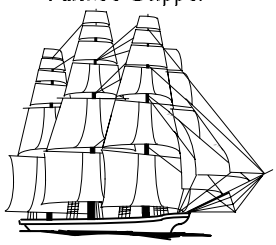
Yankee Clipper



Contest Club

Scuttlebutt

July 1998 Issue 136

Zulu Musings

Jeff Briggs, K1ZM

At our June 7th meeting, we took an opportunity together to review our past year's performances in the CQWW and ARRL Dx Tests from an eligibility and participation perspective. We all know now where we have been; let's now focus on where we ought to be going.

Let's Talk About Winning.....
If we assume we can get YCCC'ers eligible by contest time (e.g.: pay dues and make their (2) two meetings) and can staff our multi-operations to comply with the ARRL 2/3 rule, are we done yet? The short answer is no indeed; we have only just begun!

Any championship team will tell you that in order to win anything, you must first organize your available resources effectively and then you must execute your gameplan with precision. (A good way to think of this is to consider the great Boston Celtic teams of the late 1970's and early 1980's. These guys didn't just walk onto the Garden floor and "throw the ball around", they executed plays according to a gameplan.) Superclub contesting is very similar and, thus far anyway, we are not even close to where we need to be in order to manage a major win.

As a much larger team, we too need to evaluate our resources, come up with a gameplan that is designed from the outset to "get points up on the board", and then go like mad for the goal line! Just "winging it" is not going to get it done (in the words of Don Imus.)
Enter the YCCC Challenge

Managing the resources of a club of our size is a Herculean task. It needs to be handled in smaller chunks so that smaller groups or "teams" have a chance to manage their own destiny - and the Club's - in order to contribute in a way that is additive. The YCCC Challenge structure has been conceived in order to help us get there. For example, each team starts with a manageable pool of operators and stations. The first task of course is to try to get the whole team eligible to compete (pay dues and make (2) meetings). Recruiting additional members to the maximum allowed number of 20 should also take a high priority and be sure to get them eligible too!.

The next task is to consider the composition of your team:

o What kind of stations are available?
o Are there team members without stations?
o How many team members are capable of entering in the single/op all/band class?

(It should be noted that the most efficient use of YCCC talent is when members enter in the single-op all band class from home, if at all possible! Use of packet spotting may be a plus if the operator is capable of not chasing packet spots at times when high-rate runs are possible!)

o Are there any team members capable of financing/going on an expedition?
o What alignment of team resources will amass the most points for the team (and for YCCC)? (EG: Which entry classes best suit our available resources in order to maximize our score?)

(Hint: Staff multi's with team members who have no stations of their own. Consider sending team members with no stations on an expedition together. Use members with no stations at multi's of other teams who may need operators in order ensure all ops have a place at which to operate and score points. Remember, these points will be apportioned back to your team!)

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A Special Issue

Doug Scribner, K1ZO

My Email In-box was quickly beginning to fill with items for the next Scuttlebutt…YCCC Challenge, the BC Trapper Antenna Project, DX-pedition Hints from K1XM, notes from the President and more…and this was only the first week of June!

Jeff suggested we probably had enough material to do a full issue for July. And when the boss says jump…I ask how many pages? Here are the results.

Be assured that all the regular columns will return for the August issue. For now please enjoy this bonus!

(Zulu Musings from Page 1)

(Do not cannibalize your single operator talent in order to staff a multi....this is known as shooting yourself in the foot bigtime!)

(Avoid single-band entries in favor of all-band entries if stations and antennas allow.)

(Consider "guest operators" at stations where the owner-operator may not be able to operate due to work or family commitments.)

(Above all, don't screw up on the eligibility rules set by the sponsoring organization. If unsure, ask K1HT for a ruling!)

As you will quickly realize, this assessment is key to your team's (and YCCC's) success. Winning teams organize themselves very well and those teams that manage their available resources more effectively than others stand the best chance of winning it all..... thereafter, you still need to execute in order to "get it done". But the harder and more important strategy part of the equation will already have been resolved.....

What's Good About Winning Anyway?

On the Team Level....
Well, first there are some pretty neat YCCC Challenge prizes being offered to the team members who win the CQWW combined and ARRL combined competitions. A handsome plaque (1 each running) will go to the winning team (to be presented formally at a YCCC general meeting after the results are official). Each winning team member will receive a nicely mounted certificate framed in Plexiglas and mounted on an oaken base. Both the certificates and plaque awards are more than a cut above the typical YCCC awards given to date. And, of course, the existing YCCC awards program will continue to be offered to those in the club who achieve the threshold contribution levels that will be announced for this year. So the various teams will all have a legitimate shot at being the "best of the best" within YCCC complete with all the bragging rights that come with the thrill of victory! (Remember, there are two runnings of the Challenge this season, and two chances to win.)

On the Club Level...
We talked at the June 7th meeting about the purpose of Club competition and it seems that this is not very well understood. Club competitions allow those operators at modest stations to compete at the national level as a team. Many members within YCCC may never know what it means to be a national champion except within the construct of a nationally-focused club. Club competitions allow smaller stations to play at a level that is larger than their antennas and resources would otherwise allow. If you win as a team, even though you don't get to actually "wear a ring" for a year, you know that your efforts were a part of a much more difficult victory and that you and your stations were national champions of the USA for that given year. When you go to Dayton and wear your YCCC badge at one of the suites, it means something. You achieved something that you can take pride in. People associate you with a winning team.....

We noted in passing on June 7th those YCCC members who have won a single-op all band championship in the CQWW or ARRL DX Tests over the years. It is a mighty impressive list and YCCC literally owns the single-op all band competition category. Some of the calls that were listed have even managed to pull it off multiple times. Just ask any one of those winners what it felt like to actually be the national champion and they will all pretty much tell you the same thing-- there is no greater high in contesting! While our club has only managed this once as a group, we clearly have the potential and operator talent to do it again - if we just get down to the doing of it as a TEAM!
YCCC has tremendous operator and station talent as well as a natural geographic advantage into Europe that our friends down South would kill for. We have, for example, first whack at Europe on 20M twice during each contest as the bands open up on Saturday and Sunday morning. And, we can work into Europe longer as the band dies than the boys down South can under normal conditions.

On the low-bands, our propagation advantage into Europe adds up to hours of extra opening time every contest that no other major Club can lay claim to. And, we can and should be able to use this to good advantage in outdistancing our competition.

The truth of the matter, ladies and gentleman, is that a Club championship is there for the taking. The Dx-pedition stuff still remains a problem - we'll need to get as many out there as we can, but with a HIGH participation level at home, YCCC is well-positioned to win this thing - I know it! But we will have to do this together and we will also have to do it the old-fashioned way; we'll have to earn it! The YCCC Challenge will point us in the right direction this year.....after that it is up to each and every one of us to get on the air both modes and "just do it!" Are you QRV?

73 for now
Jeff K1ZM

This is the Year

Paul Young, K1XM

Many people have told me that they would like to go on a contest Dxpedition and then told me why they can't do it yet. Although not everyone is in the same position the economy has overall been good to YCCC members, who obviously represent society's best and brightest. So maybe now is the time.

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(This Is The Year from Page 2)

This is a good year to operate from outside of the country. The sunspot count is going up. This means that the higher bands will open, and that a smaller station can do proportionately better. Airfares are pretty low, and it is almost time for the Summer Sales.

If you are seriously interested, the first decision is whether to join a DXpedition or to arrange one of your own. The only two announced YCCC Dxpeditions I have heard about are the J3 Multi-Multi for the CQ WW CW which is being organized by Don, K2KQ, and the V6 Multi-Single for the same contest that I am organizing. There are plenty of non-YCCC groups though, and you might be able to find one on the Internet or by asking around.

If you are planning your own trip, the first thing to decide on is your goal. You can plan to make as big a score as possible, or you can plan a vacation with your family that includes amateur radio. The third choice, winning a major category, is not really an option - the people who win have been operating from DX locations for years and usually have existing antennas that they use. Expecting to beat them would be like coming to W1 land, setting up or borrowing a station, and expecting to beat K1AR.

Properly planned, a family vacation that includes a contest can work well. If you are not using an existing station keep your antenna plans reasonable so you don't spend all the time before the contest working on antennas, and make sure there are things for your spouse to do during the contest - that could be shopping, a booze cruise, hiking to waterfalls, taking a tour of an adjacent island, learning to scuba dive, or whatever they find interesting. A little pre-planning can make your family feel that you value them for more than their baggage allowance on the flight down.

If your goal is to maximize your score you'll need to do some extra planning. You need to build, out of things you carry or things that are already there, a decent ham station. You need to pick a destination. If you are traveling with non-contesters you want to pick someplace that has things to do that they will be interested in (and that you will be interested in before and after the contest). Otherwise, you want a place that you can make a good score from. You may look for a place that has existing antennas, or perhaps a complete station. There are several and
the popular ones are probably already booked for this contest season.

The most practical place to go for a contest DXpedition is a Caribbean island. There are many possibilities. As far as score, you will probably make a higher score if you operate from one of the islands that count as South America. These are Aruba, Bonaire, Curacao, and Trinidad and Tobago. However these have some disadvantages: The flight is usually a bit longer, and therefore more costly, licensing in Trinidad has been a problem in the past, and you may be in the same country as a much larger operation. Two point countries are just fine. You don't need to go somewhere that only Martti has ever heard of!

Ideally you want to be the only station on from your country in the contest. If not, you want to be the loudest. It's not much fun when you ask ZD8Z to move to another band and he says "sorry" because he already worked your country there. Especially avoid the situation where you would have a small station and there is a Multi-Multi on from the same country. Fortunately there are a lot of Caribbean islands and
most of them are not activated during any particular contest.

You should also look at the flights to and from the island. Some islands have flights on a US carrier directly from the mainland US or from Puerto Rico. Others require a flight on a smaller airline, such as LIAT. The US baggage limit, which applies to flights to or from the US, is 70 lbs per bag, two bags per person. The international baggage limit is 20 kilos, or about 44 lbs total. If you plan your trip right you may be able to avoid paying excess baggage charges.

Once you've picked an island you need to get a license. This is usually not difficult. The ARRL web page has contact information for most countries. In many cases there is also a local ham who can help. Contact people who have operated from that country and they can tell you what the real procedure is. You may also need customs paperwork for your equipment.

There are two things to consider when looking for a place to set up a station. The first is, of course, location. Ideally you want a clear shot into Europe for the CQ contest and the US for the ARRL DX contest. In practice, you really just want to avoid having a nearby cliff in the important direction. A QTH which is not ideal will hurt, just as it will from home, but there have been plenty of good operations from locations which did not look very good. For example, PJ9JT is on the West side of Curacao, but it works just fine into Europe.

The other thing you need to look for is an appropriate hotel. For example, if
the hotel brochure says "four channels satellite TV in every room, telephone in every room, and the biggest Disco on the island" it probably is not a good choice for a high-power station. But if it says "all cabins on the beach, secluded, palm trees, and air conditioning" it is worth investigating. If it has air conditioning it probably has power to run an amplifier too. Make sure you get permission to put up antennas before you go. It usually is not a problem, as most places outside the US are pretty accommodating and want their guests to be happy. Obviously you'll need a station and antennas. Most home station radios are small enough that they can be taken as carry-on baggage.

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I've taken a TS-930 that way, and I've seen an FT-1000D carried to the Caribbean. A smaller radio is probably preferred, though. The problem with most lightweight radios is that you need a 12 volt power supply. This used to be a problem, however Astron, MFJ, and others now sell switching supplies that weigh five pounds or so. Amplifiers are heavy, but I've taken an SB-200 as a carry- on bag and have seen amps as large as an SB-220 taken as baggage. People have brought Alphas on vacation.

The easiest way to log is with a notebook computer. Any 386sx or faster is suitable, as long as it has enough memory to hold all your QSOs. Used notebooks are as low as a couple hundred dollars. And you can even go cheaper. I've used a T-1000se (8086, no hard disk) very successfully running CT V8, using the memory as a RAM disk. If you cannot buy or borrow a notebook you can log on paper. Don't keep a dupe sheet, just a multiplier list. You won't be calling non-multiplier stations, they'll call you!

Antennas can be the trickiest part. Obviously you want stacked monobanders on the high bands and four- squares on 80 and 160. But you can do well with less -- a lot less. If you are operating single-band you may be able to get away with a couple wires. For example, a fifteen meter inverted vee in a 30' palm tree may be all you need for the ARRL DX contest. A vertical, such as a Butternut HF-6V or Cushcraft AP8A will fit in a 4' length of PVC tubing. You can put that into a ski bag and it will be almost indestructible. Or you could use a case designed for carrying golf clubs. A cut up A3S or a Force 12 C3SS can also be put in a piece of PVC tubing. From the Caribbean you only really care about two directions in the CQ contests and one direction in the ARRL, so fixed wire beams can also work. Coax is heavy, so RG8X is probably a better choice than RG-213. If you are going with a group for a multi-single operation you can split the coax among the group.

The bottom line is it is not difficult to go on a DXpedition. You only need a modest station. The Caribbean is not far away. So what are you waiting for?

The Battle Creek "Trapper" Construction Details

Jeff Briggs, K1ZM

By popular demand, (well, N1AU and a couple of others!), we will describe here in the 'Butt the construction details of the world-famous BC "Trapper". The Trapper is a simple, inexpensive and very effective low-band antenna for 160/80/40 meters that can be accommodated on just about any size lot imaginable as long as a single 40-70 foot tall support is available somewhere. Most trappers are hung from a tall tree or from a rope catenary sloping off a tower. It is advisable NOT to hang a trapper directly down the side of the tower because, unfortunately, the antenna "sees" the tower and the pattern gets degraded. Positioning of the tail is not critical - there is some directivity associated with this but it is so minimal not to be a major factor as it is less than a Db.

Designed originally by the Battle Creek 160M crowd as a "loaner" antenna known as the Battle Creek Special (which is a guyed/aluminum mast version), the Trapper is the little brother and is made from wire. Electrically the Trapper operates as a full-sized ¼ wave vertical on 40M, as a loaded ¼ wave vertical on 80M and as a loaded ¼ wave inverted "L" on 160M. It is fed with a single 50 ohm coaxial feedline and will work as shown here on 160M, 40CW and 80CW without a tuner. An inside the shack tuner is required for 75 and 40 Phone.

A single ground radial system is required under the vertical radiator which acts as the other half of the antenna as a ground counterpoise. The radial system may be placed directly on the ground or it can be elevated if the height of the single vertical support point will allow it. For best results, the elevated height above the antenna feedpoint needs to be from 40-70 feet as measured to the tie off point used for vertical support. On ground radials must be around 66 feet long to work properly (longer is better) and at least 36 are required. Elevated radials should be 130 feet long and at least (4) should be used if an elevated system is contemplated. Six, eight or twelve elevated radials will yield even better performance.

The Trapper employs two traps, one for 40M and one for 80M and these are inserted along the antenna at points approximately 33 feet and 59 feet above the feedpoint. The overall length of the Trapper is about 102 feet when finally tuned as measured from end insulator to end insulator. When hung in the air, the antenna looks just like a single-band inverted "L" except for the traps which are required to convert it into a triband antenna.

Design Overview

The Traps

A trap is essentially a parallel tuned circuit consisting of a coil and a capacitor and is used commonly in many commercial triband yagis and in multiband verticals. There is nothing especially fancy about a trap except to say that it is used to "isolate" a portion of an antenna element (so that the transmitter doesn't "see" it) when using another part of an element on another band. *(Continued on Page 5)*

(The Battle Creek Trapper from Page 4)

It is very important, however, that any trap be designed in such a way that it is capable of handling the expected RF voltages that are likely to appear across it, especially if high values of SWR are expected to occur during use. EG: A trap designed for the CW end of a given band (where the anticipated SWR is likely to be low) can be designed less rigorously than a trap that must also be used at the high phone-end of a band where the expected SWR values may be over 3/1. Traps must also be capable of handling a full 1.5KW and be able to withstand contest type "duty-cycles" if they are to be truly reliable. Poorly designed traps will break down when the RF voltage handling capacity of either the coil or capacitor is insufficient for the power and SWR encountered during use. When this happens, --POOF--! The trap components break down, or even melt. The trap capacitance and/or inductance values change or disappear entirely and voila! No more antenna! So "smoking" your traps is a definite "no-no"!

A feature unique to the trapper is the use of a single piece of RG213 (poly) coax for handling BOTH the circuit components of the coil and the capacitor. As we all know, any piece of wire wound on a coil form will produce inductance. Thus a piece of coaxial cable can indeed be wound on a form to make a coil.

What is less well-known, perhaps, is the fact that a piece of coax, open circuited at both ends, is also a capacitor. The polyethylene dielectric between the two conductors serves as the insulating dielectric that is found in any capacitor and the two wires themselves, the coaxial center conductor and the braid/shield, create a value of capacitance between the two wires. The actual values, usually expressed in PF per foot for the line in use, are well-known for the more common types of coaxial line and these may be found in the ARRL Handbook and in other reference manuals.

For our purposes here, we won't dwell on the specific values for the coil and capacitor used in the two traps. It is simpler just to accept the fact that the length of RG213 (poly) coax specified produces both a value of inductance and a value of capacitance that is required and that we are going to take advantage of these two values in designing two traps that will allow the antenna to work for us on three bands, 160/80/40.

Parts List

The following list of parts is required to build a BC Trapper:

(3) Lengths of #12 or #10 THHN stranded electrical wire - available at any Home Depot.
"Working lengths" should start at 42, 36 and 49 feet.
42 feet will be used as the first part of the antenna from the feedpoint to the 40M trap.
36 feet will be used as the second part of the antenna from the 40M trap to the 80M trap.
49 feet will be used from the 80M trap to the "tail" end of the antenna at the upper end insulator.
(All lengths will be trimmed during final tuning and will produce finished lengths of about 33/26/43 feet respectively when completely tuned.)

(2) Dog bone insulators
(1) 3/16" Tower Guy Wire Insulator - the SMALLER guy wire insulator typically used with 3/16" EHS

(4) 1/4" eye hook bolts, each with (2) 1/4-20 nuts and (2) 1/4-20 flat washers
(These will be used to hang and support the traps along the wire.)

30" of schedule #40 4" diameter PVC septic pipe - available at Home Depot
(4) 4" schedule #40 PVC end-caps which will be used to seal the PVC trap tubes at each end
(The 4" PVC is used as the coil form around which the RG-213 will be wound.)

(1) Small can of PVC cement
(To be used to cement the 4" PVC endcaps onto the 4" PVC stock)

5/16" Dacron cord, 250' roll - Available Radioware
(To be used to hang the vertical wire at the tree or other support and to be used to pull out the horizontal tail-end of the "L" to a second support.)

2,000' ground radial wire - Available Radioware - Ask for GR1WK , which is #16 soft drawn bare copper wire on a 1,000' spool and is excellent for this purpose - even in a front yard!

3 feet of 1/4" copper refrigerator tubing - Available Home Depot/True Value
(To be used to make a common ring to which the ground radials will be soldered. This ring sits on the ground and is placed over the deck baluster listed next.)

(1) Treated deck baluster - Available Home Depot
(This is hammered into the ground with a sledge hammer to provide a tie off point for the vertical wire part of the "L" at ground level. A hole is drilled at the top of the wood through which a length of Dacron cord is passed that will be affixed to the lower insulator of the vertical radiator. A Radio Shack "feedpoint box" is also affixed to the deck baluster using PVC tape at about 24" above ground level-see below.)

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(The Battle Creek Trapper from Page 5)

(1)Radio Shack plastic project box (Blue) - about the size of a crushproof pack of cigarettes. Available Radio Shack. (This will be used to make a feedpoint box by mounting an SO239 female coax connector onto one side of the box as described below.)
(1) Chassis Mount SO-239 female coaxial connector - Available Radio Shack (This is mounted on the front of the project box. 18" pigtail wires of #14 THHN stranded are soldered, one each to the connector center pin and to the ground-shell of the connector using two solder lugs which exit the box at its TOP and BOTTOM for making the feedpoint & radial system connections. The center pin pigtail exits the top of the box and connects to the vertical radiator. The ground shell pigtail wire exits the bottom of the feedpoint box and connects to the ground radial copper tubing/radial system.)

(1) 3/8" or 5/16" screw in eye-hook for tree top mounting if you can climb your tree. Dacron cord can be passed through the hook which makes it easy to raise and lower the L. Otherwise just shoot a line over the tree to hold up the vertical radiator wire part of the antenna.

(4) Rolls of PVC electrical tape (To be used to hold the coiled coax tightly to the PVC form and to weatherproof the trap and the pigtail connections when finally soldered after tuning.)

(1) Tube of Clear GE Sealant (The HOME LINE) - Available True Value/Home Depot (To be used to insulate internal trap connections and to seal the points where the RG213 coil enters the PVC tube. Also used to weatherproof the outside of the trap generally.)

(2) Measured lengths of RG213 POLYETHYLENE dielectric coaxial cable. Do not use any other type of coax or dielectric coax or the trap values will not be correct! (RE-READ THIS LAST SECTION AGAIN BEFORE PROCEDING!)

3.5Mhz trap - 11 feet 0" RG 213 (poly)
7.0Mhz trap - 6 feet 3.5" RG 213 (poly)

Trap Construction Details

1) Cut the PVC stock into an 18" length and a 12" length. Place an end cap TEMPORARILY over the end of the 18" piece of stock to determine where to start winding the 80M trap.

2) Drill a hole 1" below the lip of the end-cap just large enough for a piece of RG213 to fit through with the black jacket still on.
3) Prepare both ends of the 11 foot piece of RG 213 by separating about 4" of each end of the coax into pigtails. Remove 4" of black outer jacket to do this.

4) Pass one pigtail end into the PVC stock through the hole drilled until about 3/4" of black outer jacket has entered the inside of the PVC tube.

5) Hold the coax firmly at the hole (so it won't shift position) and now wind the first 3-4 turns of the coil tightly around the OUTSIDE of the 18" PVC tube. After the first 4 turns have been wound, TAPE these tightly to the form using a roll of the PVC tape.

6) Now wind another 4 turns of the coil down the PVC tube; tape as before.

7) When you near the end of the 11' piece of RG 213, guesstimate where the lower hole needs to be drilled. As you eyeball this point, be SURE that 3/4" of black jacket on the coax will penetrate the inner tube after the pigtail has been inserted through the hole that is to be drilled.

8) Drill the hole, finish off the rest of the turns, ensure the coil is tightly wound and tape the last turns of the coil to the PVC stock.

9) Look inside the coil from to ensure that there is sufficient pigtail length at each end of the coil form to reach the other pigtail end INSIDE THE PVC FORM. This is necessary to make the internal trap connections.

10) Connect the center conductor at ONE END of the coil to the SHIELD BRAID at the other end of the coil. Wrap well, twist using needle nose pliers and solder this connection inside the PVC form. You must do this with care in order to end up with snug connections, with zero or little slack, to ensure the connections do not flop around after the trap is hung in the air If you initially prepared too much pigtail length, trim these two wires a bit to take up the slack before making the final connections.)

11) The remaining two wires (one center conductor lead at one end of the coil and one braid/shield lead at the other end of the coil are now pulled AWAY from the previously soldered connection in the middle of the coil and should be aimed toward the open ends of the PVC tube where the end caps will be affixed. Solder 12" pigtail leads using #14 THHN to these two points and twist well to ensure the connections will not open up during heating or vibration. The two #14 THHN pigtail leads will ultimately be passed through tiny holes drilled in each end cap and will be used to make the connections to the main vertical wire portion of the antenna. *(Continued on Page 7)*

(The Battle Trapper from Page 6)

12) Use the tube of GE sealant to insulate all soldered connections. Also weatherproof the holes where the RG213 coax jacket enters the inside of the PVC. These points can be reached fairly easily AFTER cutting off the excess PVC at the lower end of the coil form. Be sure to measure BEFORE CUTTING to allow sufficient room for the lower PVC end cap to slide onto the PVC form sufficiently! About 1 " is usually sufficient as measured from the lower end of the coax coil to the lower end of the PVC tube. A hacksaw can be used to cut the PVC. Do not cut the coax coil or nick it when making this cut!

13) Allow the GE sealant to "set-up" before continuing with final assembly.

14) End cap preparation - Drill a hole in the exact center of both endcaps just large enough for a 1/4" eyehook end to pass through. Make this a snug fit! Then put a 1/4-20 nut on the end of the eyehook and run it all the way up to the stop of the threads. Add a flat washer over the eyehook end as well. Now pass the eyehook end through the end cap from the outside and add another flat washer and 1/4-20 nut on the inside of the cap. Tighten securely with a socket wrench but do not crack the endcap! Coat both sides of the eyehook hole liberally with GE sealant and let the sealant "set-up" before continuing.

15) Drill a very small hole through the top of each endcap through which the #14 pigtail wire will just pass. Test the sizing of this hole to be sure using the pigtail lead. The pigtail leads from inside the trap will pass through these holes and will be used to make the external connections from the trap ends to the vertical wire.

16) Do a dry run first on this next step by slipping the pigtail lead through the hole in the end cap and then carefully placing the end cap over the end of the PVC. Make sure the wire slack can be pulled snug from outside the hole. Now do it again this time using the PVC cement to coat both the PVC stock itself and the inside of the endcap. This stuff dries QUICKLY - so get ready and do it as rapidly as you can.

17) Now do the other end of the trap exactly the same way. If you have cut the PVC stock correctly at the lower end of the coil, you will have about 1/2-1" of bare PVC stock extending below the coil itself before the endcap lip begins.

18) Pull the pigtail wires SNUG from the outside of the coil and use the GE sealant to weatherproof the holes where the pigtails come through the endcaps. Put the trap aside for the sealant to set-up and then weatherproof all holes on the outside AGAIN!. (You do not want the center of the PVC to become a swimming pool - EVER!)

19) Now tape the turns of the coil back and forth several times using the PVC tape rolls. Tape tightly above and below the coil itself right up to the end of the endcaps to ensure water will NEVER enter the PVC center!

20) Now make up the 40M trap using the 12" piece of PVC stock, the 6' 3.5"piece of RG213, the remaining endcaps and hardware. Make the internal connections as before, seal with sealant, seal the caps with PVC sealant, seal again and tape liberally all external portions of the exterior of the coil form.

When completed, the traps should have TIGHTLY wound RG213 coils around the PVC forms, the turns should be snugly against each other being held in place with the black PVC tape. Each trap-end should have a #14 THHN pigtail lead extending through the PVC end-cap for making the final connections to the vertical radiator wire. Each pigtail lead should have been pulled snug from the outside of the end-cap BEFORE applying the GE sealant for weatherproofing.

Radiator Assembly

The sequence of radiator assembly is very straightforward. It is bottom insulator, then the 42 foot piece of radiator wire, then the 40m trap, then the 36 foot piece of radiator wire, then the 80m trap, then the 49 foot tail-end piece of radiator wire, then the upper insulator.

At the point where the traps meet the various lengths of radiator wire, FIRST secure the radiator wires to the eyehooks at the end of the PVC forms with several knots. Then affix the pigtail leads to the dead ends of wire hanging off the eyehooks. In no case should there be strain on a pigtail lead. The strain is to be taken up by the radiator wire in all cases.

Initially, solder and tape up only these three connection points:

1) The junction point where the upper tail lead meets the TOP of the 80M trap.

2) The junction point where the 80M radiator wire meets the BOTTOM of the 80M trap.

3) The junction point where the 40M radiator wire meets the BOTTOM of the 40M trap.

The TOP of the 40M trap should be twisted well to the pigtail but not taped and soldered as it will need to be opened for trimming during 80M tuning. 40M tuning will be achieved by trimming the feedpoint end of the wire (at the top of the deck baluster) and 160M tuning will be effected by trimming the very far upper-end of the tail of the antenna where it meets the end insulator

(Continued on Page 8)

(The Battle Creek Trapper from Page 7)

Setting Up Your Trapper

1) Pick your spot at which to hang your Trapper, set your deck baluster into the ground, lay down your FINAL radial system using the copper ring over the baluster as your radial system common tie off point and run your radials. Solder all radials to the copper ring.

2) Shoot your line over a tree or set your eyehook at the top of a tree, or drop your pull line from your support catenary or whatever.

3) Now is the time to "guesstimate" the placement of the 3/16" guy wire insulator which will be used for supporting the vertical portion of your "L" radiator. Depending upon the height of your tie-off point, this usually winds up either just BELOW the 80M trap or just above it.

This insulator gets placed on the wire by taking a section of the vertical radiator, folding it back on itself and pushing it through one of the two holes in the guy wire insulator. This step can be likened to the threading of a needle. Once the wire passes through the hole, pull through about 3 inches and then OPEN the loop of wire and PULL it DOWN over the body of the insulator. If you have done it properly, when you pull back the wire on either side of the insulator, it will snug itself up thus affixing the insulator onto the wire as a means of tie-off support. Note that it is not necessary to unhook a trap from the radiator wire to do this! Neither is this insulator permanently affixed - as its point on the wire MAY NEED TO BE REPOSITIONED!

To test this, now tie your 5/16" support rope to the OTHER end of the 3/16" guy wire insulator and raise your antenna to it's vertical position. You will quickly determine whether the insulator needs to be moved UP or DOWN on the wire. What you want to achieve is for the wire to be pulled snugly vertical when tied off at the bottom to the hole in the deck baluster AND for the guy wire insulator to be as CLOSE to the vertical tie-off point as possible. This positioning is somewhat important in order for you to have as much of your radiator wire in the vertical plane as possible. You will want as much of your Trapper as possible to be vertical for best performance.

If you find you have to remove the insulator, open the loop and pass the wire BACK through the hole in the insulator. You will find you must FIRST remove the Dacron cord pull rope in order to be able to do this. After you have shifted the insulator up or down, then affix the Dacron cord again and try raising the L once more. When you get it right, you are ready for final tuning.

Should your tie off point wind up LOWER than the 80M trap, then the 80M trap will wind up on the horizontal LEG of the L. Don't worry about this as it will still work fine. But it is very important to have weatherproofed this trap very, very well with GE sealant in order to keep it dry when mounted horizontally. If there is any doubt, take it down and seal it again. The pigtail lead exiting points are the weakest links in the chain by the way at the point where they exit the endcaps. Use lots of sealant there - and several coats because the wire flexes!

Once the L is hung vertically, now secure your tail to its remote tie off point which will usually be another tree, the peak of your house, another tower or even two Radio Shack 10 foot masts stuck together and guyed off at ground level for exclusive use for this purpose.

Tape your feedpoint box to the deck baluster about 6" below the top of the baluster. This will be just below the point where the insulator gets tied off using Dacron cord to the hole in the baluster. Connect the center pin pigtail coming out of the top of the feedbox to the lower end of the radiator at the insulator. The pigtail from the ground shell of the feedbox (coming out the bottom of the feedbox) gets soldered to the copper ring at ground level thus making your connection to the ground counterpoise. Do NOT forget to make this connection as it is critical to the performance (and tuning) of the antenna. The lower insulator gets tied off with Dacron cord to the hole at the top of the deck baluster. This gives you something to pull against when you raise your L and also keeps tension on the vertical wire.

Final Tuning

Tuning is best achieved with an Autek Analyst or equivalent device mounted directly at the feedpoint box with a double-male coaxial fitting.. Alternatively, you can use an SWR bridge connected right at the feedpoint or bring a rig out to the feedpoint and use a SHORT piece of coax connected from the rig to the feedpoint. The RF analyst is the best way to go, however.

Making sure your final radial system is down and the antenna tail has been pulled into its final horizontal position, begin with 7Mhz. You can expect the antenna to resonate LOW (as all sections of the antenna were purposely cut LONG.) Remove the lower insulator and trim wire off the 40m section of the wire radiator. Reconnect to the feedbox pigtail and check again. You want to achieve a 1/1 SWR at 7.0Mhz.

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(The Battle Creek Trapper from Page 8)

Once this has been achieved, set the analyst for 3.5Mhz and check the SWR there next. It too will resonate below 3.5Mhz. Lower the L and open the twisted but UNSOLDERED connection at the TOP of the 40M trap. Remove wire from the 80M leg of the antenna (this will be the middle section of wire). Raise the L and tune again at 3.5Mhz. You want to achieve 1/1 at 3.5Mhz.

Once you do, RE-CHECK 40M at 7.0Mhz. It should not have changed materially if your 40M trap was wound properly.

Now check 160M at 1.830Mhz and you will, most likely, find it too is LOW in frequency. Drop the tail this time and trim wire off the upper-end of the antenna. Reaffix the end insulator, pull the L and tail back up and re-check 160M at 1.830Mhz.

When you have 40M, 80M and 160M all pretty close to 1/1, tuning is completed. You will probably find that you will need to re-position the guy wire insulator due to the trimming of the vertical wire during tuning. Re-set it if necessary, and don't forget to solder the joint at the top of the 40M trap. Tape it up with PVC tape as well after soldering.

Final Checkout

Re-hang the L in its final position, pull the tail-end of the antenna out to its final support and re-check the SWR again at 3.5/7.0/1.830. If all looks "normal" then it is time to hook up your 50ohm feedline and start making contacts!

What to Expect

This antenna is essentially a ¼ wave vertical with a good ground system on 40 and 80M. On 160M, it is a loaded ¼ wave inverted "L". The Trapper has been used with great success at 5X4F, 5Z4FO and by YB0ARA/9. I sent Phil one of these antennas this past February and I eventually worked Indonesia for a new one on 160M in early April. YB0ARA/9 was also worked on 80CW that same month with a 589 signal both ways.

If you do not have a yagi on 40M, then this is a good antenna - not a great one! And you get three bands for the price of one. Anyone can be quite LOUD on 160M with this antenna if you have a KW amp. You will do well on 80CW also. Remember, a tuner is a MUST on 75 and 40 PHONE - and do not tune too long with a KW at 1.5 out! I think the traps will take it, but it is always BEST to tune with the exciter first, then turn on the amp. The typical SSB duty cycle will not blow these traps away - in spite of the SWR, but it is always best to be safe rather than sorry.

The traps will take from 2-3 hours to make and the entire antenna can be built for less than $100. It makes a great summer project!

Good Luck!
Jeff, K1ZM

The YCCC Challenge Competition

Purpose

To promote teamwork within YCCC, foster inclusion, make contesting more fun during the Fall/Winter DX contest season, and to BOOST YCCC's CLUB AGGREGATE SCORES IN THE 1998 CQWW AND 1999 ARRL DX CONTESTS.

Definition

The YCCC Challenge is a form of INTRA-CLUB competition that can be likened to team-contesting . YCCC members will compete against EACH OTHER as teams during the 1998/1999 running of the CQWW DX and ARRL
DX Contests. There will be two (2) runnings of the Challenge competition - one for CQWW combined and a second for ARRL DX combined.

The various teams will compete for specific Challenge awards (which shall be awarded at a YCCC general meeting following posting of the OFFICIAL results by the sponsoring organization), for the honor of being the "best of the best" within YCCC and for all of the associated 'bragging rights' that are earned by becoming YCCC Club champions for either CQ WW or ARRL DX.

Eligibility

1) All YCCC members are encouraged to participate in the Challenge and will either be assigned to a team during June 1998 - OR - may JOIN a team prior to the running of either CQ WW or ARRL DX.

2) Teams (including a callsign list of members) must be registered with the Club Scorekeeper K1HT by the Monday preceding CQ WW Phone for the CQ WW Challenge Competition. The registration deadline for the ARRL DX Challenge Competition will be the Monday preceding the ARRL DX CW competition.

3) ALL team members participating in the Challenge MUST BE ELIGIBLE to submit their scores to the YCCC Club aggregate score according to the club competition rules as defined by the sponsoring organization.

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(YCCC Challenge from Page 9)

For CQ WW - join at a Club meeting, pay $20 dues, be a member in good standing.

For ARRL DX - join at a Club meeting, pay dues, AND attend two (2) Club meetings during the contest "year" which is defined as the period 1 April 1998 - 31 March 1999 inclusive. Meetings attended may be any combination of General and/or Regional meetings.

In order for member scores to count for their respective teams, YCCC MUST RECEIVE CREDIT FOR THE SCORE IN THE YCCC CLUB AGGREGATE! There will be NO EXCEPTIONS TO THIS RULE. TEAM MEMBERS MUST BE "CLUB ELIGIBLE" UNDER THE RULES OF YCCC AND THE SPONSORING ORGANIZATION IN ORDER TO SUBMIT THEIR SCORES FOR CREDIT IN THE YCCC CHALLENGE COMPETITION.

Team Composition

Teams will be created by means of a random drawing which will take place in three stages:

From a list of YCCC members that were eligible to submit scores for YCCC in the running of the 1997 CQWW DX Contests

From the list of top point producers for YCCC during the 1996-1997 Contest Season (as reported on page 8 of the December 1997 YCCC Scuttlebutt)

From a list of currently inactive/ineligible YCCC members who shall be invited to rejoin the Club as Challenge Team Members in order to help YCCC attain its team and club aggregate goals.

The following "ratio" shall be used when drawing for the teams: 11 members 1997 CQWW eligible list, 2 members YCCC 1996-1997 top point-producer list, 2 members YCCC inactive/ineligible list.

The random drawing will create INITIAL teams of (15) each and every attempt will be made to ensure each team is as equally structured as possible. All teams will include, for example, "marquee" operators/stations which may be readily identified.

There will be only one (1) drawing of teams for the 1998/1999 Challenge Competition. Core team composition shall remain the same for BOTH the CQWW and ARRL DX competitions.

Teams are encouraged to select a NAME for their team to foster team-building and to allow for general recognition within the rest of the Club.

Teams are encouraged to select a TEAM CAPTAIN. Captains need not necessarily be "marquee" station owners or operators; rather, it is suggested that Captains be YCCC members and TEAM members with a "gung-ho spirit" and a strong desire to "win".

Team Captains

Teams are encouraged to choose a Captain who is responsible for (1) coordinating team communication; (2) ensuring the views of all teams members are considered; (3) facilitating the development of the team's strategy; (4) helping to resolve team problems and (5) reporting on the team's status as required. Each team member has an equal vote in choosing the team captain. In general, the team captain should be someone other than the "marquee operator" who has been assigned to the team. A captain should be representative of the average skills of the team members and be able to effectively relate to the problems faced by all team members. The team's "marquee operator" should view his/her job as being consultant and guru to the team and work closely with the team's captain to build a winning group.

Respect for all team members, whether active or inactive, must be foremost in a team's agenda and must be shown at all times. The goal of the team challenge is to improve YCCC's competitive results and this can only be achieved through effective team building based on respect for each member.

Winning teams will be those who best motivate their members to want to help the team because they feel a part of it.

Inactive Team Members

Clearly, anyone assigned to a team has shown an interest in the fun and competition of amateur radio contesting or they wouldn't have joined YCCC in the first place. However, it must be recognized that some team members may be unable to participate. Teams should work to understand the reasons why and might be able to help resolve the impediment. For example, someone might need help with an antenna or
station problem. Other problems such as family and business
commitments probably can't be helped.

How teams handle inactive members is important to YCCC's long term success. An inactive member this year might be an active member next year. Again, respect must be shown all times to each team member. Team captains and YCCC leadership will become involved if this is not the case.

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(YCCC Challenge from Page 10)

Recruiting

All teams are allowed and encouraged to recruit up to (5) additional members in order to expand their teams to (20) members prior to the registration cutoff for each specific running of the Challenge.

As of the Monday prior to CQ WW/SSB, team composition shall be "frozen" for the running of both modes of the CQ WW DX Tests

During the period from 1 December 1998 until the Monday prior to ARRL DX CW, teams may again recruit additional team members if they number less than (20) total or if attrition has created such a need.

Trading

There shall be no "horse trading" of members assigned to or recruited for the various teams as per the rules voted upon by the members attending the June 7, 1998 YCCC General meeting.

Rover Operators

"Rover" operators are defined as YCCC eligible team members who may elect to operate from multiple stations in order to help YCCC multi-operator stations improve their YCCC point contribution % in CQWW and to help satisfy the ARRL multi-operator 2/3 eligibility rule. (In ARRL contests, 2/3 of those operators present at multi-operator stations must be eligible under ARRL club competition
rules in order for the score to count for the YCCC Club aggregate. Operators at multi-operator stations in ARRL Contests, in order to be ARRL eligible, must have joined at a YCCC meeting, paid their dues and have attended (2) meetings during the contest year which is defined as 1 April 1998 to 31 March 1999.)

Rover operators, as defined here, may ONLY participate at a maximum of three (3) YCCC multi-operator stations in the interests of fairness to all Challenge teams. Such participation, if it occurs by a given operator, shall be allowed at multi-operator stations that may exist on multiple (different) YCCC Challenge teams. Rover participation, in all cases, shall be at the pleasure of the owner-operator of the specific YCCC multi involved whose authorization and decision shall be final. Points in this case shall be determined based upon average operator contribution at the specific stations involved and shall be apportioned to the appropriate team aggregates by the Club Scorekeeper.

Guest Operator Station Rules

Special rules apply to guest operator stations and can best be
defined by specific example:

Example 1: K1AR operates at station K1EA using callsign K1AR.

CQ WW - K1AR must have joined at a YCCC meeting, must have paid his dues to YCCC and be a member in good standing at the time of the competition. All points earned by K1AR will be assigned to the YCCC Challenge Team which includes K1AR as a member. K1EA (who did no
operating) receives no points by "passive attribution" and no points are awarded to the YCCC Challenge team which includes K1EA.

ARRL DX - K1AR must have joined at a YCCC meeting, must have paid his dues to YCCC, must have attended (2) meetings between 1 April 1998 to 31 March 1999 and be a member in good standing at the time of the competition. All points are awarded as in the above example.

Example 2: K1AR operates at station K1EA using callsign K1EA.

CQ WW - Both K1AR and K1EA must be Club and CQ WW eligible in order for this score to be eligible for the YCCC Challenge Competition. If K1AR alone operates, then all points are awarded to K1AR's challenge team. If K1EA also operates, then points are divided by two
operators and are allocated equally to K1AR's and K1EA's Challenge
teams.

ARRL DX - Both K1AR and K1EA must be Club eligible and ARRL eligible (pay dues/make (2) meetings) in order for this score to count for either the YCCC Club aggregate or for the YCCC Challenge Competition. If K1AR operates alone, then all points are awarded to K1AR's Challenge team. If K1EA also operates, then points are divided by two operators and are allocated equally to K1AR's and
K1EA's Challenge teams.

Other Multi-Operator Station Rules

The rules for Multi-Single and Multi-Multi stations are similar to guest-operator stations with some notable exceptions as indicated below:

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(YCCC Challenge from Page 11)

CQ WW - Operations must comply with CQ WW general contest rules. It is BEST for all YCCC multis to be staffed with only YCCC members who are also YCCC Challenge-eligible, if possible. Non-YCCC member operators are permitted, but the average score attributed to such operators is allocated to the Club designated by such operators. Scores achieved shall be divided by the number of operators present and shall be apportioned to the YCCC Challenge teams of the YCCC Challenge-eligible operators involved in the operation. It should be noted that the YCCC Club Aggregate score must receive at least SOME percentage of any CQ WW multi-operator entry in order for points to be awarded to a specific YCCC Challenge team.

ARRL DX - Operations must comply with general ARRL DX Test rules. It is BEST for all YCCC multis to be staffed with only YCCC members who are also YCCC Challenge-eligible. Non-YCCC member operators are permitted, but all multi-single and multi-multi entries must satisfy the ARRL 2/3 operator rule in order for there to be point allocation to YCCC Challenge teams. Scores achieved shall be divided by the number of operators present and shall be apportioned to the YCCC Challenge teams of the YCCC Challenge-eligible operators involved in the operation. In no case shall YCCC Challenge points be awarded to any team if the YCCC Club Aggregate score does not receive FULL CREDIT for an ARRL DX Test multi-single or multi-multi operation.

Reporting

Reporting of claimed scores should be made to Club Scorekeeper K1HT within ten (10) days following each mode of CQ WW and ARRL DX and to the YCCC Reflector, if possible.

Reporting should include:

1) Callsign Used
2) YCCC Challenge Team Name (for single ops)
2) Claimed Score
3) Entry Class
4) Operator list(s) (for guest operator stations and multioperations)
5) Band breakdowns

Preliminary results for "bragging rights" and review at YCCC meetings and YCCC reflector reporting shall be computed and made available as soon as possible.

Awards

There will be two separate sets of awards for each running of the YCCC Challenge Competition (CQWW combined-mode & ARRL DX combined-mode). These shall be awarded following the reporting of the OFFICIAL results by the sponsoring organization. A handsome, engraved plaque shall be awarded to the YCCC Challenge team amassing the highest team aggregate in each combined-mode Challenge competition and shall be formally presented at a YCCC General Meeting. Team members may later elect the ultimate disposition of the plaque according to criteria selected among themselves privately; e.g.: most points amassed by an individual member, most valuable team player, most points by the smallest station, lottery, etc.

Additionally, for each running of the YCCC Challenge Competition, each team member of the team amassing the highest aggregate score will receive a specially-designed certificate, preserved within Plexiglas and mounted on a handsome oak frame. (Prototypes of these awards shall be made available for viewing on the YCCC Web Page as soon as possible.)

Winning teams and winning team members shall be designated "the best of the best" within YCCC for the 1998/1999 contest season and shall have the honor of all "bragging rights" associated with their achievement within the Club.

The existing YCCC Awards Program will continue to be offered to all YCCC members who achieve the basic threshold-level contributions to the Club aggregate that are to be announced for the 1998/1999 season.

Adjudication

Eligibility assessment questions, rules interpretation and requests for information shall be channeled to the YCCC Club Scorekeeper, K1HT. Awards determination shall ultimately be the province of the YCCC Awards manager whose decisions shall be final.

Secretary's Report

Charlotte Richardson, KQ1F

The June, 1998, meeting of the Yankee Clipper Contest Club was held on Sunday, June 7, 1998, at the Sturbridge Host Hotel in Sturbridge, Mass. Club president Jeff, K1ZM, called the meeting to order with a short history of the club. Then the 76 members present introduced themselves, their guests and visiting friends, and their summer antenna and station plans. We dispensed with the reading of the Treasurer's Report, which showed a balance of $4419.27. Jeff summarized activities at the Dayton Hamvention, and noted that nearly sixty YCCC members attended.

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He also noted that K2EK finally won approval for two towers on thirteen acres of land only six miles from the K1ZM QTH, and plans to rejoin the club. Jeff recommended that Dean, N6BV, be awarded an honorary life membership certificate in the YCCC for his many contributions over the years. JF3NRI, one of the JM4UQV ops, is moving to eastern Long Island, plans to join the club, and is looking for a station to operate from for the CQ WW contests.

Burt, W1ZS, then discussed the need for volunteers at the W1 QSL BURO. He noted that 1200 to 1500 DX cards arrive per day at the incoming BURO, amounting to some 40,000 cards a month to sort. Help is needed with the presorting operation but individual letter sorting is in good shape at present. Anyone who can help with the presort can call Burt or email him at w1qsl@yccc.org.

Jack, W1WEF, then talked about new radio-computer interface software to support PTT delays. He noted that it has become increasingly common as more and more stations use computer CW sending to find that the first dit in a call, or even the entire first character, is missing on the air. This happens because the computerized sending program starts sending before the amplifier TR relay is completely pulled, losing the beginning of the character. The new software activates the PTT for an adjustable length of time before starting to send, which both avoids transmitting before the amp has switched and also avoids hotswitching the antenna. CT, NA, and TR support PTT delay. TR and NA also support paddle input, using the computer as the keyer so there is no need for an external keyer. If you manually take over sending, the computer stops sending. The paddle input will follow the active radio if you are using two radios. CT support should appear soon. Jack had interfaces for sale for both PTT and paddle and just PTT.

Saul, K2XA, arrived with a carton of (answered) W2PV QSL cards from operations using this club callsign. They found a home with N1RR.

The club voted in three new members (see "New Crew" for details: Ted Demopoulos, KR1G, Michael Keane, K1MK, and Jason Handwerker, N1UEQ.

Jeff and Tom, K1KI, then led a discussion about what it takes for the club to win. The first point brought up was more DXpeditions, especially now that they count for both ARRL and CQ contests. For CQ WW, try to go to 3-point land if possible. DXpeditions make more of a score increase in the CQ WW contests than for the ARRL contests. We need more, and more accurate, packet spotting activity. We need members to maintain their eligibility to contribute to the club score. For CQ, this translates into being current in dues, very easy. For ARRL, members must join at a meeting, pay current dues, and attend and sign in at two meetings per year (unless handicapped). What category you choose to enter can produce conflicts between maximizing the points you contribute to the club aggregate score versus your own personal goals. However, in the CQ WW you can compete individually as a monoband entry but contribute your complete multiband log to the club aggregate score. Another tricky question is high- scoring operators operating at big multiops instead of as single operators. Non-member operators at CQ WW multiops dilute the score contributed to the club since the total score is allocated as a percentage of the operators. For ARRL DX Contests, two thirds of the operators must be eligible club members or the score does not count for any club aggregate. You must keep this in mind when inviting operators to a multiop. Eligibility questions should be referred to the club scorekeeper, Dave, K1HT. Questions about members' eligibility status should go to club secretary Charlotte, KQ1F. Operating more hours, of course, produces a bigger score. Getting more eligible members on the air does too.

Jeff then introduced the YCCC Challenge. This operating event runs in parallel with the CQ WW and ARRL DX Contests. Eligible club members will be randomly assigned to teams, with one previous single op contest winner guaranteed to be on each team, for a total of fifteen team members. A team can then recruit new or lapsed members up to a total of twenty. Teams must register their members with club scorekeeper K1HT by the Monday before the first weekend of the CQ WW and ARRL DX Contests. Some fine-tuning of the random assignment mechanism will be worked out by Jeff and Dave. This proposal was approved by the members.

After the break, Jeff presented the "BC Trapper", the little brother to the DXpedition "Battlecreek Special" 160/80/40 antenna, and related his experiences with this antenna for the small lot/small budget home station. The Trapper is a 3-band wire inverted L with two traps to cover the three bands. Radials are needed. From the base, it is 33' vertically to the 40m trap, and then another 26' vertically (ideally) to the 80m trap, with a total length of 102' of which 43' is horizontal (ideally) when cut for CW. Jeff's traps are RG213 poly coax
wound and tightly taped to 4" PVC tubing with end caps. The 80m trap, cut for 3.525MHz, uses 11'0" of RG213 and the 40m trap, cut for 7.025 MHz, uses 6' 3 1/2". He originally tried building the traps of RG8X, but it arced and then melted! Tune the 40m (bottom) section first, then 80m, then the 160m tail, being sure to pull out the top of the tail each time. Jeff tuned his to 1830, 3.505, and 7.005, and uses a transmatch on SSB. This antenna functions as a full quarter wave vertical on 40m, a loaded trapped quarter wave vertical on 80m, and loaded trapped inverted L on 160m.

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After the second break, Jeff gave a surprise presentation on switching the giant 80m 3-element Yagi at NP4A from CW to SSB. The boom of this giant antenna was two 40' tower sections, and it was mounted on a 140' tripod tower. The boom sections could be folded down against the tower, the driven element ends folded down against the tower, and the parasitic elements folded in against the boom, a procedure Pedro called "nesting" the beam, during bad weather to lower the wind load. To modify the element lengths to change modes, the driven element ends were folded down against the tower, where a crew on the tower could reach them to insert or remove the extra element tips. To change the lengths of the parasitic elements, two workers stood on the boom to balance it while the parasitic elements were rotated first one way and then the other so the workers on the boom could add or remove the inserts. Unfortunately, the tower supporting this amazing piece of engineering succumbed to Hurricane Hugo's 300 mph winds. A guy anchor pulled out, and the entire tower, with the nested antenna intact, blew over the side of the cliff and was a total loss.

Following this, Jeff showed the VK0IR video.

The meeting adjourned around 5:30 PM.

1998/1999 YCCC Challenge
15 Member "Core" Teams

Drawn 18 June 1998

Teams may recruit to expand their numbers to a maximum of (20) members by the Monday preceding CQWW and/or ARRL DX. All teams MUST register their final complements with the Club Scorekeeper K1HT by the Monday preceding CQWW/SSB and the Monday preceding ARRL DX/CW. Good luck!

Team 1
NF1A, K1AM, W1ES, WB1H, K1MBO, N1MD, W0MHK, W1MK, WA1QGC, WA1RLV, WA2SPL, KA1TAF, K1TXH, KA1ZFK & W1ZT.

Team 2
K1AE, K1ART, N1CV, K1EP, K1HI, W1MD, K1MEM, KM1P, W1RH, W1RV, NO2T, W1TE, AB1U, KO0U & KA1YTR.

Team 3
W1AX, AD1C, KM1D, K1EU, N1EZC, K5FUV, K1MO, K1MV, KM2P, N1RHY, W1SU, KA1TFU, W1UK, KD1YN & K5ZD.

Team 4
K1AJ, WS1E, NK1F, W1IA, KD1KI, AA1MY, K2ONP, N6RFM, N1RL, N1RR, NX1T, K1TH, K2TR, K1VA & N1XYU.

Team 5
N1AU, K8CH, K1DW, AA1EY, KC1F, K1IK, WA1KKM, KS1L, N2LBR, K1MY, WT1O, N1TM, W2UD, KA1VY & N1XYS.

Team 6
N1AFC, K1EA, N1FIY, KE1FM, WA2GO, N1IO, K1KNQ, AA9LA, AK1N, K1OA, N1TPY, K1TTT, N2UN, KB1W & N1XYR.

Team 7
AA1AA, W0AD, K1BG, W1FM, WN1G, N1IWV, K1KU, KD1NE, W1OG, W1TQ, NW1U, N1UEQ, NM1W, W2XX & K1YR.

Team 8
W1AZ, NR1F, KE1FO, KE1GF, WF1L, W1NG, KF2O, W1OHM, K1ST, K1TW, K1VR, WR1X, N4XR, KA1YED & K1YT.

Team 9
K1BB, K1EO, KA1ESR, KQ1F, W1GG, K2KQ, KA1KRT, K1LOM, K1MM, W1OJ, K1TWF, K1XM, K1XX, K1ZO & K2ZP.

Team 10
W1BK, W1EK, AA1ER, W2GDJ, N1HAJ, K2LUQ, W1LW, K5MA/1, K1NYK, K1OZ, K1RQ, W1RZF, KA1WIG, KB1WH & K2ZZ.

Team 11
N1BB, K1EFI, K1EPJ, KE4GI, AA1HB, WR2I, KV1J, W1KM, N1LYA, AK1O, N1PFC, K2RPM, K1RV, K1XA & W1WFZ.

Team 12
K1BV, AI3E, KD1EA, K1EBY, W1FV, WK2H, K1HQ, N1IXF, KE2NL, KA1O, N1PGA, K1PI, W1RM, WA1S & K1WD.

Team 13
W1BR, WW1E, KB1HY, AA1IZ, AA2MF, W1OD, AA1PK, K1RO, N1RWM, W2SF, W3TB, KV1W, WS1Y, KA1ZD & K1ZZ.

Team 14
NB1B, K1BD, W1BIH, K1DX, N1IUN, WK1J, W1JCC, WO1N, NA2NA, NU1P, K1RM, KM3T, WB2UMF, K1VW & KA1YKW.

(Continued on Page 15)

(YCCC Challenge Teams from Page 14)

Team 15
N1CC, KA1DWX, N2FF, W3IQS, K1JB, N1JP, WM1K, W1NA, KA1PRD, K1RX, W1RY, K1VV, K2WR, KF2XK & KC1YZ.

Team 16
K1AR, AA1CE, N1DS, KA1ERF, KD1HN, K2LE, N1LJA, N1NEO, W1NHS, KC8PE, WB1S, N1TZ, KF1V, K2WE & W1XK.

Team 17
K1BW, KA1CLX, N1DG, K1HT, W1JK, K1LZ, N1NQD, W6PH/1, K1PTF, NZ1Q, K2RD, KC1TD, K3UU, W1VE & K1ZM.

Team 18
KA1CI, N1DD, K2EK, K2EP, N1GA, W1JR, K1KI, K1KP, NC1M, W1NR, K1PVT, K1SD, N1XJA, N2YHK & WA1ZFS.

Team 19
K2BX, K1CA, W1CSM, WB1DFI, WA1FCN, K1GE, NQ1K, KA1MDG, W1NT, W1QK, K1SF, NB1U, W9WBA, W1WEF & K2XF.

Team 20
WF2B, KE1CT, KB1FJ, KA1GJ, N1KB, KA1NCN, K1NU, KA1R, K1SM, K0TV, K1TR, N2TX, KA1ULN, K2XA & KA1ZNZ.

Team 21
W2AX, K1CC, KA2CIW, W1CU, W1EL, W1FJ, N1GS, N1KWF, K8LT, N1NY, N1NYD, K1RU, KB1SO, W1US & N2WR.

Team 22
K1CN, WB2CPU, W1CWU, K1GW, KT1M, K1MD, K1MK, AA1ON, K1PR, WT2Q, N1RD, N1SMB, N1SOH, N1UVA & W1ZZ.

Team 23
W1CB, WG2E, KR1G, KB1GW, KZ1M, WV1M, N1QMM, K2QNU, N1SNB, N1SP, K2TE/1, AA1V, K1VSJ, K1ZR & W1ZS.

Team 24
WF1B, KG1D, K1GQ, KB1H, K1LD, W2LK, WS1M, N2QW, WF1R, N1SR, K1TI, N1TIV, K2UU, WK1V & N1ZRO.

Team 25
KB1AWE, K1DD, K1DG, W1EQ, NY1L, W1MA, AA1QD, N1RC, K2SIG, K2SX/1, N1TMG, WN1V, WB2VVV, KC1XX & K1ZE.

Team 26
W1ABC, K2AJY, W1AO, KB1BCF, NJ1F, N1KWJ, N2MG, K1NG, K8PO/1, W1RE, K2SS, NT2X, W1XF, N2ZX & WA1ZAM.

1998/1999 YCCC Challenge "Prospecting List"

This list contains former members and "friends of YCCC" who are not on the current "active list". All teams may prospect this list of calls for additional members to expand their team sizes to the MAXIMUM of (20) by CQWW/SSB or ARRLDX/CW. Good hunting - there is "plenty of GOLD in them thar hills!"

AK1A, KM1A, KZ1A, WS1A, WB1AEL, KC1AG, W1AJ, N1AR, AK1B, NC1B, WE1B, WJ1B, N1BR, KA1BRD, K1BUF, N1BVZ, AA1BW, W1BYH, N1BZG, KM1C, NQ1C, K1CB, WB1CBY, KC1CE, WA1CFS, W1CI, N1CKN, WB1CNM, K1CO, N1CQ, AI1D, KZ1D, WC1D, WJ1D, N1DEA, K1DH, AA1DN, N1DVT, KG1E, NY1E, K1EB, W1EG, KC1EO, N1EPU, K1EUF, KX1F, N1FJ, WB1FVS, K1FEW, KI1G, KM1G, WW1G, WA1GDX, W1GIH, N1GKI, WB1GMA, W1GNC, KM1H, KC1HB, AA1HF, N1HFE, W1HNZ, WA1HXH, KB1I, NO1I, NS1I, NW1I, K1IA, KD1IA, N1IA, KA1IDC, KA1IG, K1IR, W1IUU, W1IX, K1IXX, KC1IY, KS1J, KA1JJR, W1JO, K1JX, NM1K, WD1K, K1KA, KB1KE, AA1KJ, K1KJT, K1KN, K1KW, NR1L, KD1LU, WA1LXX, WA1LXY, AA1M, AE1M, KN1M, NS1M, WW1M, K1MBQ, N1MM, KA1MP, K1MS, N1MWW, N1MXO, KS1N, KT1N, NG1N, WN1N, K1NCD, W1NN, WK1O, K1OME, W1OO, K1OP, K1OW, K1OX, NX1P, W1PA, W1PL, WA1PMA, KC1Q, NM1Q, KA1QAS, KC1R, KM1R, KR1R, NE1R, NQ1R, NR1R, N1RJ, KR1S, K1SA, W1SJ, N1SW, NJ1T, K1TEV, KA1TMA, K1TN, KA1TRF, N1TT, N1TZW, KB1U, KR1U, NF1U, WA1U, WA1UAW, KA1UC, W1UQ, NE1V, NO1V, WS1V, K1VDF, K1VUT, WA1W, WI1W, WM1W, K1WJL, W1WMO, KC1X, KC1XM, K1XR, W1XS, W1XX, KE1Y, KV1Y, NB1Y, NZ1Y, K1YL, W1YN, AD1Z, KE1Z, WD1Z, WX1Z, W1ZA, KA1ZE, K1ZJH

KG2A, K2AD, KA2AEV, KE2BA, WA2CNF, KB2CR, N2DU, KB2EIK, KA2EYP, KC2FD, N2GC, K2GX, KD2HE, KB2HP, W2IQD, KY2J, N2JJ, N2KW, NJ2L, NR2L, WA2LGT, KB2MG, KF2MM, KR2N, NA2N, N2PNG, KN2Q, NC2R, KD2RD, K2SHZ, W2UB, K2VUI, KD2WQ, N2WT, AG2X, W2XL, K2XW, KD2ZE

These calls unsure - nothing accurate, official or guaranteed, but there may be a "nugget" or two in this list below:

WB3EJA, N3MLV, K3QIO, W3RQ, W3WDX N4CW, N4DW, KB4N, N6HB, AE7G, AG7T, K9HI, NU0X

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