	Final Score	Area	Class	Place/No in Class
K2SX	1,623,930	US – Call Area 4	Single Op, Assisted, All Bands	9/97
K4LY	706,482	South Carolina	Single Op, Low Power	1/3
K4YR	416,520	North Carolina	Single Op, High Power, All Bands	2/10
K5EK	1,096,875	US – Call Area 4	Single Op, Assisted, All Bands	11/97
KH6/AA4V	595,665	Oceania	Single Op, Assisted, All Bands	2/6
KI4TZ	339,240	US – Call Area 4	Single Op, Assisted, All Bands	42/97
KZ2I	3,564	North Carolina	Single Op, 40 meters	1/1
N2TU	1,679,535	US – Call Area 4	Single Op, Assisted, All Bands	7/97
N4PQX	515,214	US – Call Area 4	Single Op, Assisted, All Bands	30/97
N4ZC	1,974,465	US – Call Area 4	Single Op, Assisted, All Bands	5/97
W3GQ	1,668,225	US – Call Area 4	Single Op, Assisted, All Bands	8/97
W3OA	1,126,476	US – Call Area 4	Single Op, Assisted, All Bands	10/97
W4ZV	74,028	US & Canada	Single Op, 160 meters	1/25
W7DO	880,650	South Carolina	Single Op, High Power	1/1

(Continued from page 1)

Results of the 2009 CQWW SSB Contest

We hope to have similar information for the CW contest next month. We won't know how we did in the Club Competition until then because both SSB and CW results are used in computing club scores.

Mark your calendar for this year's CQWW contests. SSB is the weekend of October 29, CW the weekend of November 26. Get going on those antenna projects now so you'll be ready in October!

Call	Final Score	Area	Class	Place/No in Class
AA4V/VP9 (AA4V & N4SF)	3,660,006	Bermuda	Multi-Op, Two Transmitter	1/1
IS0/K7QB (IN3QBR)	33,462	Sardinia	Single Band, 160meters	1/1
K2SX	163,976	US – Call Area 4	Single Op, Assisted, All Bands	36/72
K4DXA	478,932	US – Call Area 4	Single Op, Assisted, All Bands	18/72
K4LY	369,380	US	QRP	1/20 Also 2nd in World
K5EK	821,788	US – Call Area 4	Single Op, Assisted, All Bands	13/72
KI4TZ	820,973	US – Call Area 4	Single Op, High Power, All Bands	9/71
KU4V	284,859	US – Call Area 4	Single Op, Assisted, All Bands	28/72
KY4P	202,391	US – Call Area 4	Single Op, High Power, All Bands	24/71
KZ2I	522,013	US – Call Area 4	Single Op, High Power, All Bands	16/71
N2TU	969,290	US – Call Area 4	Single Op, Assisted, All Bands	11/72
N4PQX	1,175,040	US – Call Area 4	Single Op, High Power, All Bands	6/71
N4ZC	976,580	US – Call Area 4	Single Op, Assisted, All Bands	10/72
NV4A	198,660	US – Call Area 4	Single Op, Assisted, All Bands	33/72
W3GQ	1,636,404	US – Call Area 4	Single Op, Assisted, All Bands	2/72
W3OA	1,113,189	US – Call Area 4	Single Op, Assisted, All Bands	8/72

DX King News

Dick Williams, W3OA

Item 1: Full details of our DX King Contest and your chances to win a CDXA Jacket from Lands' End or an AES Gift Certificate are on page 10 of the January Pileup (http://cdxa.org/pileup/Archives/cdxa1001.pdf).

Item 2: These are the scores I have for the 2010 DX King competition as of July 31:

Call	Category	Countries	Zones	Total
K5EK	Unlimited	242	40	282
W3GQ	Unlimited	233	39	272
W4HG	Unlimited	230	40	270
W7DO**	Unlimited	217	40	257
K4YR	Unlimited	216	40	256
W3OA	Unlimited	211	38	249
N4PQX	Unlimited	192	39	232
W4UFO	Unlimited	168	39	207
N2TU	Unlimited	158	37	195
W3ZL	Formula	159	33	192
K8YC	Unlimited	148	35	183
W3NC	Unlimited	147	34	181
KZ2I	Unlimited	137	34	171
K1MIJ*	Unlimited	130	33	163
W4HLD	Unlimited	120	32	152
K4ESE	Unlimited	119	32	151
K4DXA	Unlimited	107	32	139
W4WNT	Formula	97	24	121
N4QVM	Unlimited	77	25	102

* New entry this month.
** All CW

Item 3: Don't forget to send me your DX marathon scores (w3oa@roadrunner.com) as of the last day of each month after your score reaches 100.

Ten and Twenty Years Ago. . . .

Ten Years Ago

K4MD was busy rebuilding our cluster node with a new operating system and was replacing Pavilion's Packet-Cluster software with AR-Cluster. AR-Cluster would clear the way to provide telnet access to the CDXA Cluster. . . .CDXA was encouraging all members to take the newsletter electronically as a PDF file to speed delivery and reduce production expenses of printing and postage. . . . Gary Dixon (K4MQG) was retiring as CDXA Secretary-Treasurer after holding that job for a number of years. . . . Bill Parris was in the process of relocating to Frankfort, Michigan and became active in the BARF group (read the old Pileup to find out what that is!). . . . The Roving Reporter found Ted Goldthorpe and interviewed him. . . .Mike Farad and Millie Henry introduced the members of CDXA to Norton's Theorem of circuit equivalence.

Twenty Years Ago

Five members of CDXA ventured to the Bahamas to operate in the June VHF contest as C6AFR as reported in the August, 1990 issue of the Pileup. . . . While callsigns may have changed, the names at C6AFR will be recognized as Ken Boyd, Gary Dixon, Ted Goldthorpe, Bill Parris and Ric Porter. . . . Ask Ted to tell you about his catamaran ride while in the Bahamas. . . . Good grounding techniques were as much an interest 20 years ago as they are today as evidenced by an article on that topic.

Noteworthy Upcoming Events

Coming off the "lazy, crazy days of summer", we have a few noteworthy events coming up in September and early October. Make sure they're on your calendar.

September 11-13	ARRL September VHF Contest
September 24	Ten-Tec Hamfest in Sevierville, TN
September 25	SEDCO W4DXCC VI in Pigeon Forge, TN
October 9	CDXA Annual Barbeque hosted by Bob and Wanda Burton

Here's a letter the CDXA Editor received from the First Class CW Operators' Club recently. More and more people are picking up the banner to promote good operating habits. Do your part in passing the word.

John Scott, K8YC, Editor

Dear John 2 April 2010

Improving HF DX operating behaviour

I am writing to raise a matter of increasing concern about the standard of on-the-air operating. A number of your readers have, I'm sure, commented to you that there is now a serious problem with operating behaviour, especially when calling DX stations in pile-ups on the HF bands.

As President of *The First Class CW Operators' Club* (FOC), I and Randy, W6SJ, in partnership with leading DX operators, have decided that we will take the initiative to encourage all DXers to work together in order to improve standards. To this end we have created the following simple DX Code of Conduct which I would ask you to bring to the attention of your readers. If we all pull together to improve standards then we will all be able to work more DX and have more fun on-the-air.

More information is available at the FOC website:

http://www.g4foc.org/

in March 2010 QST, at:

http://www.g4ifb.com/html/dxing.html#PileupTips

and in more detail at:

http://www.on4ww.be/OperatingPracticeEnglish.html

Please translate the DX Code into your local language if that makes the message more effective.

Thanks for your help and 73,

Bob Whelan, G3PJT, President, FOC.

DX CODE OF CONDUCT

1. **I WILL LISTEN, AND LISTEN, AND THEN LISTEN SOME MORE.**
2. **I WILL ONLY CALL IF I CAN COPY THE DX STATION PROPERLY.**
3. **I WILL NOT TRUST THE CLUSTER AND WILL BE SURE OF THE DX STATION'S CALL SIGN BEFORE CALLING.**
4. **I WILL NOT INTERFERE WITH THE DX STATION NOR ANYONE CALLING HIM AND WILL NEVER TUNE UP ON THE DX FREQUENCY OR IN THE QSX SLOT.**
5. **I WILL WAIT FOR THE DX STATION TO END A CONTACT BEFORE CALLING HIM.**
6. **I WILL ALWAYS SEND MY FULL CALL SIGN.**
7. **I WILL CALL AND THEN LISTEN FOR A REASONABLE INTERVAL. I WILL NOT CALL CONTINUOUSLY.**
8. **I WILL NOT TRANSMIT WHEN THE DX OPERATOR CALLS ANOTHER CALL SIGN, NOT MINE.**
9. **I WILL NOT TRANSMIT WHEN THE DX OPERATOR QUERIES A CALL SIGN NOT LIKE MINE.**
10. **I WILL NOT TRANSMIT WHEN THE DX STATION CALLS OTHER GEOGRAPHIC AREAS THAN MINE.**
11. **WHEN THE DX OPERATOR CALLS ME, I WILL NOT REPEAT MY CALL SIGN UNLESS I THINK HE HAS COPIED IT INCORRECTLY.**
12. **I WILL BE THANKFUL IF AND WHEN I DO MAKE A CONTACT.**
13. **I WILL RESPECT MY FELLOW HAMS AND CONDUCT MYSELF SO AS TO EARN THEIR RESPECT.**

The Back Page

Results of CDXA's performance in the **ARRL International DX CW** contest are now available. Page 1.

CQ Magazine released the results of **CQWW SSB 2009**, and CDXA made a good showing. Page 1.

Dick Genaille is back with us this month with an interesting article on how to make a **mast/feedline from 3" irrigation pipe** so you can have a low loss and high power capacity support for that antenna you've always wanted to build.

Numbers are starting to build to some good levels in the **DX King 2010 Competition**. Are we finally getting some help from Cycle 24? See Page 8.

Check out the **three upcoming events** that should be on your calendar—September VHF Party, SEDCO, and the Annual CDXA BBQ. See Page 8.

The First Class CW Operators' Club (FOC) picks up the banner in reminding all what is expected in **good HF DX operating habits** for Amateur Radio Operators. See Page 9.

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First Class Mail

See something wrong with your address label? Notify W3ZL at once, please.