



# Scuttlebutt

December 2011

Issue 212

**Next Meeting- Holiday Banquet Lunch  
Sunday, December 4th - Noon till 5PM  
Auburn-Webster Elks Lodge 2118  
754 Southbridge Street (Route 12)  
Auburn, Massachusetts**

## Captain's Cabin

**Tony Brock-Fisher, K1KP  
President**

Well, the Halloween storm of Snowtober was definitely more of a mean trick than a treat; certainly not the way I was hoping to start off the 2011-2012 contest season! All I can say is that if YCCC is defeated in CQWW, it will be at the hands of the Mother Nature, not a competitor. At K1KP, we were on a record pace through the first 24 hours, and the amazing propagation conditions had everyone pumped for a fantastic contest finish. When the SWR went up and the power went down, it was a huge letdown to say the least. By firing up the generator and thanks to Verizon Fios, at least I was able to watch the reports come in on the reflector as the extent of the storm damage unfolded. I was truly saddened to hear the stories of the loss of antennas and personal discomfort that was to continue in some cases far beyond the contest weekend. With little sleep in the first 24 hours and the antennas not happy with their snow covering, we closed down for the night.

The good news was that the aluminum and wires all stayed up in the sky. Somehow, in the face of adversity, a stubborn spirit of determination was born. Resolute to keep on going, and hearing reports of many YCCC stations that were off the air, we continued with one station, 1KW peak out, 2 element quad at 60 feet. Then we had some problems with the amplifier not liking the generator's power, so it was barefoot all day Sunday. At least the XA came back to life and we were able to get the second station producing again. Even with stopping to refuel the generator, then stopping again to go buy more gas for the generator, the score just kept piling up! Sunday was really strange, running low power, but with band conditions so good, the goals quickly shifted from survival to excellence. First it was a goal to make 3 Meg. Then it was time to look up the old station record, which was 3.69 Meg back in 1995. That number was passed easily with about 4 hours to go. Then the goal became 4Meg, an unheard of stratospheric score for this station. With an hour and a half to go, Taylor noticed the street lights were on and we switched back to commercial power for the QRO finish. We ended up with 4.2 Meg!

Noting that the storm extended from Pennsylvania to Maine, the following week I snooped around some of the soapbox results from the regions to the south of our territory. Although there were reports of power outages, it did not seem as though they had suffered as much of a contest disruption as we had.

By the time this is published, the CW weekend will be behind us and the contest will be 'in the can' as they say in the movies. Although the contest is over, the deadline to submit CW scores has not yet passed. If you have not done so already, don't forget to submit your score and be sure that it includes the proper assignment of points to the club!

We can only hope that the clubs traditional dominance ion the CW mode coupled with somewhat normal weather patterns will combine to allow us to squeak out a win. The moral of the story is that sometimes things don't work out as planned, and it is important to *Never Give Up!* Tony Brock-Fisher, K1KP

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## DIRECTIONS to YCCC Holiday Lunch & December General Meeting:

Auburn-Webster Elks Lodge 2118  
754 Southbridge Street (Route 12)  
Auburn, Massachusetts



**From points east & west, via Mass Pike Interstate 90,** take exit 10 onto Route 12 South.

Travel 7/10 of a mile, pass through one set of traffic lights, pass by Waterman Road and Warren Road on the right. Take a right into the Lodge before Jiffy Lube.

**From points east, via Interstate 290 West, exit 8 in Auburn.**

**Or From points north,** via interstate 190 South onto Interstate 290 West, exit 8 in Auburn.

Then From Interstate 290 take exit 8 in Auburn onto Route 12 South.

Travel 9/10 of a mile, pass through one set of traffic lights, pass by Waterman Road and Warren Road on the right. Take a right into the Lodge before Jiffy Lube.

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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@arri.net](mailto:w1wef@arri.net)

Ahoy Maties!

As I write we're in the middle of a great contest season. The sunspots we thought would never come have arrived, ten meters and happy days are here again. Outside of the worst winter storm of the century, CQWW SSB was great fun while it lasted. With TEN alive, we had more bandwidth to use among the six bands with less splatter and crowding. SSCW had terrific conditions with low band noise and both long and short skip at the same time. BJ still did poorly but he thought up a couple excuses.

On the high bands, the W1WEF SS antennas are two rotatable TH6's. I used to climb the tower before SS and reorient the lower (third) TH6 which is normally fixed on Europe, to beam West, but not this year. With the two upper TH6's I can select upper, lower or both antennas, but after the contest found that the lower one was almost 45 degrees off!

My next excuse is sad. VY1EI called in on 40 with a great signal, and was in the log fairly early...or was he? The next station called in and the computer started sending the exchange, when I realized it was sending the same serial number I had just sent manually to VY1EI! I looked at the log and EI wasn't there! I aborted the next Q, and typed EI into the log from memory, but am not sure I remembered it correctly. All I can figure was I hit ALT W instead of ALT ENTER after the manually sent exchange. After that I was upset that I probably blew the only shot at a NWT mult.

Later in the contest, VE8EV called in on 20. I was elated that the sweep was saved. I let the computer send my exchange this time, BUT I never heard VE8EV again! SS CW remains one of my favorites, but this one just didn't feel right from the start. I had only one great run that went on for an hour or so. Towards the end I didn't even feel like completing the 24 hours.

Fifteen minutes before the start of the contest, I had put the final fix in my amplifier. It started with a loud arcing sound once every minute. Suspecting an electrolytic breaking down in this 15 year old AL1500, I had purchased a new board from Ameritron with 8 new caps and bleeder resistors. It didn't cost much more to buy the whole board instead of a set of caps. After replacing the board, the arcing not only continued, but fuses started blowing. Replacing fuses so I might see where the arcing occurred, I ran out of fuses before finding the culprit to be internal arcing in the 7500V disk ceramic bypass at the bottom of the plate choke. Fortunately I had a replacement, and that stopped the arcing and fuse blowing.

Now that the HV was OK, the amp wouldn't key. I traced this to a dual op amp IC that was in a socket, and raced over to "Cables and Connectors" to get a replacement before they closed at 6PM. That fixed the keying problem, and I could now get normal output, but grid current was reading higher than normal, and the loading cap had little affect on the grid current. I immediately recognized that symptom as a shorted diode that had failed before when a nearby lightning discharge took this diode out. Replacing the diode everything was fine. I guess all that arcing took the op amp IC and the diode out, just because it was nearby.

When I suggested this column to YCCC President Tom Frenaye in 1996, my idea was to share tips from members on anything from hardware to software. We didn't have the Club Reflector yet, so it wasn't as easy as it is now to pass stories to the whole club in "realtime". I never intended Flotsam and Jetsam to be a commentary on "what's happening at W1WEF", but it's easy to write about one's self when everything else has already been on the Reflector. After 15 years, I think the club deserves a new perspective. I'd like to invite anyone to volunteer to take over Flotsam & Jetsam, or suggest a completely new format to Tony, K1KP. I've enjoyed writing this column and have always amazed myself how I could fill a page with nothing!

73

Barnacle JACK Schuster  
W1WEF

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## Ham Radio in the 21<sup>st</sup> Century

Did you see the article in EDN (Elec tronic Design News) on ham radio? Written by YCCC member Doug Grant, K1DG.

Check it out at: [http://www.edn.com/article/519742-Ham radio in the 21st century.php](http://www.edn.com/article/519742-Ham%20radio%20in%20the%2021st%20century.php)

(Doug also contributes an occasional a blog on the EETimes web site. Do a search for "A Ham's Eye View". Good read.)

# 2010 YCCC Scholarship Recipient

## K1RJG - Robert Giuliani

### Shelton, CT

Living in a time where a college degree has become a requirement for success in society, the financial burden of paying for one has increased along with the demand. So much so that graduate students are left living much of their young adulthood in debt, paying off student loans all while trying to get a job. I have decided to pursue a career in physical therapy. A field that I feel is going to be in high demand throughout my lifetime due the fact that there will always be aging people around that need therapy. There is much more behind my interest in PT though...

I am interested in applying in the field of physical therapy for many reasons, but the most is my current exposure to it and its ability to help other people out. I've been an athlete my entire life, involved in sports ranging from baseball to cross country running and I know how it feels to be injured. I just recently experienced a knee injury that had me out of commission for almost a month, but I was able to come back quicker because of the physical therapy I underwent at school.

I've been running indoor and outdoor track along with cross country in high school for four years as well as at the Division I level at the University of Hartford the past three years and have had quite a bit of success. This being especially true with cross country and I realize that none of it could have occurred if just one of my teammates had gotten injured. A fact of life is that injuries do happen and I would like to be the person the injured/recovering person turns to. Being part of doing whatever I can to help them out with, including a speedy recovery back to the sport or every day activities they would like to pursue.

The physical therapy program at the University of Hartford offers a seven year Doctor of Physical Therapy curriculum in which there's a seamless transition to graduate school, making it a challenging but faster path to receiving your Doctor of Physical Therapy degree. The combination of my personal experiences in athletics and willingness to help others is what inspires me to engage in studying to become a physical therapist.

While I can control what I want to do with my time in college, I can't control the monetary cost of actually achieving it. The fact is that seven years at any college adds up to a large amount of money. While University of Hartford is giving me academic scholarships, tuition bills still require sizeable loans to be taken out that forever haunt the prospective graduate. With Amateur Radio scholarships like the YCCC scholarship, I have not had to worry about paying the exorbitant costs for required textbooks along with part of the total cost of tuition. Any amount of money that I don't have to pay out of my pocket to further my education is greatly appreciated, and the fact that it's coming from an organization involving one of my favorite hobby's makes me feel even more thankful for the great community that makes up Amateur Radio.

I got into Ham Radio at a relatively young age being around it my whole life being as my father is a Ham. Being able to witness not only the technical aspects but also the social aspects of Amateur Radio while watching my Dad operate, set off the spark that made me want to get my own license. Studying ensued and I further entered the world of Ham Radio with my Tech license. I've since then upgraded to General class where I have stayed the past few years. I have met some wonderful people through the hobby, and while I may not be headed down an electrical heavy career path, I like to think that my involvement in Ham Radio will definitely impact my ability to become a successful Physical Therapist.

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## Are You Still Connected?

The **YCCC Reflector** is the best way to get the latest up-to-date information on Club Activities and Programs!

Please make sure you are subscribed to the YCCC reflector, and that it is not being directed to a spam folder!

To subscribe, send an E-mail message to:

yccc-REQUEST@yccc.org and in the subject of the message, put only the word: Subscribe .

If you have any problems or questions, please email Media Manager Tom LeClerc at [w1tjl@arrl.net](mailto:w1tjl@arrl.net).

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# Second Annual YCCC Holiday Dinner & Yankee Swap

*Don't Miss our next Meeting, December 4<sup>th</sup>, at the Auburn Elk's Hall in Auburn Mass!*

**Buffet Details** The cost per person is \$15.00. **By the time you read this, the deadline for buffet tickets will have passed. However, we purchased some extra tickets and may have some available. Please send an email to Dennis, W1UE at [egan.dennis88@gmail.com](mailto:egan.dennis88@gmail.com) to see if there are any left.**

We will collect the payments at the meeting – cash or checks only please.

The menu is as follows:

American Special	Hot Roast Beef
	Hot Oven Roasted Chicken
	Hot Rigatoni and Sauce
	Garden Salad, Oven Roasted Potato
	Rolls, Coffee and Dessert

## Yankee Swap Information

If you are interested in participating in the Yankee Swap, you must bring a gift. The requirements for the gift are:

- MUST be Ham Radio Related (No Bedpans!)
- Not more expensive than \$15 (Nearfest pricing applies).
- Can be something actually useful, or a gag gift.
- Must NOT weight more than 20 pounds and MUST be brought into the venue before the Swap starts!
- Must be wrapped in some manner to conceal contents.
- As tempting as it may be, don't bring back last year's gift! Try to be original!

## Scholarship Raffle Information

- Grand Prize will be an Elecraft K3/100 Kit valued at \$1999
- Tickets are \$25 each, CASH or CHECK IN PERSON only!
- Sorry, Federal Regulations and Paypal policies mean we can only sell these tickets in person. NO tickets can be sold by mail or internet. Bring plenty of cash to the meeting!
- Drawing at April meeting (assuming we sell enough tickets).

## Presentations

- Scores –Early Returns of CQWW 2011 – K1HT
- Special Offer to YCCC Members- K1RV
- Awards Program - KE1FO
- Scholarship kickoff - W1MAT
- RTTY Dxpedition to 6Y – W1UE

Please bring plenty of cash or your checkbook! We will be collecting for the Dinner and selling Raffle tickets for the Scholarship Fund.

## Directions:

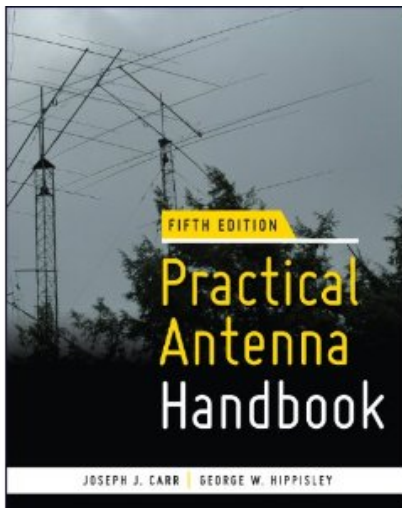
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# Practical Antenna Handbook – 5<sup>th</sup> Edition

co-authored by Joe Carr (SK) and YCCC member Bud Hippisley, W2RU.



McGraw-Hill has just released the new (5th) edition of the Practical Antenna Handbook; co-authored by Joe Carr (who passed away a decade ago) and YCCC member Bud Hippisley, W2RU.

New chapters appear throughout this edition. Examples include: 160 meter antennas; fundamentals of arrays (including the effects of ground); tower basics; ground systems; and regulatory / zoning obstacles. Other chapters from the previous edition, including Yagis, receiving antennas, antenna modeling, Smith charts, and supports for wires and verticals, have been substantially updated.

Early purchasers report receiving their copies within a day or two of placing orders with Amazon.com or directly with McGraw-Hill.

Sounds like a good Holiday present for someone.

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## Announcements

Announced at the Saturday October 8, 2011 General Meeting of the Yankee Clipper Contest Club

The newly created position of Media Manager has been filled by Tom Le Clerc W1TJL. Tom will be responsible for keeping the content of the website updated. Lyn Glagowski WB1CCL is the Webmaster and is working on the new and improved website. Please address questions, concerns, corrections, updates and suggestions for the website to Tom W1TJL (at) arrl.net

The new South Eastern Massachusetts Area Manager is Eric Williams KV1J. The Club thanks Greg W1KM for his many years of service.

The New Eastern Connecticut Area Manager is Richard Cady N1IXF. The Club thanks Dick KB1H for his many years of service.

Brian, NJ1F  
Secretary

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## FCC Releases New Rules for 60 Meters

(No contesting allowed, but still useful information.)

On November 18, the FCC released a Report and Order (R&O), defining new rules for the 60 meter (5 MHz) band. These rules are in response to a Petition for Rulemaking (PRM) filed by the ARRL more than five years ago and a June 2010 Notice of Proposed Rulemaking (NPRM). In the R&O, the FCC replaced one of the channels in the band, increased the maximum authorized power amateur stations may transmit in this band and authorized amateur stations to transmit three additional emission designators in the five channels in the 5330.6-5406.4 kHz band (60 meters).

The Amateur Radio Service in the United States has a secondary allocation on 60 meters. Only those amateurs who hold General, Advanced or Amateur Extra class licenses may operate on this band. Amateur stations must not cause harmful interference to -- and must accept interference from -- stations authorized by any administration in the fixed service, as well as mobile (except aeronautical mobile) stations authorized by the administrations of other countries.

PLEASE NOTE THAT THESE CHANGES HAVE NOT YET TAKEN EFFECT. These new rules will take effect 30 days after they are published in the Federal Register. The ARRL will announce on its website when the rules are published. Additional information can currently be found on the web at, <http://www.arrl.org/news/fcc-releases-new-rules-for-60-meters>.

*Thanks to ARRL (ARLB024)*

## YCCC Awards Program: There's Still Time!

As promised, we're keeping the application period open for the 2010-2011 participation awards until the December meeting. In fact, after speaking with Tony today, we plan to be taking applications at the meeting in December. Apply during lunch or at the break, and get your award the same day!

In the next couple of days, I'll be posting a list of calls on the reflector that seem to be eligible based on the contest results. For a refresher on all the awards program rules, please go to <http://yccc.org/awards/index.htm>.

Now, I'd prefer to get your application sooner, if at all possible. So, here's a reminder on how to e-mail your participation award application to me:

### **\*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.

GL & 73 de AI, KE1FO

# YCCC Contest University 2011/12 Report

## Typical Contest U Topics

- Maximizing score with limited station
- Propagation - what's expected this year
- Sleep strategy
- Maximizing score with limited operating time
- Operating tips for running, S&P, DO's and DON'Ts
- Specific strategies for your entry class (SO, Assisted, MS, M2, MM)

### Session 1 -Oct 25, 2011

On October 25th, a Contest University was held at the Philips facility in Andover, MA. This event was hosted by the Philips Amateur Radio Club. The event was attended by 20 YCCC members. As this event was also a local meeting, 5 hams applied for membership in YCCC and were voted in:

Larry Banks, W1DYJ  
Rick Beebe, K1PAD

Derek Olson, KB1SBC  
Steve Schultz, WB8WGY

Paul Beasley, N1PFB

Professors K1DG, K5ZD, and K1RX conducted discussions of Contesting tips, tricks, and techniques. Pizza and Soda was served, and the activities concluded around 9:30pm.

Thanks very much to the professors and The Philips Amateur Radio Club for making this event possible!

### Session 2 -Nov 21, 2011

The second YCCC Contest University of the season was held on Monday, November 21<sup>st</sup> in Marlboro, MA at the Marlborough Fire Headquarters on Maple Street. This was also a SEMA Area Local Meeting. A total of 22 people attended the Contest University, which was conducted by 'professors' K1DG, K1IR, K1XM and W1UE.

Welcome to 6 new members who joined YCCC at the meeting:

K1DIN, Ed  
N4ADC, Gil

WJ1R, Jim  
KQ1Y, Tim

K1IX, Frank  
NB1N, Sandor

Thanks very much to the 'faculty' and Eric, KV1J, SE Area Manager, for making this possible!

We hope to hold one or two more Contest Universities / Area Meetings in February/March, in the WMA or CT Areas.

Watch for announcements!

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## Getscores Goes Social...

Getscores is ready and running for the upcoming contest season. Gerry, W1VE has made some improvements in the display. When you are viewing the results, you can now hover your mouse over the callsign, and the breakdown for that station will show in a floating, popup window. Give it a try, it's pretty neat. (This feature does not work on the Test page, just live results.)

You can now keep track of Getscores activity and who's doing what using Twitter and Google+! Just follow getscores\_live on Twitter, or follow / add "Getscores org" to your Google+ ring. You can filter tweets using the Cabrillo name of the contest: #CQ-WW-SSB for CQ World Wide SSB. During any live contest, you'll get tweets/posts showing who is leading (on Getscores) in each category. This feature is beta quality, and I'll be tweaking it over the coming months.

73 and have fun!

Gerry, W1VE



# The Cushcraft 40-2CD and XM-240 Shorty Forty Preventative Maintenance

(Rev.1 5 November 2011)

Joe Reisert, W1JR

**Introduction:** A bit of background history. In the early 1980s, Cushcraft introduced the 40-2CD, a two (2) element 40 Meter Yagi. It was and still is a popular 40 meter antenna that has been a proven performer 40 meters. In a November 1991 QST article on Page36, "Strengthening the Cushcraft 40-2CD" by Dave Leeson, W6QHS (now W6NL) wrote a comprehensive article on how to mechanically improve the strength of the 40-2CD. Leeson later published similar material in his book "Physical Design of Yagi Antennas", chapter 11. Many 40-2CD owners made his recommended mechanical modifications and were very satisfied. Unfortunately Cushcraft didn't see fit to take advantage of the improvements until the mid-1990s when they introduced the XM-240 albeit with some dimensional mistakes in the original assembly manual. At the same time, the 40-2CD was withdrawn from the market.

**The XM-240:** The XM-240 is much stronger mechanically, especially the boom and pretty well follows the Leeson mechanical recommendations. It uses heavy duty extrusions, all stainless steel hardware, locknuts, an improved feed system, stronger element supports and an integral balun. Unfortunately Cushcraft did not see fit to address the copper wire lead termination problem on the LCA loading coils (see below). The only other electrical difference from the 40-2CD was that the reflector element was not grounded to the boom (see below). Otherwise the antennas were electrically identical.

For some reason or other, Cushcraft failed to ground the reflector element on the XM-240. Some users thought that this may cause some interaction with other adjacent stacked Yagis. In my case I load my HF tower for 160 meter operations. Therefore, I thought it was important to ground the reflector element to the boom to add additional top loading for my 160 vertical. I performed numerous tests with my network analyzer both with the reflector ungrounded and grounded. I couldn't find any difference in the XM-240 performance. Hence I placed an aluminum strap around the center of the reflector element and bolted it directly to the U-channel at its center.

One major problem with the 40-2CD and the XM-240 is that the LCA loading coil copper wires are terminated to the aluminum tubing with only a self-tapping screw. This has been one of those persistent problems since over time the screw often loosens thus developing a poor contact or an open circuit. Before use, I always carefully cut away the heat shrink tubing above said screws, remove the self-tapping screw and drill a through hole. Then I place a #10 stainless steel screw using a lock nut and washer all the way through the tubing. Then I reseal the screw head and nut with a short piece of shrink tubing. This has never failed me.

**Inspection:** Recently after about five (5) years of service, I took my XM-240 down and closely inspected it. A few of the lock nuts on the boom were loose. Since there are many bolts, it wasn't a big problem yet. However, two of the capacity hat rods were also loose despite the special lock nuts. This could be a real problem since it could cause arcing and eventually the element would fall off thus causing performance degradations. Furthermore, one of the Phyllistran guy wires had snapped although the robust boom was able to take up the strain without a problem. Therefore, an occasional mechanical integrity inspection is highly recommended!

**Balun:** The Cushcraft 40-2CD assembly manual recommends 12 turns of RG8 coax into a 6" diameter coil at the feed point as a balun. Unfortunately, this is a poor balun at best with many physical variables. The XM-240 is supplied with a packaged balun. Before I first assembled my XM-240, I inspected the balun but it didn't look at all like it could handle high power. Nonetheless, I decided to give it a try. I always wondered if it would take a KW. I have used my XM-240 on 17 meters and from one end of the 40 meter band to the other, as well as some inadvertent times on other bands. I'm sure this rather small balun was often subjected to high VSWR, the very thing a balun doesn't need.

When I looked at the balun after about five (5) years of service, I was shocked to find that the box cover had partially melted. When I removed the cover on the balun by removing the rusted screws, I discovered that all three (3) of the small (1.5" OD) toroids in the balun were cracked. I guess the toroids were heating up and causing the cover to melt. I didn't notice any detectable failure at my transmitter. Needless to say, the Cushcraft supplied balun is not designed to handle high power on 40 meters or any other band for that matter.

**Recommendations:** I would recommend against using the Cushcraft supplied balun unless you are only going to run low power. A more robust design such as the W1JR toroid balun in the September 1978 issue of Ham Radio Magazine has now replaced the original supplied balun. Array Solutions (part # W1JR-50-3) and others sell such a balun. This is a shameful plug but I don't derive any revenue from same!

**Summary:** The XM-240 is a good design with only a few minor short comings. With the above information in hand, you can make modifications accordingly and have a very competitive signal on 40 meters.

Joe Reisert, W1JR

# What I Did On My Summer Vacation

Dave Oleans, K1WHS

My plan for the summer months was to install a stand alone tower for ten meters. I hoped to populate it with three 5 element yagis (about a 30 ft boom) It seems I got a late start this summer. I finally got around to renting a rock drill in early August to drill the guying holes in the rock. All went well and I had all the holes drilled in about an hour. The problems started as I drove down the hill towing the diesel compressor trailer. When I drove slowly over the last rocky portion of the road, the leaf spring broke on one side of the trailer. It was a major effort to get the 4000 lb. compressor out of the woods and have the rental company haul it back to their shop. It really got bad when they charged me for the repairs! How did I know that the compressor was not made for off road duty?

From August to mid November, I have been slowly getting everything erected and running. I put up a 70 ft Rohn 45 tower with Phillystran guy lines. Next I built up a few more ten meter yagis and started installing them at 70, 50, and 30 ft. At the same time I got designing a switch box to handle the tower side RF switching chores. The commercial boxes available use UHF connectors with small spacing between connectors to fit the normal RG-8 coax. My plan was to run about 275 ft. of 1 5/8" Heliac up the tower and connect each of the three yagis with shorter runs of 7/8" Heliac. Once you put heat shrink and then the butyl rubber layer and vinyl tape on the brass connectors, they start to look like the size of your fist! No way they would fit on a Stack Match or the DX Engineering box. I am still working the bugs out of the installation in my spare time, but as of November 15, the antenna is basically working.



**RG8-X bends better than this stuff!**

The original plan was for all three yagis to rotate, but for now, I have the bottom two fixed towards Europe. Hopefully I can obtain two ring rotors when my piggybank is replenished.

The rest of the ten meter setup consists of two stacked 5 element yagis that are side mounted and semi-rotatable on a separate Rohn 45 tower. They are at the 30-50 ft height and work well towards South America and the USA plus VK and ZL. So I guess the only weak spot is JA where I have a single yagi at 70 ft.

All this stuff is located away from my house at my VHF ham shack up in the woods. I also spent the summer renovating the shack by adding insulation and wall paneling. I also installed a solar photo-voltaic system for power generation. I can run at the 100 watt level on solar power. I have an 1800 watt pure sine wave inverter that powers all the rotators and 115 vac stuff. It would run that new 500 watt Elecraft amplifier just fine. I installed a solar hot air heater along with a vented propane wall furnace (10,000 btu) that heats the small building pretty well. I am hoping that two 100 lb propane bottles will last thru the coldest part of the winter. Most winters, the place is inaccessible with a vehicle due to heavy snow. Propane deliveries are not possible! A full 100 lb propane bottle weighs 168 lbs. I got a special thermostat for the furnace so it will kick in at low temperatures. I want to keep the room at 35-40 degrees when I am not using it. That will keep out the condensation and protect the delicate gear somewhat, while stretching out the propane consumption.

Dennis, W1UE suggested that I put another single yagi on a separate rotator for a multiplier station in case a few guys might be operating. I have a small 30 ft Rohn 25 tower that will handle that chore nicely. It was my original 10 Meter yagi support from



a year ago. I am trying a new yagi design for that. Six elements on a 36 ft boom. It seems to outpoint the OWA yagi in the Antenna Handbook in most respects with broad pass band and better pattern and gain. (we'll see!) I have not finished building that new antenna. Hopefully it will be done in time for the ARRL 10 Meter Contest in December.

Here is the South America antenna. I stuck it on a rotator so that it has limited rotation from about 150 to 300 degrees. It also works great to the USA and VK as a result. None of the guy wires have insulators, (It is my 222 MHz tower) so there is some interaction, as my VHF towers are close together and at last count I had eight towers with guy wires all over the place. but I see big improvements over a single yagi in most of the directions it will cover.



**The South America Antenna**

The new three stack aimed at Europe seems to be working correctly. At any given time, any antenna may equal or out point the others, but generally, the three stack outperforms other combinations by a few dB up to maybe 20 dB. Stacked yagis tend to remove much of the QSB that we see in F2 or Es conditions. When the signal fades on a single yagi, the stack is pulling it in with good signals. At least these are my initial observations while listening to the band at sunrise and mid morning. This winter should be interesting on ten meters.

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<b>Save these Dates!!</b>		
<b>2011-2012</b>		
<b>YCCC MEETING SCHEDULE</b>		
<b>Day</b>	<b>Date</b>	<b>Location</b>
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 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/nlik>

**QSL CARDS** are ordered through Dennis Egan, W1UE. To order, send Dennis an email at [egan.dennis88@gmail.com](mailto:egan.dennis88@gmail.com), 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 Dennis *with payment* (make checks out to Dennis, 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>)

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