W9WLC

Lake County Ham Radio Journal

N9UHF

www.welcars.org | April 2008 | www.stonedmonkey.org

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Secretary:	K9BTW - Dan drbero@earthlink.net
Treasurer:	K9PLS - Penny k9pls@mindspring.com
Newsletter:	K9TMS - Tom k9tms@mindspring.com

Meeting Schedule

WeLCARS Meeting
Topic: Field Day Plans
April 2 - 7PM
Fox Lake Community Center
23 South St., Fox Lake, IL

VE Testing
April 9 - 7PM
Fox Lake Community Center

Merit Badge / License Classes
April 9 and 23 - 6PM
Fox Lake Community Center

WeLCARS Meeting
April 16 - 7PM
Dino's Den Restaurant
88 E. Grand Ave., Fox Lake

Contesting

VHF/UHF Spring Sprints
144 MHz: April 7
220 MHz: April 15
432 MHz: April 23
www.sysadnet.com

State QSO Parties
Earn your WAS award!
Montana: April 4-6
Georgia: April 14-16
Michigan: April 19-20
Florida: April 26-27
Nebraska: April 26-27

EU Spring Sprint
April 19
www.eusprint.com

Skirmish Digital Prefix Contest
April 19
http://www.n2ty.org/seasons/tara_dpx_rules.html

Hamfests

Madison Hamfest and Comp. Fair
April 19 - Stoughton, WI
www.qsl.net/mara

The DeKalb Hamfest
May 4 - DeKalb, IL
www.kish-club.org

Starved Rock Radio Club
Jun 1 - Princeton, IL
www.qsl.net/w9mks

6 Meter Club of Chicago
Jun 8 - Wheaton, IL
www.qsl.net/k9ona

TechFest III: Revenge of TechFest
Sometime in July!

The WeLCARS Cheap 2m/440 Yagi Antenna Project

Chris Burke N9YH

The challenge: to build an easy and effective set of 2 meter and 440 beam antennas for about $50. Can we do it? Find out here.

This project started as I was researching ways to access the FM Amateur satellites. After all, what easier way is there for a guy to "work DX" when all he has are FM radios at his disposal? Not to mention that figuring out when the "bird" will be overhead and tracking it through the sky takes some effort - there's definitely a bit of sport involved! AMSAT, the Radio Amateur Satellite Corporation (www.amsat.org), has a series of articles for constructing a pair of Yagi antennas to get on the FM satellites. These antennas were based on the "Cheap and Easy Yagi Antenna" designs by Ken Britain, WA5JVB. Those construction articles were good, but there were a couple of things I didn't like about them. First of all, the beams for the antennas were made out of foam board glued together. Sure, it's lightweight and easy to work with, but I had my concerns about durability. Second, those antennas used a modified Gamma match both to match the impedance of the antennas to the 50-ohms for coaxial cable and as a sort of balun so you can use an unbalanced coax line with what is a balanced antenna. Sounds good so far, but as Tom K9TMS pointed out, getting the bend in the driven element at the right spot for optimal performance can be a bit of a challenge.

That brought us to the design used by Steve Powlishen, K1FO. The K1FO design is used by Directive Systems in their professionally built antennas used by many VHF/UHF contesters and weak signal enthusiasts and is highly regarded as a good antenna. The K1FO antennas use a modified T-match with shorting blocks on each side with a half-wavelength piece of coax as a balun. Tom and I figured adjustable shorting blocks would make the antennas easier to tune. The only problem with the K1FO designs is they are long antennas. For example, the shortest 70cm design from the ARRL Antenna Book is 10 elements and nearly 6 feet long and I was looking for something in the neighborhood of 3 feet.

How do you get the WA5JVB length with the K1FO matching section? The element lengths and spacing in each of those designs was customized for their respective matching sections, so you can't just use the WA5JVB spacing with the K1FO matching section and expect everything to work, unless you get really lucky. That's where a program called YW or Yagi for Windows came in. YW is one of the programs that comes on the ARRL Antenna Book CD-ROM and is a simplified antenna modeling program. To get the spacing for the elements, I input the complete K1FO designs from the Antenna Book to get a baseline then reduced the number of elements and adjusted the spacing and lengths until the impedance characteristics were similar to the design from the book.

Now we move from theoretical design to actual antenna. Once again, I got some good advice from Tom who pointed me to McMaster-Carr (http://www.mcmaster .com). McMaster has aluminum, brass, and copper in just about any size and configuration you can think of which makes it the antennas builder's paradise

The following chart lists the element lengths and the distances from the reflector, or the rearmost element in the array, is labeled REF. The driven element is connected to our transceiver and is labeled DE, and the remaining elements are the directors D1 and D2 for 144 and 440, up to D6 for the 440 antenna. The driven elements are brass, all others are aluminum

144 MHz (all lengths in inches)		
Element	Distance from Reflector	Length
REF	0	41
DE (brass)	12 5/8	38
D1	15 1/8	36 3/4
D2	27	34 1/2

440 MHz (all lengths in inches)		
Element	Distance from Reflector	Length
REF	0	13 1/2
DE (brass)	4	12 1/2
D1	5 3/8	12 1/8
D2	9 5/8	11 5/8
D3	12 5/8	11 1/4
D4	18	11 1/8
D5	24 1/8	11
D6	30 5/8	11

The other wires we'll need are the 1/8-inch brass for the T-match wires: 14 1/2 inches for 2 meters and 4 13/16 inches for 440. You'll need two wires for each antenna. We made brackets from 1-inch by 1-inch aluminum L-channel to connect the T-match wires and to hold an SO-239. The brackets we made were 1 1/2 inches wide,

which seemed like more than enough room at the time. What we learned later was that making these brackets larger would have saved us a little bit of heartache. For those that plan to duplicate this project, I would suggest cutting brackets that are at least 2-inches wide. 1 1/2 by 1 1/2 inch angle stock would also make for easier assembly later.

We also needed coax for the half-wave baluns sourced from Universal Radio for 25-cents per foot. The coax needs to be a half wavelength electrically. Because of the dielectric, light moves slower through the cable than it does through free space so we have to multiply this result by the velocity factor of the cable. For RG-8/U, specifically the JSC Cable type 3060 that Universal Radio had for 25 cents a foot, the velocity factor is 0.78. That finally gives us a balun length of 10 1/2 inches for 440 and 31 1/2 inches for 2 meters. Cut your cable longer, though - you'll need some extra length of center conductor and shield to connect to the T-match wires and ground. An extra 1-1/2 to 2 inches on either side is just about right.

For the antenna boom, we used 1-inch PVC pipe. A 10-foot piece of pipe is around $3 from Home Depot or Menard's and has more than enough to make 2 antennas. PVC is relatively durable and has the added advantage of not being conductive, so we don't need to worry about insulating the antenna elements from the boom. The weakness of PVC is it can flex quite a bit if used for a long antenna, but that won't be a problem with 3 foot booms.

Other sundry items that we needed we could find at the Round Lake Ace Hardware. The T-match wires need to be insulated from the L-bracket and some 1/4 inch inner diameter nylon washers and nylon bushings do the trick nicely.

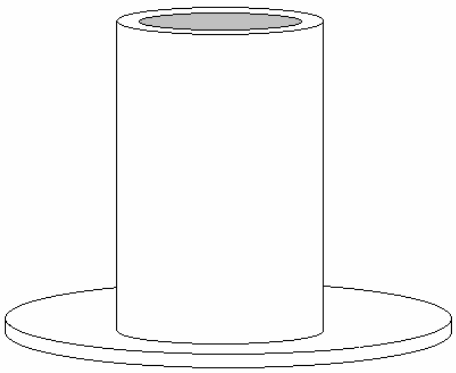


Fig 1. The type of nylon bushing used to make sure the T-match wires are insulated from the SO-239 bracket. The bushings we used were about 1/4" in diameter with a wider flange area. The hole through the center of the bushing (gray in the drawing) is just big enough for an 8-32 screw to pass through.

Materials List:

1 10 ft. 1" PVC Pipe ($3 Home Depot/Menards)
1" by 1" Aluminum 90-degree Angle Stock
1 6-ft 3/16" Brass Rod ($7.35 McMaster)
1 6-ft 1/8" Brass Rod ($3.61 McMaster)
3 6-ft 3/16" Aluminum Rod ($4.04 ea. McMaster)
3/16" by 1-1/2" by 1/2" Brass Stock (shorting blocks)
2 SO-239 screw-on chassis mounts ($1.50 ea.)
5 feet of RG-8X coaxial cable
8 Nylon 1/4" washers ($.20 ea. Round Lake Ace)
4 Nylon bushings ($29 ea. Round Lake Ace)

The only problem with the materials list is that it's difficult to find the aluminum angle stock and brass stock for the SO-239 bracket and the shorting bars in small enough pieces. For our project, we bought a 6 foot piece of brass 1/2" wide and 3/16" thick for $29.21, but since we had a number of people building the antennas we were able to split the cost up quite nicely. If you do this project yourself, you might want to consider a different piece of stock that might cost less, such as a 12-inch by 3/16-inch by 1-1/2-inch piece of stock for $17.44. The aluminum angle bracket is an expensive piece as well, ours was 8 feet long and cost $20.15. Again, we split the cost between several builders so it wasn't a big issue. Menard's carries small pieces of aluminum stock that are reasonably priced.

Once we had the materials it was time to cut everything and put it all together. While you can cut the aluminum and brass elements with a hacksaw, it's hard to get precise measurements that way. For any antenna project, a reasonable amount of precision is required – more as you go up in frequency as the higher the frequency the larger your error will be in terms of wavelength. It's very hard to get a precise cut with a hacksaw, so the generally accepted procedure is to cut your elements long and file them down later. It works, but it's a tad time consuming. Tom K9TMS suggested using a tubing cutter for the elements, which turned out to be a fantastic idea. Not only can you make your cut pretty accurately, but it takes a lot less time. Just make a cut about halfway through the rod with the tubing cutter then snap off the excess with a piece of pliers. You can find inexpensive tubing/pipe cutters at Menard's for around $5.

We also had to make our own brackets for the SO-239 chassis mounts. Using the highly technical CAD drawing tool Microsoft Paint I reproduced the dimensions for our brackets. We drilled the large hole with a stepper drill bit. The 3/16" hole is where the bracket is attached to the PVC boom with a long 8-32 screw. That hole should be as far toward the edge and away from the SO-239 as practical – that will make

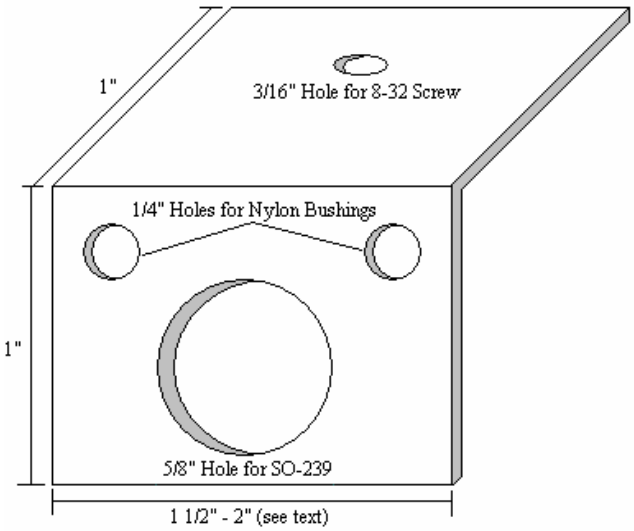


Fig 2. Dimensions for the SO-239 bracket. There's no precise location for the bushing and screw holes, just far enough over to fit. At 1 1/2" wide, space is at a premium on the brackets. 2" will give you more breathing room.

attaching everything later a little easier. The other holes should be mounted as far away from the SO-239 as practical, yet far in enough so the nylon bushings will still fit. With a 1 1/2" bracket, space is really tight. I suggest making your bracket at least 2" wide.

Fig 3. Drilling out our brackets. Larry K9LGP holds while Dave K9RUF drills. Mark KC9KCW (in the background behind Larry) offered many words of encouragement during this phase of the project.

The next bit of prep work involved marking the PVC booms for the placement of the elements. If you are fortunate enough to have a drill press, this part is easy – just use a straight edge to make a line on your pipe, measure along the line to mark the placement for the elements, and then drill straight through. We weren't that well equipped at the WeLCARS Worldwide Headquarters, so we employed a different method. First, draw a straight line down the length of the boom. Next mark the placement of the line on the end of the pipe. Put the pipe down on the table and then roll the pipe so the mark you just made on the end is touching the table. Draw another straight line on what is now the top of the pipe and it will be directly across the pipe from your first line. Mark the locations for the elements on both sides and drill holes on each side.

Fig 4. Max N9MYY and Carl N9KTL drawing the lines for the boom. It's important that these lines be as straight as possible to make sure the elements are all in the same plane.

With our preparation well underway, we'll cover assembling these antennas next month. By then we'll have some working models put together and we'll be able to let you know how they perform after we hook them up to an antenna analyzer. The brass that we have to solder needs some serious heat, so bring your torches!

73! Chris N9YH

WeLCARS Online Swap Net

Joe Serocki N9IFG

Tired of being screwed out of 4% of your price on eBay? Tired of needing to sell when you want to trade? WeLCARS is offering a FREE online swap net that not only doesn't steal any commission, but also allows you to request swapping rather than a straight purchase, which is against eBay policies. Join the WeLCARS Yahoo Group (http://groups.yahoo.com/group/welcars/) and select Databases and then Swap Net! Email joeserocki@gmail.com if you have any questions!

73 Joe, N9IFG

DX Expeditions to Catch

Dave Cooper KA9OZP, Vice-President MCWA

March Mania in college basketball is big this time of year, but in the ham world it is DXpedition Madness. There are several such expeditions on the slate for Late Winter and Spring.

Numerous hams had the joy of working VP6DX. As I mentioned in a previous article, this expedition serves as a paradigm of ham radio expeditions. In spite of the burning heat of Ducie Island, these operators broke ham radio records in terms of QSO's. Their band plan operation, timing, operators and equipment were excellent. Without trying more than a first call, I worked SSB on six bands with this group. They get an overall grade of A+!

TX5C was the Clipperton Island call for the recent expedition there. Several hams in our region of NE Illinois worked them on more than one band. After listening to 10khz of listening frequency pile ups for the days they were there at 5-9+ (especially on 80m and 40m), I worked one of the ladies in the crew on 20m phone. I tried a high end listening frequency and had no trouble. However, I did call many times until she caught me on that frequency.

The Clipperton group did an okay job in spite of heat, terrible storms, and equipment failure. This group caused a sort of war between Europe and North America. They were selective in calling for regions. On DX clusters, negative comments about this were obvious. It appeared that Asian stations also felt left out at times. Hams can be brats! believe a number of factors contributed to this tension around the globe. Propagation challenges, some bit of disorganization at times, high QRN, and the harsh operating conditions did not make TX5C the paradigm that Ducie was... However, we are very grateful for the sacrifices this group made on behalf of ham radio. I will give them a grade of B.

The Clipperton group tried to be inclusive. At one point one listening frequency was designated for QRP and mobile operations. This was clearly an attempt to give everyone a chance. You have to love the gang for that! By the way, I had no trouble working FO5A/MM as they were traveling to Clipperton. They even took advantage of working MM (Maritime Mobile). If this group were to do it another time, they might have the kinks worked out and do a better job. Thanks to them for making Clipperton a catch!

As I write, the 9XOR Expedition is in progress. This is being operated from Rwanda. I hope to catch them on a couple bands. Currently, the pile ups are big, but these should die down in a couple days. Their signals are moderate on some bands in spite of the lack of better propagation. A lot of their work is on CW. Like the other expeditions, they are operating split. Split operation is common with DX. The DX operator transmits on one frequency and listens up (usually) 5-10 khz. Most HF rigs are capable of doing this.

I do my operations with 100w and parallel dipoles. This means you need not be a big gun to have DX fun! I have worked DXers who were using 5w... You can save on the electric bill and still do DX. I believe Joe wants me to talk about this as early as this summer.

By the way, I use www.oh2aq.kolumbus.com for my DX spotting. You can go there and tap the band/s you want to catch DX on at any hour of the day or night. It uploads every minute.....

73 Dave KA9OZP

Cycle 24 Nears (?)

…therefore it is time to resurrect this good old days article to be relived by us graybeards and introduced to the still fuzzy-faced?

DX Stories – 6 Meter Radials

Paul M. Dunphy VE1DX

One of the Local QRPers came up the hill today and there was joy in his stride. He was the same one who we'd heard on the 2-meter repeater telling one of the big guns about this new found success on 6-meters. He wasn't long getting to the point.
"5 new ones today!" He began, grinning from ear to ear, "That makes 13 in 4 days. I guess at this rate, using simple linear math, the time for me to get my 50-MHz DXCC is (100 X 4 / 13) = 30.8 days. That's one month."

We held up our hand in resistance: "Wait a minute. It isn't linear! It took VE1YX over 12 years to get 6-meter DXCC. And he was at it all the time, with
an 8-element beam at 70-feet fed with hard-line and a big amplifier. You just hit a fluke in propagation."

The QRPer grinned wider and shook his head. "Nope, not on your life! I wouldn't do this for just anyone, but I'm going to let you in on my secret. Here's what I did. I got rid of my beam, amplifier and tower. Sold it. Then I bought a multi-band vertical with the 12/17-meter add-on kit. That part is important as it widens out your resonance point."

DX Stories – 6 Meter Radials cont. from prev. page

We tried to get a word in, but he was going full steam ahead. "I know, I know! You had your resonance point widened by a doctor a few years ago, but this is different."

We shoved back our baseball cap and finally took it right off. We scratched our forehead as the QRPer ploughed on.

"Here's the secret. 51 radials! Not 49, not 50 and not 52. 51. But there's more to it than that. The first 50 radials can be any length, and they should be a mix if you are going to use your antenna on HF too. The trick is radial 51. Make it the portion of the wavelength where you are most likely to be operating. If you plan to be around 50.100 MHz, then cut it .100 wavelength. If 50.150 MHz, cut it .150 of a wavelength, and so on. This isn't too critical as your vertical will be broad-banded to begin with, but if you want that extra edge, cut it where the DX is likely to be, and then you'll be ready to pounce!" "You won't find this in any ARRL antenna book. And don't tell anyone, either! If everyone finds out, then we won't have the advantage. You just listen to me, and I'll teach you how to DX on 6-meters. I have a few more tricks up my sleeve. You try this antenna one first. Then we'll move on to phase two. There is a 6-meter DXer buried inside you somewhere. We'll get him out in the open!"

With that he was off down the hill, running and kicking up his heels in anticipation of tomorrow's 6-meter opening. Son of a Gun! Some days there are times when you can anticipate what is coming, and be prepared. Somehow, we didn't even think Lord Baden-Powell, the Hero of Mafeking, would have been prepared for this one. So we just watched him round the corner and hoped tomorrow would be another good day on 6. It kept the QRPers off the lower bands, and we still needed the 5W0VK on 17-meters.

The Great Days of DXing are upon us. The signs are everywhere. QST printed an article saying we were in the middle of a double peak cycle and the Palos Verdes Sundancers were showing no signs of letting up.

Maybe the QRPer had actually come across something… like too sitting too close to the amplifier with the cover off!

DX IS!
73/DX Paul VE1DX (QSL via VE1YX)

How DIYers Just Might Revive American Innovation

Clive Thompson

What a mess**.** I'm sitting on the floor of my apartment, surrounded by electronic parts, a cigar box, a soldering gun, and stray bits of wire. I'm trying to build my own steampunk-style clock — hacking a couple of volt meter dials to display hours and minutes. It'll look awesome when it's done.

If it ever gets done — I keep botching the soldering. A well-soldered joint is supposed to look like a small, shiny volcano. My attempts look like mashed insects, and they crack when I try to assemble the device.

Why am I so inept? I used to do projects like this all the time when I was a kid. But in high school, I was carefully diverted from shop class when the administration decided I was college-bound. I stopped working with my hands and have barely touched a tool since.

As it turns out, this isn't a problem just for me — it's a problem for America. We've lost our Everyman ability to build, maintain, and repair the devices we rely on every day. And that's making it harder to solve the country's nastiest problems, like oil dependence, climate change, and global competitiveness.

The decay has been rapid. Only a few decades ago, most serious adults were expected to be fluent in basic mechanics. If your car or stove or radio broke down, you opened it up and fixed it. "Magazines like *Popular Mechanics* in the '40s and '50s would publish projects like an automated pig-feeding trough, and they assumed you had the tools and skills to make it," says Dale Dougherty, editor and publisher of *Make* magazine.

But as we migrated to an information economy, those skills began to seem as quaint as, well, mechanical clocks. America's bright future, we were assured, wasn't industrial. It was in the hands of "symbolic analysts" — folks who sat at desks and thought for a living. In the '90s, the rise of the Internet sent this post-mechanical age into a sort of giddy overdrive. Remember Nicholas Negroponte urging everyone to "move bits, not atoms"?

But when we stop working with our hands, we cease to understand how the world really works.

You see this on a personal level. If you can't get under the hood of the gadgets you buy, you're far more liable to believe the marketing hype of the corporations that sell them. When things break, you toss them and buy

How DIYers Just Might Revive American Innovation continued from previous page.

new ones; you accept your role as a mere consumer. "I think it makes you more passive as an individual," says Matthew Crawford, a former motorcycle repair-shop owner (and postdoctoral fellow in cultural studies) who's writing a book on the demise of mechanical aptitude in America.

It might even screw up our brains. Neuroscientists have shown that working with your hands exercises different parts of your cerebrum than sitting and cogitating. Ever wonder why Detroit isn't producing 100-mpg cars? One reason might be that the engineers there spend all their time tinkering with CAD software — developing design concepts in a purely virtual sense. They aren't ripping open cars to see what's possible, the way those amateur ultra-mileage Prius hackers do (some of whom, by the way, have modded their hybrids to get 100 mpg).

I'd argue there are even larger political effects of our post-atom age. Take the epidemic of corroded highways and collapsing bridges. The basic mechanics of how bridges and roadbeds work are so beyond us that we don't have any sense of urgency about the issue, and we don't put anywhere near enough pressure on our politicians to prioritize infrastructure upgrades.

The good news? A counterrevolution is afoot. The past few years have seen an uprising of DIY hobbyists, people who've realized that making stuff is not only cognitively empowering but also a lot of fun. Dougherty's *Make* magazine — which publishes plans for building cardboard guitar amplifiers, board games, and VCR-powered cat feeders — has been a surprise hit, selling 100,000 copies each issue. Weekend robot-building societies are cropping up everywhere. And I can't turn on the TV without stumbling across some extreme home-renovation show, complete with a hyperactive host and loving descriptions of how to, y'know, mix concrete. In prime time!

Notably, all this is happening outside our broken educational system. America is healing itself at the grass roots — rediscovering the mental joy of making things and rearming itself with mechanical skills.

And, hey, I'm doing my part. After a couple dozen tries, I finally get my soldering technique back up to scratch. The clock is telling time — and I made it.

Successful VE Session!

Gregg Sperling KB9DBC

We had another successful VE session in March, with a record 5 test takers. This is the largest number of test takers that we have seen at a Wednesday night session since we started the VE team.

We have three new Technicians and one new Extra. Our new Extra, by the way, tested with us for his General and Technician. Congrats to all!

I'm going to tweak the rules for VE sessions starting with the next session. I received a complaint that there was just too much ambient noise while our test takers were taking their tests.

* If you're not a VE (presiding over the test session) and not there to take a test, please don't hang around.
** If you're not a VE, and not a test taker, but you want to observe the session, you are more than welcome to do so. ***SILENTLY.***

* Test takers MUST have their cell phones turned off. If they take a call during the exam, the exam is void, and the test taker is done for the night with no refunds given.

* Conversation MUST be kept to a minimum, and relevant to the session.

* VEs need to have their cell phones on silent. If you receive a call that you cannot miss, please leave the room to take it. (I'm not picking on anyone here, I'm just stating facts.)

* VEs: There is a lot of confusion going on with the paperwork. Next VE session, we're going to go over the paperwork process, and standardize across the board. Those who are not in attendance for that session will not be able to preside over a session until they've been retrained.

We've got a great thing going here, and I want to make sure it stays orderly and quiet for those taking tests. I want to guarantee this team's success moving forward. I understand that we're keeping up the social aspect of WeLCARS, and I want to do anything but stifle that. I think it's great that we've got a VE team willing to attend each session (trust me, it makes my life a lot easier!) and keep up the ham radio camaraderie. We just need to 'tweak' things a bit, and accommodate our #1 priority at our testing sessions: The test taker!

As always, a BIG THANK YOU to my fellow VEs. Without you, we would not have been successful with this venture.

Successful VE Session! Continued. from prev. page

So, to:

George Greene, NE9ET (#24602)
Robyn Sperling, WA9YHX (#28713)
Max Plaza, N9MYY (#28795)
Bob Diehl, WB9KMT (#28796)
Tom Staley, K9TMS (#28860)
Keith Schreiter, N9QDS (#28861G)
Terry Garrett, K9HA (#28862)
Larry Homa, KA9EWU (#28977)
Chris Burke, N9YH (#29083)
A HUGE thank you!!!

73,
Gregg Sperling, KB9DBC
Contact VE # 28015

WeLCARS Meeting Minutes

Chris Burke N9YH

1) WB9RKD Repeater

We kind of picked the WB9RKD repeater at 147.03 (+ offset, 127.3 PL) as the "official unofficial" WeLCARS repeater. The coverage seems to be pretty good, it's quiet (well, at least until we moved in...), and located in our neighborhood in Lake County. Other area repeaters that we considered were KB9I (145.41), KA9VZD (145.29), and W9FUL (147.18). While these are all fine repeaters, KB9I is already affiliated with MCWA, W9FUL is the Lake County RACES repeater, and KA9VZD is like a club in and of itself. Jeff WB9RKD also has a 440 machine at 444.400. In the not too distant future we'll be looking for a volunteer to climb up the tower to replace the temporary antenna that's up there now. Or volunteers, plural, if the first volunteer falls off...

2) License/Merit Badge Classes

…began Wednesday, March 12. The classes will run 6-8 PM at WeLCARS Worldwide Headquarters, otherwise known as the Fox Lake Community Center (23 South St., Fox Lake, for the benefit of all the new people on the list). Joe N9IFG plans to be there around 5:30 or so setting up and wouldn't mind help keeping the 20-30 kids in line. (Though that does require that you fill out a form and take an online child safety course. Joe now reports that you no longer need $10.) The classes will be on the 2nd and 4th Wednesdays of the month and will talk about amateur and broadcast radio. The 2nd Wednesday is VE Testing Night, so the plan right now is to have test sessions downstairs and the class upstairs. The club also bought an Icom IC-V8 Sport HT to be raffled off to one of the kids that sticks through everything and earns their ham ticket. Joe plans to get the Gordon West prep material to help the kids study for the Tech test. For information on the classes, contact Joe at joeserocki@gmail.com or through the group.

3) Tech Fest II: Return of Tech Fest

We talked about Tech Fest II for a little while. (I'm going to have to kind of wing it here - I was out of the building for a little while, seeing that I forgot the wire for the antenna elements at home. Oops.) Everyone pretty well agrees that the food was good and reasonably priced. Joe N9IFG reports that the Scouts made somewhere around $50-100 on food, and Tom K9TMS told me at the 'Fest that the Tech Fests are getting to be like the "good ol' back slappin' hamfests." I'm not sure what that means, but it sounds friendly. At least it's better than some kind of "bird flippin'" or "name callin'" hamfest. And I shudder to think what a "mud wrestlin' hamfest" must be like... Or is it "mud rasslin'"?

So... How'd we do? (Those that don't like to hear about money in e-mail should probably talk amongst yourselves for this paragraph. I'll give you a topic: the peanut is neither a pea nor a nut. Discuss.) Last year's hamfest netted us $305.00. ("Huh? I thought we made over $400!" you say? Well, we did - but the food wasn't a separate enterprise so we ended up paying $100 for food expenses.) This year, we came away with $352.00. Yes, that includes the $72 we spent to rent tables (we learned the village's inventory control is a bit spotty). Neither of those totals include a $50 donation to the Village of Fox Lake. There were fewer vendors but we did a little better keeping track of who paid. We're going to implement some better record keeping for the upcoming Tech Fest III: Revenge of Tech Fest.

Besides record keeping, what can we do better? Well, one thing people complained about, believe it or not, was the donation box was too small and hard to find. So our man Andy WB7DKZ says he'll lend us the rather large donation box from his church, as long as we plan on a Saturday. We plan on making the next 'Fest earlier and starting the seminars right away, since it was darn crowded around 9 but by 11 it was starting to empty out. 8am - 1pm has been tossed around instead of 9-2 (Tech Fest I was like a Dolly Parton song - 9-5). Had Gregg KB9DBC been at the meeting instead of burying people in shallow graves in the Phoenix desert, he would have asked that we try to isolate the VE Testing from the seminars a little better. Anyone that has any suggestions, comments, or additional vendors you can e-mail Joe at joeserocki@gmail.com or through the group. Though we're still going with the "one vendor per topic area" policy, if you can think of vendors that

WeLCARS Meeting Minutes cont. from prev. page

cover other areas than we have already send them in. There's an opening for "computer guy" and we can entertain anything else technology related.

4) Online Swap Net

Joe N9IFG has created a table in the Yahoo group for classified ads. You have to be a member of the WeLCARS Yahoo Group, but seeing that the group lets me send out this drivel and call it "Meeting Minutes," we're obviously not very discriminating. There are already about 10 entries out there (I just checked). Check it out at http://groups.yahoo.com/group/WeLCARS/database.

5) (cue 50's B-movie music...) The Antenna Project That Wouldn't Die!!!

The 2m and 440 antenna project continues! No, I'm not kidding. "Criminey! What's left?" Well, cutting coax for the balun and assembly. I brought stuff for a 2 meter antenna home so we'll have a working model to look at for the next date. Update! We met on 3/26 and we have everything assembled but the elements! On April 2 we'll be soldering everything together and that'll be it! Bring your torches!

6) The OTHER Antenna Project

...may or may not start in April, since Keith N9QDS may or may not be shanghaied to China. Unless the project doers want to accompany him. In that case it'll be $100 for the antenna materials and $1300 for airfare. Hotels are up to you, unless everyone bunks with Keith. Watch out for lead poisoning! Don't lick anything over there!!!

7) An Unfortunate Bit of News…

Our illustrious Contact VE Gregg Sperling KB9DBC has announced that he finds himself looking for a new job and will be likely leaving the area. Our man Max N9MYY has volunteered to take over as Contact VE. Max's speech at the March 19 Dino's meeting was captivating – just like George C. Scott at the beginning of Patton! Gregg's other position was Public Service Coordinator and the membership present at the Dino's meeting voted this on a less-than-enthusiastic Carl N9KTL.

8) And Finally...

From the Department of Darn Dirty Apes. What self respecting monkey, Stoned Monkey or otherwise, wouldn't go ape over this? Hey, if we can put a man on the moon, surely we can put a banana over Texas. (www.geostationarybananaovertexas.com).

73 de N9YH, Chris Burke

Opek Dual Band Antenna Review

Joe Serocki N9IFG

I just purchased the base station dual band collinear antenna from Don at DC Ace during the hamfest for somewhere around $50. This antenna is about 9 feet long and comes disassembled.

UVS-200
DUAL BAND BASE STATION ANTENNA
GAIN: 6 dB (2M) OR 8dB (70cm) BETTER THAN QUARTER WAVE ANTENNAS
VSWR: LESS THAN 1.5:1
FREQUENCY RANGE: 144-148 (2M) AND 440-450 MHz (70cm)
POLARIZATION: VERTICAL
IMPEDANCE : 50 OHMS
CONFIGURATION
ELEMENT (2M): 5/8 WAVE 2
ELEMENT (70cm): 5/8 WAVE 4
POWER CAPACITY: 200 WATTS
CONNECTOR: SO-239

Pros: Not too long, 9 feet. Dual band, low SWR on both bands. Seems indifferent to location near other metal objects (as far as SWR goes, I didn't check the radiation pattern.) Light, easy to schlep up a tower. Takes about ten minutes to assemble. Radials included. Assembly protects coax connector from the weather.

Cons: To be honest, none that I can find. I ran 5 watts into this and was able to hit up many repeaters in the area. I totally recommend this series of antennas.

73 Joe, N9IFG

W9NXR SK

Tom Staley K9TMS

To quote Paul Harvey…. "Partly Personal".. well to be honest mostly personal. My Penny, K9PLS, received news earlier this week that her father Ed Rehm, W9NXR, lost his battle with cancer on February 15th and has become Silent Key.

Ed lived in the Mundelein area and was one of the original hams that started the CAP hamfest that many of us can still remember. His contributions were greatly appreciated and he will be sorely missed.

73 Tom, K9TMS

Icom Fish Finder External Keypad

Many hams have invested in the Icom IC756/7800/7700/7000. All of these fine radios have a digital voice recorder built in that can be used as a contest voice keyer. Many owners of the radios don't use this feature because to use it with the function buttons on the radio you would loose the ability to use other functions ie: the real time scope on the 756. If an external switch box is connected to the radio the digital voice recorder can be used for play back with out need to utilize the function keys. The basic layout for either the 756/7800/7700 and the 7000 switch box is basically the same. The main difference is the connection to the radio.

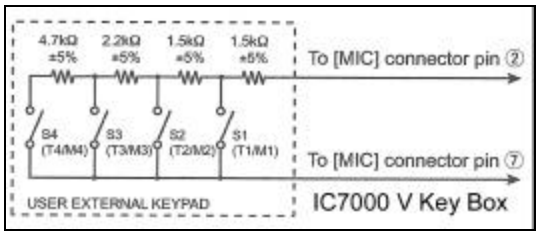


Figure 1 - IC7000 VK Box Schematic

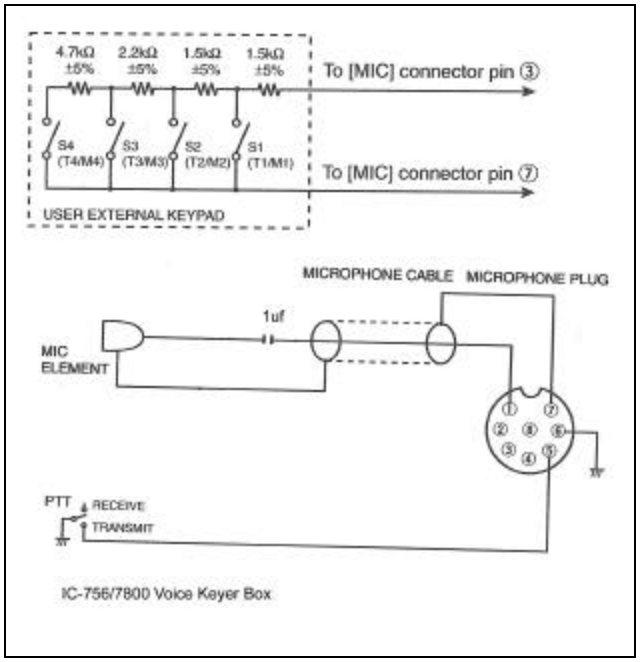


Figure 2 - IC756/7800/7700 VK Box Schematic

The box basically uses 4 switches and 4 resistors to select which digital voice file to play from the radios memory. The boxes used are bud boxes commonly available from Jameco Electronics or Frys Electronics. The switches are momentary push button switches. If you want to build either of these let me know I have a large supply of the resistors that are free for the asking.

On the 756/7800 box I also incorporated the connections needed for a Heil Headset. The headset I use has a dynamic microphone, you need to use a 1uf tantalum non-polarized capacitor to block the DC voltage supplied to the mic element. The IC 7000 has two microphone connectors, connect the switch box to the rear connector.

Each of the radios must be configured to use the digital voice recorder switch box. On the IC756 set the "External Keypad" selection in Set Mode to either Auto or Voice Play (TX). On the IC7000 set the External Keypad (Item 42) in Set Mode to On. You will need to record the messages you want to send. For the IC756 please refer to page 40 of your operators manual, for the IC7000 please refer to page 96. Once the messages are recorded you simply need to push one of the buttons to transmit your message. To stop playing the message before it stops simply press the button again.

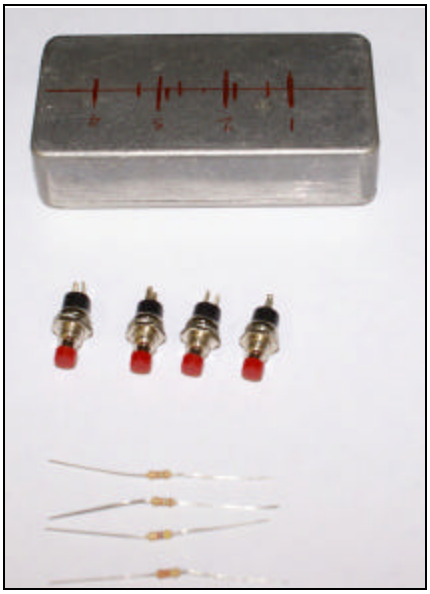


Figure 3 - Basic components

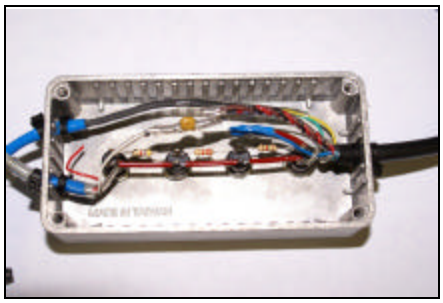


Figure 4 - Inside view

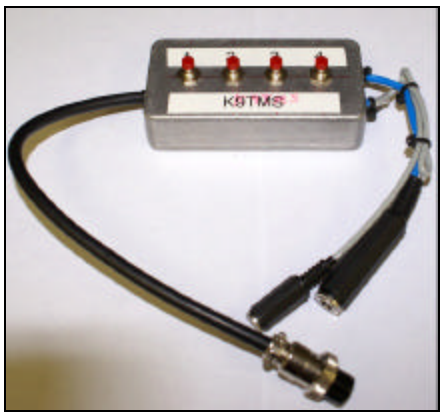


Figure 5 - IC756/7800/7700 VK Box

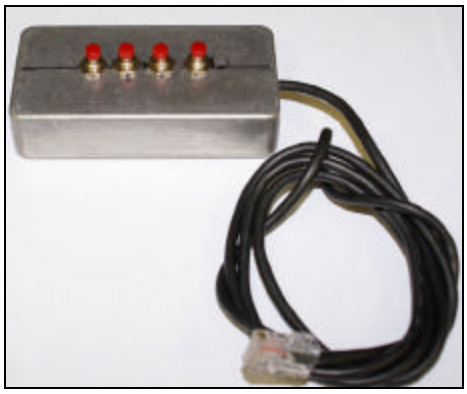
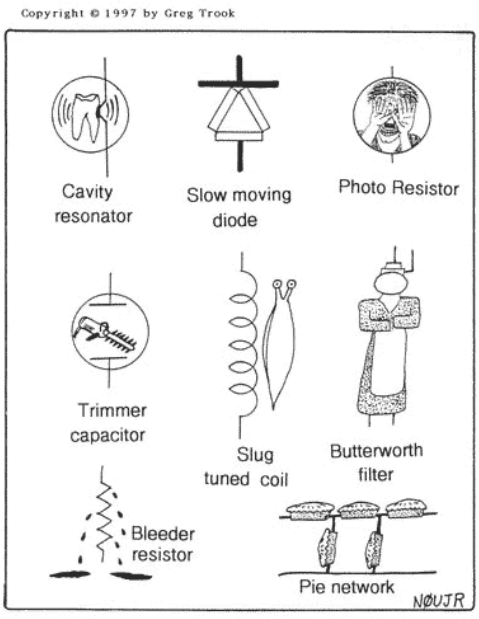


Figure 6 - IC7000 VK Box

These are simple project that add a lot of functionality to your Icom “Fish Finder”. IF you need help building one let me know. The Stoned Monkeys will be using two IC756’s and 2 IC7000’s for the June VHF contest effort all equipped with these boxes. In the past these key pads have performed very well in our contesting efforts.

73 Dan – K9BTW & Tom – K9TMS

…. And now a word from our sponsors



Little known standard electronic symbols.

New Rover Rules Unveiled!

Courtesy of AFRL Newsline

Though the AFRL just recently changed the rules for rovers in VHF contests, the League has made even more radical changes that will be effective for the upcoming June contest. "With the price of fuel so high, we wanted to encourage hams to use other alternatives to rove during VHF contests," said Iban Kutnzwis KF4RT, AFRL Section Manager. As a result, the AFRL has introduced the Human or Electric Low Power Rover class. Like other Rover classes in VHF competitions, the new class competes on 4 bands. The HELPR class can use all approved VHF and up ham bands. Each class is then sub divided into QPR, LOW, and HIGH power levels. Unlike traditional rovers, however, stations competing in the HELPR class must carry their stations completely within a human or electric powered vehicle, such as a golf cart or bicycle.

Avid bicycler Bob Frapples WD8KHE said, "I think these new rules are great. Cycling is good for the environment, and it keeps you in shape. I love that I can combine both of my hobbies at once." Not everyone was thrilled by the changes, however. One ham we spoke with said, "This is what's wrong with VHF contesting and why I sold all of my equipment." Others, such as Imma Wyner WY9ER said, "These VHF rules get crazier all the time. That's why I stick with HF."

While the new Human and Electric Powered Limited Rover Rules were intended to encourage hams to conserve energy, senior citizen VHF enthusiasts no longer able to drive are also able to benefit from the changes.

"I think the new rules are great," long time ham Wanda Zarown N9QDK says; "They took away my driver's license ten years ago and the nursing home won't let me put up an antenna. With these changes, I can still rove." Wanda adds that she's unable to operate rover during the Spring and Fall VHF Sprints, simply because her scooter has a top speed of 7.5 miles per hour, and it would take the entire contest period to get to the next grid square. "Besides," Zarown added, "With my medication, my nurse says I get confused after dark."

Fig 1. Wanda Zarown N9QDK shows off her new ride. Watch out on the sidewalks! Wanda's son Lee Harvey plans to install a Chevy 350 V-8 crate motor the next time Wanda visits him at his trailer.

•- •--• .-• .. .-.. ..-• --- --- .-..

73 Lazy Eagle & Mongo