



# Scuttlebutt

October 2011

Issue 211

**Next Meeting:  
October 8th - Noon till 5PM  
Springfield Technical Community College,  
Armory Square,  
Springfield, Massachusetts**

## **Captain's Cabin**

**Tony Brock-Fisher, K1KP  
President**

(...written Labor Day Weekend...)

Two weeks ago, my guest ops and I were working to do the major antenna project of 2011. Despite the early morning heat and dripping humidity, with thanks to Mark and Web, the project was completed flawlessly in under 4 hours – which must have been a record time for swapping a 40 meter beam, modifying a KT-36XA (without removing bringing it down the tower), and replacing a thrust bearing!

One week ago, I was hoping and praying that hurricane Irene would not make the previous week's job into some sort of cruel joke. Fortunately Irene had weakened enough that everything survived. I'm hoping she fulfilled our once-every-twenty-years hurricane quota for New England. I was more than just slightly concerned for all the antennas in YCCC territory – Irene could have been a game-changer for this season's contest results. From the lack of damage reports on the YCCC reflector, it sounds like we dodged a major bullet.

This Labor Day weekend, I sit in my quiet campsite in Maine, contemplating the task ahead of me – to write the most important Captain's Cabin column of the year! This must be a motivational jewel, Job #1, to get folks on their feet and pumped to work the upcoming contests and beat FRC! By this point it's no secret that YCCC came in second in ARRL DX for last year. In other words, we lost. As the Queen of England was told when they lost the first America's Cup race: 'Your Majesty, there is no second (place)'

It wasn't so much that we lost that hurts, but that we lost ARRL DX by the narrowest of margins! Looking over the ARRL scores for the last ten years, this is by far the slimmest margin of defeat. To put it into perspective, the margin was less than a single single op entry in both modes. The good news is that it wouldn't take much to make the difference. The bad news is that FRC has seen the results of increasing participation, and surely will follow the same strategy to come at us again this year. The best news is that WE BLEW THEM AWAY IN CQWW!!!

In 4 weeks, we will hold our contest season kickoff meeting. It's my hope that we will have record attendance, and raise the level of spirit and participation in the upcoming contest season. We hope to have some great presentations about DXpeditioning, submitting you scores for YCCC, and the Kickoff of the 2010-2011 YCCC Awards Program (hint: You may already have won)!

(Continued on Page 4)

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## DIRECTIONS to YCCC General Meeting: Springfield Technical Community College (STCC), Armory Square, Springfield, MA

<b>From Rt. 91 North:</b>	<b>From Rt. 91 South:</b>	<b>From The Massachusetts Turnpike:</b>
Take Exit 6, Springfield Center	Take Exit 7, Springfield Center	Take Exit 6, Springfield.
At 2nd light turn right onto State St.	At 2nd light turn left. Go under the underpass to the traffic light, continue straight onto State St.	Turn left onto Route 291
At 5th light turn left onto Federal St	At 5th light turn left onto Federal St.	Take Rt. 91 South toward Hartford
Turn left into STCC's main gate.	Turn left into STCC's main gate.	Follow directions from Rt. 91 South

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The editorial deadline for the Scuttlebutt is the 10<sup>th</sup> of every odd month.

# Flotsam & Jetsam

Barnacle Jack (BJ) Schuster, W1WEF [w1wef@arrl.net](mailto:w1wef@arrl.net)

Ahoy maties!

BJ hopes you fared the storm as well as he did. All he had to do was lift a few trees off of one beverage, and splice the other one with a split bolt connector still tbd while waiting for the swamp underneath to dry) .

Jim W1EQO took his verticals down before the storm. He didn't trust the AB577 tower verticals to stand up.

Conditions in the NA CW Sprint on Sept 11 started out as good as it gets on 20 and 40. It's always a thrill to find a new mult, or have one call in, and I lucked out with PJ7/K9VV calling in, and nabbing KL8C after hearing him sign with someone else. The someone else turned out to be K6VVA who I've worked for years and met in Visalia for the first time a couple years ago. Both those mults were pretty weak, but the band noise was way down so hopefully I copied them OK. I wound up with 45 mults, one less than the winner, N2IC with 46. What did I miss? CT!

40 was so good, I stayed longer than usual before going to 80, and went there for the last hour thinking I'd have a fantastic final hour going as late as I did. It didn't happen. As quiet as 80 turned out to be, I never felt so weak and couldn't raise a single station on CQs. Although it was very discouraging, the lesson learned a long time ago (but not always followed), to keep plugging away until the end, paid off and I was pleased to find that my final score was higher than several others who had a higher serial number when I worked them. You never know if the other guys are having the same hard time you are.

As I sit here at the kitchen table with the recently replaced microwave oven staring me in the face while waiting to go to the dump, I'm reminded of a European who recently commented on one of the Reflectors that he builds amplifiers with old microwave oven parts. He said he can build a 500W amp using the power transformer, and a cheap Russian tube. The cabinet actually looks like it would make a nice amp cabinet. Maybe I'll take it apart before I bring it to the dump!

Another recent post suggested that some of the old test equipment that goes for next to nothing at flea markets is built in really nice cabinets that can be used for home brew projects.

I'm not sure if I passed along these tips already: When you have to get a screw in a spot that is hard to reach and want to temporarily hold it on the screwdriver, I find that toilet ring sealing wax works great. I had to use that trick just yesterday when installing the pedestal on a new TV set with deeply recessed screws. Every ham should have a spare toilet seal! Hi I find this works better than a magnetized screwdriver.

The other handy tip from K1TO that I may have mentioned before was just in the ARRL Contest update. Two U Bolt saddles with two thru bolts make a handy clamp to put around a mast when you want temporarily insurance over a thrust bearing while the rotor is removed, or as a place to put a sling or rope around the mast where you don't want it to slide down.

Take a look at the YCCC website if you haven't seen it in a while. I have to admit, I don't look very often, but just discovered lots of interesting stuff there, like links to member's homepages, and Scuttlebutts back to 1997. Thanks to webmaster Lynne Glagowski, WB1CCL. Let her know if you have any updates.

If you haven't already seen it yet, there's a you tube video of K9CT's station that you ought to look at. <http://www.youtube.com/watch?v=eUWI38ocVTM> You will be humbled, but you won't feel bad if K9CT beats you in a contest.

That's all for now ...

73 GL in Contest Season...

Barnacle Jack W1WEF

(Captains Cabin: continued from Page 1)

To get us started, I'm including the 'Top Ten Reasons to Get on the Air and Contribute a YCCC Score'

- #10. It's more fun than going out with the XYL to buy furniture! Tell her YCCC Needs You! Give her the credit card and get on the air!
- #9. You can find out if all the station improvements you made since last year have made a big difference in your score! Does the K3 really work more multipliers than the Pro2? Does the front to back on the Steppir really get rid of K3LR behind you?
- #8. The thrill of being called by a rare multiplier while working through the Europeans. Even better when you're running 100 watts to a dipole!
- #7. Watching the multipliers follow your carefully thought out band plans and propagation charts. (You do make a plan, don't you)?
- #6. Working rate as a guest op at a multi-multi, and achieving a personal best!
- #5. Running 5w Europeans on Ten (will it open this year)?
- #4. Watching your score blow by your local competition on Getscores!
- #3. Showing a newbie the ropes, passing on your pearls of wisdom, sharing the fun, and increasing the contest ranks!
- #2. Operating your first ever Dxpedition!
- #1. CQWW is THE BIG ONE! Don't miss it and don't forget to submit your score for YCCC! YCCC needs you!

Eight weeks from today, we will be working the CQWW SSB Contest. If for some reason you're not already on the air, get into the shack, flip on the rig, and make some points for YCCC! Being part of a club is fun, but one of the biggest reasons it is fun for me is that it makes my score and my participation more relevant. Even though my station is paycheck- and real-estate-limited, maximizing my score has a different meaning when the points are going towards the club effort. Its great to be part of a winning team!

Maybe you're a big gun. Do your best, break a record; YCCC needs your score.

Maybe you'r a Multi-Op Host. YCCC thanks you for all the effort and resources you have poured into your station. YCCC needs your score.

Maybe you are a Lone Wolf, a Single Op Iron Man. YCCC appreciates your ability to stay awake and stay in the chair. YCCC needs your score.

Maybe you are a One chair social animal. Hunt the mults on the band map, make sure the call is correct, and work them for the club. YCCC needs your score.

Maybe you only have 100 watts, a dipole, and four hours Saturday morning. YCCC needs your score!

Maybe you are a single-band QRP op. Yup, you got it right: YCCC needs your score!

The leaves are still on the trees, and the weather is still nice enough to put up antennas (between hurricanes). In just a few short weeks, the leaves will turn and start to fall. It seems that when foliage season reaches it's peak, and the air turns crisp and cool, my favorite contest of all is right around the corner. I can't wait!

# YCCC Wins 2011 ARRL DX—Not!

Dave Hoaglin, K1HT  
YCCC Scorekeeper

The results of the club competition in the 2011 ARRL DX Contest, in the September issue of *QST*, were better than I had expected from the claimed scores, but FRC still came out higher. Their total was 222,644,199 to our 220,000,884.

**FRC: 222,644,199**  
**YCCC: 220,000,884**

In a quick look at the results database, I found two CW scores that should not have been credited to YCCC. (I disclaimed them, and KX9X removed them.) That brought our total down to 216,446,088.

Even then, YCCC should have won. The results database contained four scores, by eligible members, that were not assigned to YCCC. (I had them in my claimed total, because they had been posted on the 3830 Reflector as YCCC.) If those four scores had been included, our total would have been 228,707,610! In the words of the old Pogo cartoon, “We have met the enemy, and he is us.”

What went wrong? Those four logs should have had “Yankee Clipper Contest Club” on the CLUB line, but that line was blank! It doesn’t help the Club when you make a good score, but then it doesn’t count.

It’s not hard to avoid this problem. It just takes another step: Use software (any software) that can read a text file (a Cabrillo log is just a text file), and look at the lines at the front of the log before you submit it. Don’t count on a logging program to put the club name in the log. If “Yankee Clipper Contest Club” isn’t on the CLUB line, insert it. Create that line if it’s not in the file (it begins CLUB:).

Also, please look at the OPERATORS line in the Cabrillo file. It should show the callsign by which you’re known in YCCC; that’s the callsign that will be in the list of eligible members that the Club submits. For a multi-op, it should show the callsigns of all the operators. (And all multi-op logs for CQWW DX need to show, in the SOAPBOX lines, which operators are members of YCCC.)

Another disappointment in ARRL DX was the no-shows. Five entries for which I had claimed scores were nowhere to be found in the results database. Apparently, those logs were never submitted. Please remember to send in your log before the deadline. And then check the list of submitted logs on the sponsor’s website.

I would like to repeat a request that I’ve made before: **Please report your claimed score to the Scorekeeper!** Of the 94 scores in the results database for ARRL DX CW, I had not seen claimed scores for 20. That’s right, 20! And on SSB 17 scores were new to me. Many of those claimed scores were not small. In the face of so much missing data, it’s difficult to give the Club an accurate report on the contest. You can send your claimed score and summary info to [scores@yccc.org](mailto:scores@yccc.org). If you post your claimed score on the YCCC Reflector or the 3830 Reflector, I will probably see it; but I will definitely get it if you send it to that e-mail address.

Finally, though I haven’t yet analyzed the percentage by which the log checking reduced the individual scores, it’s clear that some members suffered substantial reductions. Please review your log-checking reports and look for patterns that may show where you can improve. Don’t hesitate to ask for help, either in analyzing your reports or in devising a strategy for doing better. YCCC is fortunate to have a number of experienced members whose error rates are consistently low. They’re a good source of advice.

Now it’s time to turn our attention to CQWW DX. Have fun, and remember to report your scores.

<b>Save these Dates!!</b>		
<b>2011-2012</b>		
<b>YCCC MEETING SCHEDULE</b>		
<b>Day</b>	<b>Date</b>	<b>Location</b>
Sunday	Dec 4, 2011	Sturbridge, MA
Saturday	Feb 4, 2012	Newington, CT
Sunday	Apr 1, 2012	Sturbridge, MA
<b>Note: Dates are firm</b>		
<b>Locations may change based on rooms/facilities availability</b>		

# YCCC Awards Program

Al Frugoli - KE1FO  
YCCC Awards Program Manager

Not every YCCC member is going to be able to earn an award or certificate from ARRL or CQ in the big DX contests. However it is very important that every YCCC member get on the air for these "big four" contests so we can continue to win the Large Club category award. To that end, we felt that the YCCC should sponsor an incentive program that recognized the achievements of YCCC members - both small and large - in a very public way.

The awards program has three components to it. First, there is the participation component, which is the component that we are rolling out this year. To receive a participation award, you must meet three criteria:

- Participate in 4 of the "big four" contests (CQWDX CW & SSB and ARRLDX CW & SSB), starting with the 2010-11 contest year. It is possible to attain the participation award in 1 year by entering all 4 contests. Or, a member could enter CQWW CW and ARRL CW for 2 years to attain the participation award. As soon as a member has participated in 4 majors, no matter how many years it takes, they are eligible for the Participation Award.
- Be a YCCC member with dues paid for the years in which scores were submitted.
- Report your scores to the YCCC Awards Program manager by October 1 (instructions on this are covered later in this document).

One thing that will make this program manageable, is that I am looking to the individual members to provide their score information to me so that I can tabulate the scores and determine awards. To be very clear, to be eligible for an award, you MUST provide your OFFICIAL score (score after log checking that is published on the ARRL website or in CQ magazine) to me by October 1. We are expecting that our members will be honest and truthful in their score reporting, and any violators will be banned from the awards program indefinitely.

We will be handing out nice newly produced YCCC hats at the October meeting to anybody who has earned the participation award. You must be present at a meeting to receive your hat. (We will be making enough hats for everyone but there may not be enough available for everyone by the October meeting; therefore they will be given out based on the order of your application for the award – get your applications in early)!

The second component is an improvement award, which will be awarded starting in October of 2012. This component of the program will recognize year over year improvement of scores based on the following scale:

- For previous year scores 50k-100k you must improve by 100%
- For previous year scores from 100-250k, you must improve by 50%
- For previous year scores from 250k-1meg you must improve by 25%
- For previous year scores 1meg-2meg, you must improve by 15%
- For previous year scores 2meg + you must improve by 5%

Scores from the 2011-12 contest year will be compared against scores for the same contest from the 2010-11 contest year to determine if an improvement award is earned, so it is important to get your 2010-11 scores in, even if you won't qualify for the Participation award this year. There will be more information about this aspect of the program as the year progresses.

The third component will also start in October of 2012, and that is the Achievement awards. These awards will be given out for contributions to the overall club scores in a given contest season. Again, more information about this part of the program will be forthcoming over the next year.

## How to Apply for an Award:

Now for the nuts and bolts - how to report your scores for THIS PAST contest season (CQWW DX SSB & CW in 2010 and ARRL DX CW & SSB in 2011).

In the future, I plan to have a webform available on the YCCC website for reporting scores. With the short timeline for getting the program off the ground this year, I am asking that you please e-mail your scores to me. To apply for a Participation Award this year you must send me an email with your scores. All scores for award purposes this year should go to [ycccawards@ke1fo.info](mailto:ycccawards@ke1fo.info). It would be helpful if you provided them in the following format:

Your call, contest name including mode (Cabrillo contest ID is ideal), official score, callsign of multiop station or station you operated that will appear in official results if applicable.

Each contest you participated in should be on a separate line. For example, my score submission for last contest season might look like this:

KE1FO, CQ-WW-CW, 1399244  
KE1FO, ARRL-DX-CW, 993457

I only have 3 fields in each line because I operated single op from my station, using my call. Had I used the call W1MOO for both contests, then I would have added that as the last field on each line. The Cabrillo contest ID's for the "big four" contests are CQ-WW-CW, CQ-WW-SSB, ARRL-DX-CW and ARRL-DX-SSB.

Another example:

K1KP, ARRL-DX-SSB, 343293, K1KP  
K1KP, ARRL-DX-CW, 811188  
K1KP, CQ-WW-SSB, 451,827, K1KP  
K1KP, CQ-WW-CW, 813,575, K1KP

Here are some resources to find your official score, if you don't have it at your fingertips:

- ARRL scores are available on their website in the ARRL Scores database. This database can be found at <http://www.arrl.org/results-database>. First, select the contest you want the results for. Then, at the bottom of the first page of results, you will find some filtering tools. Enter your callsign (remember, this would be the callsign that the score was submitted under - multiop, or station call if you were a guest op), and filter the results. You should now just have your score.
- For CQWW it is a little more complicated, as they don't publish their results online until well after they have been published in the magazine (certainly not in time to meet the YCCC award program deadline of October 1). If you submitted your score electronically to CQWW, you should have received an e-mail recently entitled "yourcall CQWW CW (or SSB) 2010 Log Checking Report". I received mine for the CW contest on August 25, 2011. This e-mail includes a link to the online UBN reports as well as a username and password for you to access the UBN report. In the UBN report you will find your "Final Score" near the bottom of the document. For folks who don't have that e-mail any longer, or who submitted their scores by mail, hopefully there are some members with the results issue of CQ that can help you out with your official "Final Score" for those contests.

For members who operated from a multiop station, please remember to enter only YOUR SHARE of the score in this e-mail. That means if you operated ARRL DX CW from KC1XX, you need to divide the total score (12,145,458) by 6 (the total number of operators - KC1XX, DL1MGB, K1TR, N9NC, W1FV, WA1Z), so your score would be 2024243 for the purposes of the awards program.

I'm very excited about the awards program, and I hope to have great participation. It's a wonderful way for us all to recognize the individual contribution of each YCCC Member towards our Club's winning efforts.

The details of the Awards Program were presented at the August meeting. They are also available on the YCCC website at <http://www.yccc.org/awards/index.htm>.

If you have any questions, please email me at [ke1fo@arrl.net](mailto:ke1fo@arrl.net).

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## Contests on Getscores.org

Gerry W1VE

The following contests are set up for live scoring on Getscores.org.

CQ WW RTTY Contest

CQ WW DX Contest, SSB

ARRL Sweepstakes, CW

Oceania DX Contest, CW

Oceania DX Contest, Phone

Worked All Germany Contest

California QSO Party

If you would like to see your favorite contest added, please email me with the contest name, dates, and the Cabrillo code.

# Moxon Project – Conclusion

Tony Brock-Fisher, K1KP

In the June Scuttlebutt I wrote that I was beginning a project to build the W6NL 40 meter moxon. Over the summer the project gained considerable momentum, with the result that I now have a fantastic new 40m beam ready for the upcoming contest season.

After soliciting interest among the members at the K1RX picnic in June, I came up with a list of around 5 people who were seriously interested in the antenna. We have kept in touch as many of us worked through the project, and have shared tips, techniques, and materials.

## Background

Dave Leeson, W6NL (ex W6QHS) originally designed the antenna as a modification to the Cushcraft XM240 2 element 40 meter beam. The design uses unique 'Tee Sections' to eliminate the lossy loading coils of the Cushcraft design. The elements are a bit longer overall, and what's really important is that the central sections, inside the loading point, is longer, which results in improved directivity over the original. Compared to the original Cushcraft design, the W6NL moxon has higher gain, wider SWR bandwidth, and better front/back. At K1KP I have always felt like 40 was a band where we could use some improvement. My old 40-2CD was tuned at the KC1XX compromise setting, resonant at 7075. The SWR rose rapidly, especially up in the phone band. I frequently found that as I bounced around in a SSB contest, working the split Europeans, I would usually give them a quick call. Often if they did not come back to me right away I would discover that my amp did not like the mismatch and I was actually only putting out 800 watts or so. The hope was that with the broader SWR curve my amp would be less fussy, and as I QSY'd up and down the band the amp would need less retuning. (This antenna project is considerably cheaper than any No-Tune Legal Limit amp!)

The W6NL writeups all show the modification based on the newer Cushcraft XM240 antenna, which is itself a mechanically redesigned version of the venerable 40-2CD. However, everyone in our group had the 40-2CD (or some variant) to work with, so I started out to redesign the modification to work with the 40-2CD. This meant that I would have to model the antenna both mechanically and electrically. I bought Yagi Mechanical from DX Engineering for the mechanical modeling, and use the freeware program '4nec2. For the electrical modelling. Additionally, the W6NL modification seemed to be based on tubing lengths of 4 feet, whereas all the sources for aluminum tubing (Cycle-24, Texas Towers, and DXE) sell 3 and 6 foot lengths. I wanted to modify the design to use the commonly available lengths with minimum waste.

While I was progressing with the design of the 40-2CD based version, I realized that it would be better for me to build the antenna completely from scratch, instead of modifying my existing antenna. Here's why:

- It allowed me to reduce the tower work to a single day, by having the new antenna ready to go up on the same day the old one came down. Less rigging and unrigging of tram lines, etc.
- Because of the wind survival and strength goals for the project, a lot of the 40-2CD was not reusable. The cost savings of reusing relatively few old parts from the 40-2CD was less than the resale value of the antenna. I would essentially be destroying a valuable asset.
- By keeping the 40-2CD intact, I could have it available to go back up the tower if the Moxon failed or didn't work well. If the Moxon worked out really well, I could sell the 40-2CD.
- The parts from the 40-2CD may not be easy to work with, due to having taken a 'set', or holes/burrs/etc.

Therefore I came up with two designs; one that reused parts from the 40-2CD and one that was scratch-built. I ended up building the scratch-built version.

The design goal was to improve survivability to approximately 80 MPH (no ice) for the elements and the boom, and yield an antenna with essentially the same performance electrically as the W6NL Moxon conversion of the XM-240. The dimensions for new tubing were arranged to make efficient use of commonly available tubing lengths (3' and 6').

## Mechanical Modeling

The antenna is difficult to model, both electrically and mechanically. There are two commercial mechanical modeling programs available, Yagi Stress (K7NV) and Yagi Mechanical (DX Engineering). Neither will accommodate the Tee sections of the antenna. Therefore I modeled the elements of the antenna as a 'boom', and the Tees of the antenna as 'elements'. There are several versions of the W6NL design available on the web – the latest and strongest is the 100MPH redesign version Dave did for K3LR (Tim has four of these antennas, so they must be pretty decent)! The 100 MPH version uses 1.66" OD aluminum pipe as the center of the elements. This has the advantage that the elements do not have to be trussed, but requires custom element clamps. I chose to stay with standard tubing sizes (.125" step size, .058" wall), using double-wall tubing in the elements and boom to get the wind survival up to 80 MPH, according to YM.

## Electrical Modeling

The antenna also refuses to behave itself under electrical modeling either! Modeling with 4nec2 showed that the W6NL dimensions came out low in frequency. The SWR minimum was below the bottom of the band, around 6.9 MHz; and the gain peak was even lower, around 6.65 MHz. At this point I was beginning to discuss the design with Stan, K5GO, who is part of Cycle-24 Aluminum, an excellent source for aluminum tubing. Stan volunteered to model the design using Nec4, and came up with the same results. This raised a large concern that the antenna might not come out on the correct frequency. It was pretty much like going back to the 'good old days' before computer modeling! Because of this doubt, I checked with Ned, K1GU and Tim, K3LR, both of whom have built this design. They both confirmed that if built to the W6NL specifications, it would come out on frequency. That was good enough for me! I did continue to use modeling as I tweaked the tubing tapers, but my goal was to match the W6NL design in frequency, not to make the frequency come out 'right'. As I played with the tapers to modify the W6NL design to use 3- and 6-foot tubing lengths, I found the greatest sensitivity to element diameter and taper was in the Tee sections. This makes sense, as the effects are multiplied by the fact that there are 8 Tee tips in play. For this reason I chose to use the exact W6NL Tee design, even though it was not optimized for commonly available tubing lengths. In point of fact the cost differential was minimal.

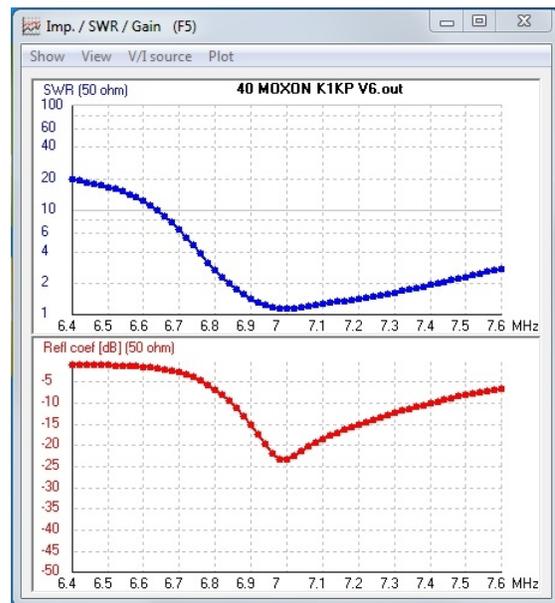
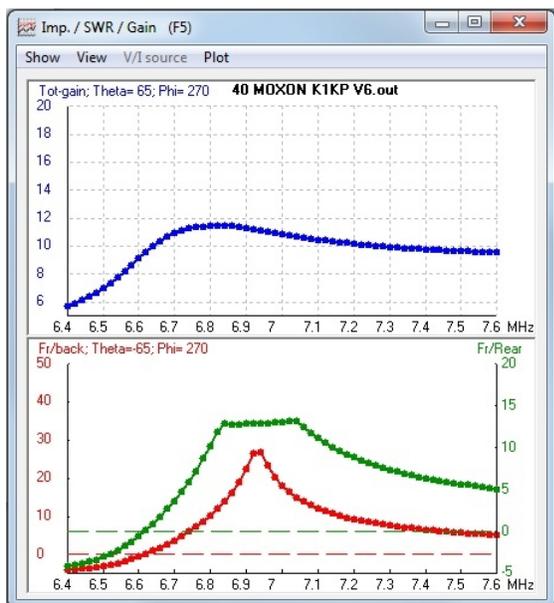
In summary, I came up with two complete design packages, one for a 40-2CD modification, and one for a scratchbuilt version. Late in July I committed to the project by placing orders for parts on eBay, and with Cycle-24 and DX Engineering. Little did I know that this was actually just the beginning of what seemed like endless daily trips to the local hardware store for 'just a few more things'!

The parts arrived the following week, and the next 3-4 weeks were spent drilling and cutting aluminum and assembling the antenna. Gradually it began to take shape on a pair of sawhorses in the back yard. This thing looked HUGE! The lawn grew to knee height as the weekly grass-mowing was suspended. Initial SWR tests at sawhorse and step-ladder height was disconcerting, with frequencies in low to mid 6's for both the driven element and reflector.

Finally by mid August I put a stake in the ground (or actually in the calendar) and committed to an installation date. With the help of Mark, K1RX and his crew and my guest operators as ground crew, the antenna replaced my reliable 40-2CD at the height of 68 feet. I stood by with a tubing cutter in hand, in case it had come out too low in frequency...

## But How Does It Play?

As soon as the coax could be connected, an SWR curve was run. The SWR was perfect! It was resonant right at 7.150, and the SWR was never above 1.5:1 anywhere in the band! So much for computer modeling! Even though the summer conditions and activity aren't optimum for much 40 meter DX, the antenna has already demonstrated that it is working as promised. The SWR is extremely well behaved, and my amplifier loves it – I can QSY across the entire band without retuning, and the amp still puts out within a couple hundred watts of what it was tuned up for. The antenna has fantastic front to back at the bottom end of the CW portion – 20 db or better. The F/B decreases but remains acceptably good all the way up to the top of the phone band. I usually get S9 plus reports running barefoot. So although I can't report true performance numbers to a tenth of a db, it's obvious that the antenna is working as expected.



## The Final Product - K1KP's 40M Moxon



If you are interest in building the design, please feel free to contact me by email ([barockteer@aol.com](mailto:barockteer@aol.com)) for writeups, model files, details, etc. I'd like to acknowledge suport of the group who are working on their own versions of this antenna, including K1LI, W0AD, KB1H, K2XA, and especially Jay, W1UJ, who has been tremendously enthusiastic about the project. Jay has many pictures of his version of the antenna, as well as some photos of mine installed on my tower, at his website at <http://w1uj.net/Moxon/>.

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And while we're talking antennas:

Here's Dick, KB1H's latest.

A custom "80M Vertical Beaming South", courtesy of Irene.

If he'd been closer to Springfield on June 1<sup>st</sup>,  
would it be a circularly polarized Helix?



# Eliminating the 40m boom resonance on the M2 KT-36XA

Tony Brock-Fisher, K1KP

The venerable KLM KT-34XA was re-released by M2 as the new and improved KT-36XA around 2000. While it is vastly improved mechanically and electrically from the original KLM design, the M2 version had a new problem: The boom is resonant on 40 meters. This means that stacking the M2 version with a 40m beam, or installing it close to other 40m antennas could cause problems to those antennas. For years, I have had a problem with the boom of the KT-36XA being resonant on 40m. This resonance would cause the SWR on my 40m beam, mounted 8 feet below the XA, to go up over 2:1 when the XA was turned so the boom was parallel to the elements of the 40m antenna. Note that this is *only* a problem on new M2 KT-36 XA antennas. The problem does not appear on the KLM versions, on KLM versions which have been upgraded with the M2 kit (which retains the lexan mounts), or any of the 4-element versions.

The change from the KLM version to the M2 version included a redesign of the element-to-boom mounting scheme. The KLM version had lexan plastic element mounts that kept the elements electrically isolated from the boom. The M2 version replaced the lexan mounts with much stronger all-aluminum mounting clamps. The downside is that now the elements are electrically connected to the boom.

Modeling was able to show that with the elements connected to the boom, the boom is resonant in the 40m band. In fact, if it was desired, it should be fairly easy to load the boom up as a dipole on 40m. Attempts to cancel this resonance with a parallel capacitor were unsuccessful. By disconnecting the elements from the boom in the modeling studies, it was found that isolating the reflector had the greatest effect. While isolating the director had some effect, it did not move the resonance as much as isolating the reflector, which moves the resonance up to around 10 MHz.

Finally, as part of a larger antenna project, I was able to try out the proposed modification. I added insulators to the reflector-boom mount on my KT-36XA. The goal was to eliminate the resonance of the boom on the 40m band.

DX Engineering Resin Support Blocks, P/N DXE-RSB-I10000, were used to provide insulated mounting of the reflector. The RSBs need to be modified in two ways: First, the bolt hole spacing on the M2 clamps is 1.375" but the RSBs have a bolt spacing of 1.301". This can be remedied by drilling out the holes in the RSBs so the bolts will fit. Note that the plastic is soft, so a reamer or 'uni-bit' step drill is recommended. Next, the RSBs will interfere with the bolts holding the element together. This interference is eliminated by sawing a corner off the RSBs where the bolt heads and nuts are located. This does not appear to reduce the strength excessively. DXE recommends supporting the RSBs with a flat metal plate; this can be accomplished by reversing the element clamp plates so the milled groove is on the outside.

The modification was a complete success! Now when turning the XA there is no insignificant change in the SWR on the 40m beam.

It would be possible to accomplish the same result by using the original lexan mount, or a new replacement lexan mount (available from DX Engineering), or using the insulating technique supplied by M2 for the driven elements. In these cases it will be necessary to make the connection across the element halves.

I would recommend this mod to anyone stacking the XA near a 40m antenna.

-Tony, K1KP

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## WRTC2014 PROMOTIONAL VIDEO AVAILABLE

WRTC2014, Inc., host of the 2014 World Radiosport Team Championship competition is pleased to announce the release of a promotional video about the upcoming event. Using footage from previous WRTC competitions, the video conveys the energy, excitement, and sporting goodwill that results when amateur radio contesters from around the world come together to compete on a level playing field.

The WRTC2014 video is available for viewing from the home page of the WRTC web site at [www.wrtc2014.org](http://www.wrtc2014.org).

Professionally produced by well-known DXpeditioner and videographer, James Brooks, 9V1YC, with narration provided by Erik Thompson, KA6UAI, the video is designed for all audiences. The high quality of video production and running time of just under 5 minutes makes it ideal for use at radio club meetings, for introducing amateur radio to young people, or promoting ham radio at public events.

The first showing of the video was at the July 2011 ARRL Board of Directors meeting. Response was enthusiastic with ARRL News reporting, "The Board welcomed the opportunity for the ARRL's involvement with the World Radiosport Team Championship (WRTC) in 2014, coinciding with the League's Centennial Celebration."

Contact [info@wrtc2014.org](mailto:info@wrtc2014.org) for information on how to download the video in mp4 format for use when an Internet connection is not available. The WRTC2014 committee would enjoy receiving reports of where the video has been presented and any reactions.

For information about WRTC2014, contact WRTC Chairman, Doug Grant, K1DG, via e-mail at [k1dg@wrtc2014.org](mailto:k1dg@wrtc2014.org).

# YCCC CLUB RESOURCE INFORMATION

**DUES AND MEMBERSHIP STUFF** Dues are payable as of the April election meeting, which begins our club "contest year". The YCCC has adopted a multi-tiered membership format as follows: Please note that payment of dues IS NOT a prerequisite for contributing scores to the Club aggregate, but IS for the various YCCC Awards Programs

**Full Member** - \$20 (\$35/2 yr) (Eligible for YCCC awards programs and paper delivery of Club newsletter)

**Full Member** - \$15 (\$25/2 yr) (Eligible for YCCC awards programs and electronic "Ebutt" delivery of Club newsletter)

**Family Member** - \$0 (Grants full membership to all amateurs residing at one domicile on payment of one member's "Full Member" annual dues and entitlement to one Club Newsletter sent to one domicile or email address. All members of said family are eligible for YCCC awards programs.)

**Student Member** - \$10 (Grants full membership to students at a reduced level. Eligible for YCCC awards programs and paper or electronic delivery of the Club Newsletter.)

**Subscription** - \$\*\* (A "friend of YCCC" - not a member but a possible candidate for future membership. Receives club newsletter only in paper or electronic form. Fee basis is \$20 for overseas paper delivery, \$15 for domestic paper delivery and \$10 for electronic "Ebutt" delivery domestically or overseas.)

Club members who move out of club territory and so are not eligible to contribute to club aggregate scores automatically become subscribers. New members who join at the February meeting are credited with dues for the year beginning the following April. You can tell if you owe dues by checking your 'Butt mailing label. **Mail your dues to the club treasurer, Ed Parish, K1EP, 9 Spoon Way, N. Reading, MA 01864**

**SCUTTLEBUTT ARTICLES** should be sent to the Scuttlebutt editor, Steve Rodowicz N1SR, preferably by E-mail at [n1sr@arrl.net](mailto:n1sr@arrl.net) or on 3½" disk (in MS-Word format or text file) by snail mail to Steve Rodowicz, 809 Pendleton Avenue, Chicopee, MA 01020. The deadline for each issue is the 10th of the preceding month..

**Scuttlebutt Advertising:** Nominal Business Card sized ad, \$50 per year (6 appearances)

**CONTEST SCORES** should be sent to the club scorekeeper, Dave Hoaglin, K1HT, preferably by E-mail at [scores@yccc.org](mailto:scores@yccc.org). Please include details such as numbers of QSOs, QSO points (if appropriate), and multipliers (all types); entry category; and power.

## CLUB GOODIES

**BADGES** YCCC badges are available from Ric, KV1W. Send \$2, name and call desired on the badge, and your mailing address to: Ric Plummer - YCCC Badge, PO Box 1103, Westborough, MA 01581-6103.

**APPAREL** Contact Richie, W1STT. Email: [richd1313@aol.com](mailto:richd1313@aol.com)

**YCCC LOGO ITEMS** <http://www.cafepress.com/n1ik>

**QSL CARDS** are ordered through Burt Eldridge, W1ZS. To order, send Burt an email at [w1zs@arrl.net](mailto:w1zs@arrl.net), detailing card information per "QSL Request" form available at [http://www.yccc.org/members/yccc\\_qsl.htm](http://www.yccc.org/members/yccc_qsl.htm). You will receive a proof by email. Approve the proof, making any corrections, and return to Burt *with payment* (make checks out to Burt, not YCCC). Current price is \$50 (delivered) for 1,000 cards. Also available is the glossy version for \$70/1000.

**MEMBERSHIP ROSTER** is posed on the YCCC website. Updates are published in 'Movers and Shakers' when members move or change call signs.

**COMPUTER STUFF INTERNET REFLECTOR** There is an Internet mailing list for YCCC members. To subscribe, send mail to [yccc-REQUEST@yccc.org](mailto:yccc-REQUEST@yccc.org). Insert only the word "subscribe" in the subject of the mail message. (Do not send messages to the reflector that have file attachments, HTML formatting, use boldface or other fancy fonts, etc.)

**WWW HOME PAGE** Come visit us at <http://www.yccc.org> Our Webmaster is Lyn Glagowski, WB1CCL.

**ADMINISTRATIVE STUFF The W1 QSL BUREAU** is sponsored by the YCCC. Keep your account up to date by sending a check, or pay via Paypal. Stamps are sold at face value, envelopes are 20 cents each. Address: W1 QSL Bureau, PO Box 7388, Milford, MA 01757-7388. Email address: [w1qsl@yccc.org](mailto:w1qsl@yccc.org). (See: <http://www.yccc.org/Resources/w1qslburo.htm>)

**ARRL COMMITTEE REPS** are:

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