



USECA EXPRESS



Michigan's Largest and Most Active Amateur Radio Club

UTICA SHELBY EMERGENCY COMMUNICATION ASSOCIATION, INC.

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SOS For A Fading Skill

A PROPOSAL by the Federal Communications Commission to eliminate the Morse code requirement for gaining an amateur radio license is probably inevitable in the Internet age. Still, it marks another sad surrender to technological advance and a further step away from basic skills that stimulate the mind and improve the human condition.

The FCC is considering new rules that will no longer require applicants for a "ham" radio permit to send and receive messages with the electronic dots and dashes developed by Samuel F.B. Morse for his patented telegraph nearly 170 years ago.

The change, likely to be adopted next year, is mostly an issue for some 600,000 radio amateurs in the U.S., who now must demonstrate their code proficiency at five words per minute along with written examinations on technical matters and radio procedure for various levels of licensing. Dedicated hams believe the code requirement is among the factors that have separated them from the comparative frivolity of "citizens band" radio.

But it's more than that. Dropping the code requirement further distances the radio operator from the basics of the craft. While it is certainly easier to simply speak into a microphone than tap out a message on a telegraph key, the fact that less skill is required is not necessarily an advance.

Learning Morse code once was considered valuable not only for simple communication but also because it sharpened the mind.

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USECA's 2006 Pre-Field Day Saturday, May 13th

DON'T MISS THE boat on this one! USECA's annual Pre-Field Day will be at Stony Creek park in the "Gladeview A" picnic pavilion...time: from 10am-dark (lunch served about 1pm). That's the Saturday prior to Mother's Day and the weekend before the Dayton Hamvention. Mark the date above on your calendar! Circle it in red and be there or be *square*! Gladeview is the highest point in the park and is the 1st picnic area on the right after entering the park. It offers adjacent parking, plenty of trees for hanging antennas, a newer pavilion, and modern restrooms just a stone's throw away. Remember that there is a daily entrance fee to the Metroparks...3 or 4 bucks last time I checked, unless you have a yearly pass.

In the last few years we've had as many as 50 folks show up, with up to 8 QRP stations simultaneously operating, covering most of the HF bands and sometimes VHF. There will be several "Fox Hunts," sponsored by Phil (W8IC), who will supply some RDF equipment and the "fox" for those of you who don't have any gear and would like to get involved in the fun of hunting for a hidden transmitter. If you have your own portable RDF gear, *please* bring it out and show it off to the rest of us. *Anyone* can come out and set up a station—it's a great way to show off your rig and skill at setting up a portable operating position.

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The VE test session for this month only (May) will be on the **SECOND Thursday** of the month.

Can You Help?

Safe Macomb

On May 24, 2006 from 10 am to 1 pm at Metro Beach, around 2000 children from 9-11 years old will participate in a project called Safe Macomb.

They are looking for a group to demonstrate Amateur Radio to tell how we provide communications for disasters and public service, and provide communications for the 3-hour event.

Contact Barb Browe at (586) 541-0033 and tell her you were referred by Patti Kefgen.

The program is for Safe Homes, Safe Schools, Safe Streets, Safe Waterways and Safe Workplaces.

—Submitted by Doug, K8DK

Next Meeting — May 9

CLUB DIRECTORY

BOARD OF DIRECTORS

President	Chuck Perushek/N8ZA (586) 557-4983
Vice President	Brad Tarratt/N8VI (248) 506-7609
Recording Secretary	Ann Manor/KT8F (586) 751-3893
Treasurer	Dennis Gaboury/W8DFG (586) 465-7126
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Board Member	Joe Kennedy/N8OZ (586) 977-7222
Past President	Jim Wickstrom/W1IK (586) 771-4135

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ARRL Liaison	Bobby/N8CY (248) 879-7214
Awards Manager	Chris/KV8Z
Door Prizes	-OPEN-
Editor	Joe/K8OEF (586) 781-0050
Field Day Chair	Phil/W8IC & Ann/KT8F (586) 751-3893
Health & Welfare	Walt/WB8E (586) 777-2954
Historian	Jerry/K8CFY (586) 791-4484
Liaison	Dave/KC8TTO
Mails/Sorters	Ann/KT8F; Phil/W8IC; & Crew
Net Manager	Brian/KC8DIR (586) 749-4561
Photographer	-OPEN-
Program Director	Brad/N8VI (248) 506-7609
Public Relations Officer	Ken/N8KC (248) 652-1187
Refreshments	Walt/WB8E; Richard/KC8HMJ
Repeater Trustee	Dennis/W8DFG (586) 465-7126
Swap Director	Tom/KD8AVF (586) 651-7239; kd8avf@k8uo.com
Technical Director	Floyd/W8RO (248) 391-6660
Technicians	WN1B; W8IC; K8FT; WA8GQL; KC8IAQ; W1IK; AD8S; N8SA
VE Testing	Joe/N8OZ (586) 977-7222
Webmaster	Brad/N8VI (248) 506-7609

CONTROL OPERATORS (*Phone Number Above)

Scott/WN1B	Jim/W1IK*	Floyd/W8RO*
Dennis/W8DFG*	Joe/K8OEF*	Fred/W1SKU
Phil/W8IC*	Joe/N8OZ*	Chuck/N8ZA*

PROGRAMMERS

Dennis/W8DFG

The Editor is:

Still Going

Joe, K8OEF

LATE BREAKING NEWS . . . as the *Express* was ready to "go to print," I learned that at the May General Meeting, Floyd, W8RO will have a presentation about his work at the Winter Games in Italy.

You may be reading this edition prior to Sunday, April 30. If so, please note that's the day of Walk-America at Metro Beach. Come out for some radio fun while fulfilling a great community public service for a very good cause.

Next month's *Express*, (June) will contain the latest information on Field Day. And, it's the last edition prior to our two-month vacation.

Looking for more "On The Cheap"? It's not here; ran out of room (which is a good sign because there is more radio "stuff" to read). I have some ideas if you attend the movies; also, a few "fast food" tricks.

73 for now.

Eat B 4 U Meet

Be sure to join us starting at 6 pm the night of the General Meeting for some tasty food and treats prior to the meeting.

Note: I would like to thank, again, all the members who are attending the meetings for parking in the back section of the parking lot. At the request of the Elks, they would like to keep the front part open as much as possible for the Euchre players.

Dennis

W8Dah Food Guy

This is your club . . . be proud of it!



Saving Money On An Antenna For "Bad Band Conditions"

Keith, N8EB

IN EARLY MARCH I saw an auction on eBay for a 40-meter "caged dipole" for around fifty-five bucks. I had never heard of a caged dipole, and from the picture in the ad it appeared to be pretty simple to make, so I started to search the Internet for more info on this kind of antenna I had never heard of.

Basically a caged dipole is your standard everyday dipole with 4, 6, or eight wires on each leg instead of the standard 1 wire—sounds simple enough. Why go caged? Expanded bandwidth without the need to re-tune is the major advantage according to the articles I found. I also asked around, and opinion was that I should be able to use a tuner for 20-meters and the bands above.

OK, sounds good—now to build one. I went to my local Lowes Home Store, and found a roll of 14 gauge stranded wire in a sky blue color that was being discontinued that was priced at only 2 cents a foot! That's only \$10 for a roll of 500 feet instead of the normal \$25-\$30 a roll. I went to the register to pay, and because I was buying the whole roll I got the "contractors discount" of half price—only \$5 a roll. Needless to say I went and grabbed the other roll that was left.

According to the specs I cut 8 wires (4 for each leg) to just over 30 feet, which is a little shorter than the normal 32.7 feet called for in a regular dipole. I bought 8 half inch PVC plumbing "4-ways" to serve as the center of the spreaders to keep the 4 wires from tangling and keep them equal distance from each other. I then cut half inch PVC pipe to 4 inches. This keeps each wire approximately 8 inches from each other.

A single three quarters inch plumbing "T" serves as a center connector for the dipole, and I made mine to accept either ladder line or coax—I like flexibility.

I mounted the center on an adjustable painters pole only 6-7 feet up in my backyard while assembling, and each end a comfortable 4 feet high so Chuck, N8ZA, Joe, N8OZ, Larry, W8SJD and I could reach it easily. After assembling in normal dipole fashion but with 4 wires to a side, I hooked it up to my MFJ-949 tuner with ladder line to see if it even worked—and it did beyond my wildest dreams! I can't wait to mount this up in the air where it should be—or better yet, haul it out to Metro Beach for a Lark In The Park.

Total cost the way I built it was about \$25—a nice cheap antenna that as a side effect is also very quiet. Don, WB8F built one a week or two later, and instead of the PVC 4-ways for the spreaders, he just cut a notch in the PVC pipe and saved even more money building this antenna. Chuck, N8ZA, Larry, W8SJD and I showed up at Don's to help him build it "assembly line" fashion. If you want to try to build your own, I would be happy to send you the specs I used for mine, and who knows, you will probably be able to have 4 or 5 of us show up to help you assemble yours if you wish!

This first weekend after building my "cager" was that big European DX contest, and the bands were packed wall to wall with people calling CQ. I averaged 12 contacts an hour on Saturday—and that was logging in a paper logbook and filling out QSL cards after each contact. I talked to only two "lonely" guys in the US—the rest were all over Europe, Asia, and the Caribbean.

So the moral of the story is two-fold: One, a good antenna is cheap and easy to make, and two, although the sunspot cycle may be at its worst level, you can still get out and be heard. Maybe the bands aren't all that bad—maybe too many people are not getting out there and trying. So turn that rig on and be "radio-active," and try it on a "cager"!

Park Season

Keith, N8EB

TIS THE SEASON to be out-and-about at Metro Beach for a Lark In The Park! Yesterday, Tuesday, April 11th, a bunch of us made the first "official" trip to Metro Beach at 16 Mile and Jefferson in Harrison Township. Yes, I know, Walt, WB8E and a couple others have already been out to Metro, but this was the first time it was planned ahead of time, announced on the repeater, and multiple stations and multiple modes were going at once.

Now if you are new to USECA and the hobby, or if you have had your head buried in the sand, you might not know exactly what a "Lark In The Park" is. Once the weather breaks—like it has over the last 2 weeks—we try to get as many people as possible to set up portable at Metro Beach Metropark. We usually always work off battery power, and yesterday we all worked QRP as well.

I like the Lark In the Park to test out new antennas—I have made and tested dipoles, "Slinky Antennas," wire verticals, and loops at Metro. We usually grab a few picnic tables; drag them under some trees for shade and antenna support, and then its magic time. There just isn't anything better than playing radio out in the open air, watching the water (and the things IN the water), and feel a nice breeze in your hair while working a nice DX.

Walt, WB8E, Chuck, N8ZA, and at least several others always bring a radio to set up, but bring a rig is never a requirement. If you don't have a rig to set up portable—or if you just don't want to bring your prized TenTec outdoors—don't let that stop you from joining us. Stop on by and everyone is glad to let you take some time in the operator's chair!

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USECA Meeting Minutes

Board Meeting—April 4, 2006

In attendance:

N8ZA, Chuck	President
N8VI, Brad	Vice-President
KT8F, Ann	Recording Secretary
KW8Z, Ken	Membership Secretary
W8DFG, Dennis	Treasurer
WB8E, Walt	Board Member
W8IC, Phil	Board Member
N8OZ, Joe	Board Member
W1IK, Jim	Past President

*Absent



Meeting called to order by the President at 7:33 PM.

Correspondence: Ann KT8F read a thank you letter to a ham's family that had donated equipment to the club, letter approved and signed.

Motion to accept the minutes of the last BOD meeting made by Walt, WB8E and 2nd by, Jim, W1IK motion carried.

Treasurer's report provided by Dennis, W8DFG. Motion to accept made by Jim W1IK, supported by Brad, N8VI, motion carried.

Dennis notified the board that Scott, WN1B has requested approximately \$543.00 for the purchase of audio band-pass filters for the receive sites. An amount of \$2800.00 has already been approved by the membership for repeater equipment and \$2200.00 has been used, so this amount will not have to be approved by the membership.

Membership: Ken, KW8Z reported: 169 current members. Applications reviewed and accepted.

Webmaster: Brad, N8VI: has set up a page on the website with items for sale.

Express: Joe, K8OEF – no report.

Technical report given by Phil, W8IC. The controller is out for repair. Phil and Chuck have installed a pass band filter downtown, this seems to have eliminated the interference.

ARRL: Bobby, N8CY absent but provided a copy of the Special Service Club Certificate to the board.

Old Business

Ballpoint pens for sale and promotions discussed

New Business

Ann, KT8F made a motion that members of the tech committee on USECA business (i.e. repeater work) be reimbursed for gas at the rate of \$.35/mile, and parking expenses. Motion supported by Jim, W1IK, discussion, motion carried. Expense reports to be submitted to the BOD for approval periodically.

Joe, K8OEF suggested making a mailed copy of the Express available to anyone wishing it and willing to pay an additional cost for postage and printing. There will not be an additional charge for those who do not have email. Discussion. Joe will bring the idea to the membership at the general meeting.

Field Day: Phil, W8IC brought the sign-up board. He related info on rules.

Dennis, W8DFG stated that testing will be moved to the 2nd Thursday in May only.

Phil, W8IC requested that anyone interested in helping out with siren testing the first Saturday in May (1 PM) contact Paul, KC8BDK. He needs 25 volunteers to cover Macomb County.

Motion to adjourn the meeting made by Dennis, W8DFG, 2nd by Walt, WB8E, motion carried; meeting adjourned at 8:38 PM.

Respectfully submitted,
Ann Manor, KT8F, Recording Secretary.



General Meeting—April 11, 2006

In attendance:

N8ZA, Chuck	President
N8VI, Brad	Vice-President
KT8F, Ann	Recording Secretary
KW8Z, Ken	Membership Secretary
W8DFG, Dennis	Treasurer
WB8E, Walt	Board Member
W8IC, Phil	Board Member
N8OZ, Joe	Board Member
W1IK, Jim	Past President

*Absent

Meeting called to order by the President at 7:30 PM.

Introductions were made, new members, visitors and upgrades recognized.

Correspondence read by Ann, KT8F.

Motion made to accept the minutes as printed in the Express made by Walt, WB8E and 2nd by Mike, N5WCS, motion carried.

Treasurer's report given by Dennis, W8DFG. Motion to approve made by George, K8GEO and supported by Steve, N8XO, motion carried.

Membership: Ken, KW8Z: 171 members.

Website: Brad, N8VI working on getting the community board up and running.

Express: Joe, K8OEF: no report.

Technical report: Phil, W8IC provided the report. Chuck and Phil installed another filter on the downtown site. Some problems ongoing with the voter. Repeater is working pretty well in general. Few more repairs to be made.

ARRL: Bobby, N8CY stated that the USECA application for Special Service Club has been approved as of 3/30/06 and is to remain in effect until 3/30/08. We have held this status continuously since 1995. Dan, KB6NU is heading up a program to introduce middle school kids to Amateur Radio.

If you want to participate, contact Dan at KB6NU@arrl.org, or Bobby, N8CY. The ARRL is soliciting fund to support the Spectrum Protection Fund.

Trustee: Dennis, W8DFG reported on recent interference issues. The perpetrator should be ignored.

Field Day: Phil, W8IC talked about Field Day. Has the sign up board present, requests that you sign up for any of a variety of positions. Also encouraged folks to join a team and help out in any way possible. Don't forget the USECA band, QRM, providing entertainment on Friday Night.

Swap: KD8AVF, Tom – contact Tom to volunteer for a job. A lot of help is needed.

Health and Welfare: WB8E: "everything OK!"

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Antennas, Antennas, Antennas!

By Steve Katz, WB2WIK/6

THEY ARE OUR transducers to the ether, and are what make our wireless equipment work. Yet, for various reasons, many hams seem unconcerned about them.

Deed restrictions (CC&Rs) are probably a leading cause of hams having poor antennas, although plain old apathy seems at least as big a problem. *Budget* should never be the problem, since so many excellent antennas are available as used items either very cheaply or free, and of course some great designs can be homebrewed for almost nothing. And we find that often times, the ham with no antenna had enough of a budget to buy a \$1000 radio. Hmph.

This subject is too vast to address in a brief article, so I'll focus on a single, popular design: HF Vertical Antennas. Even more specifically, inexpensive HF vertical antennas which are typically base-fed, trapped or loaded designs requiring a counterpoise or image plane in order to function properly. Among all the commercial designs on the market, the Hustler 4BTV-5BTV-6BTV are likely the *best bang for the buck* products currently out there, although Butternut HF6V-HF9V, Hy-Gain 12AVQ-14AVQ-18VS and DX88, and others can be good deals, too.

The products listed, and other popular commercial models, have one thing in common: They are not ground-independent, and have no factory supplied counterpoise. They are trapped or loaded, base-fed antennas that not only work *better* with radials, they work *only* with radials.

Any antenna can make contacts. Good ones make stronger, longer-distance contacts more reliably. With a 100W transmitter and a good antenna, many of the signal reports you receive should be 'Wow, great signal—very, very strong, S9+ here.' If you don't commonly get such reports, you're definitely missing out on a lot of stuff that could be worked, but you're not going to hear

it, and it's not going to hear you, either. A simple, inexpensive vertical antenna can produce such reports, repeatedly. The difference between a vertical that does get the 'you're blowing me out of my chair' reports and one that doesn't is simple deployment.

50 Million Frenchmen Can't Be Wrong

That's a really old phrase, and I'm not even sure where it started - but it fits the situation. If you use modern antenna modeling software, you'll see that any current-fed vertical fed at its base, which usually means it's , or t image plane, usually made from wire radials, in order to reduce its vertical angle of radiation and reduce ground losses. When one installs such a vertical, say a 5BTV for example, on the ground without any radial system, it will generally demonstrate a good impedance match (to 50 Ohm coax), and nice, smooth, low curve plotting VSWR against frequency. That's a sure sign that it stinks.

In reality, this antenna should have a feed-point impedance of about 30 Ohms (VSWR = 1.7 or so), and have sharp, narrow resonance curves if you plot VSWR against frequency. If the vertical has VSWR < 2.0 across the whole 40 meter band, you've got a problem, because the antenna's incapable of that. What's making the VSWR nice and low is ground loss, which appears in series with the antenna current and directly reduces antenna efficiency (both transmitting and receiving). My 6BTV is resonant at 7150 kHz, and VSWR climbs to about 3:1 at 7000 and 7300 kHz, which is about right. That's because my installation has very little ground loss - and that's because I have radials that work.

How much difference does this really make? That's a really interesting question, and although computer modeling shows the effects of radials with regard to feed-point impedance and radiation angle, it doesn't demonstrate the real-world

difference in what can be heard and worked. Simply using the antenna with easily added or removed radials (using alligator clips to attach them) is more demonstrative.

Having a battery-powered, portable HF receiver is very cool, if you're experimenting with antennas. This is because you can bring the "rig" pretty close to the antenna, and instantly assess whether a change you've made is for the better, or not. I sometimes use my little Ten-Tec SCOUT for this, but any shortwave receiver with an S-meter and an external antenna jack works. I also have an MFJ-259B Antenna Analyzer, as do, evidently, thousands of others—almost everybody I chat with seems to have one—it's a good investment.

Reality Check

Here's what I did, and have done many times. It's very interesting, and it yields great results:

◆ First, I installed a 6BTV vertical on my lawn, in the back yard, on a 4 feet long, 1-1/2 inch diameter pipe driven into the ground. That leaves about 3' of mast remaining above the ground, and is exactly what the Hustler assembly instructions recommend for a "no radial" installation. (In my opinion, Hustler makes good vertical antennas and gives lousy advice. Under no conditions should these antennas be used without radials, if you want to work DX.)

◆ I connect a short piece (about six feet) of coax to the feed-point, and using the MFJ-259B, plot impedance data (R+jX or R-jX) vs. frequency across all bands, 80-40-30-20-15-10 meters (which is all this particular antenna covers).

◆ Then, I roll out four 32' long insulated wire radials, tying off the ends with plastic insulators and

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USECA Club Liaison

MONTH	DATE	EVENT
MAY	6	Cadillac Amateur Radio and Computer Swap Wexauke Amateur Radio Club Cadillac, MI Cadillac Junior High School 500 Chestnut Street http://members.fortunecity.com/wexauke Talk-In: 146.98 - (no tone) Contact: Brian Polk, KC8TXT Phone: 231-743-6860 Email: bandb@netonecom.net
MAY	18	Skywarn Training—Macomb County. 7:30 PM, at Freedom Hill—all must register except ARPSC members—this will also be an ARPSC meeting.
MAY	19-21	55th Dayton Hamvention Dayton ARA Trotwood, OH Hara Arena 1001 Shiloh Springs Road http://www.hamvention.org/ Contact: Jim Nies, WX8F.
JUN	3	Annual Hamfestival The Independent Repeater Association Hudsonville, MI Hudsonville Fairgrounds Grant Street http://www.w8hvg.org Talk-In: 147.16 (PL 94.8) Contact: Ray Abraczinskas, W8HVG Phone: 616-455-3915 Email: abra@i2k.com
JUN	18	Monroe County Radio Communications Association Monroe, MI Monroe County Fairgrounds 3775 South Custer Road http://www.mcrca.org/hamfest.htm Talk-In: 146.72/12 Contact: Fred VanDaele, KA8EBI Phone: 734-242-9487 Email: ka8ebi@arrl.net
JUN	24	TOMARC - Field Day & Tailgate Swap Davis Tree Farm & Top of Michigan ARC Elmira (Gaylord), MI Davis Tree Farm - Field Day Site 8378 Van Tyle Road 10 miles west of Gaylord Talk-In: 146.820 (PL 118.8) & 146.52 Simplex Contact: James E. Davis, KC8NTE Email: KC8NTE@arrl.net
JUL	8	Swap and Shop Straits Area Amateur Radio Club Petoskey, MI Petoskey High School 1500 Hill Street http://www.gsl.net/kg8jk Talk-In: 146.68 (PL 110.9) Contact: Cliff Rosebohm, KC8NVI Phone: 231-539-8459 Email: kc8nvi@glccomputers.com
AUG	5	UP Hamfest 2006. Delta County ARS Escanaba, MI Bay De Noc Community College. 2001 North Lincoln Road; http://www.dcars.org . Talk-In: 147.15. Contact: Richard Thompson, N8OYR. Phone: 906-428-2528. Email: n8oyr@dcars.org
		<i>Submitted by David, KC8TTQ</i>

USECA'S Pre-Field Day—From Page 1

I'd like to see VHF and maybe some WARC band/60m set-ups this year...anyone game? *Your rig does not have to be a "QRP rig," but due to our proximity at the site, it must be able to dial down to QRP power levels (VHF/UHF excepted).* I will have available for use an extra 12v battery for anyone who might need it (*no generators allowed in the park*)...you supply and make any connections. I'm also hoping that we can get Darrell (KA8LGI), Brian (AA8CY) and others to come out with their wild antennas and mobile antenna shoot-out equipment and dramatically show the differences between our many mobile HF antenna configurations. It'll also be fun to compare the many different mobile installations in members' cars to see what tricks they've used for a clean looking installation.

USECA will be supplying the burgers, dogs, and buns for our Pre-Field Day feast, as well as most utensils, napkins, and condiments. If you attend and plan to join in the picnic it is expected that you bring a dish to add to the usual USECA smorgasbord. Home-made is great, but if you're not a cook, stop by the store and pick something up...**don't show up empty-handed!** Please **do not** bring something that requires cooking (*light warming is OK*). The grill will be working hard enough to keep up with the demand for burgers and dogs.

Now...go mark the 13th of May on your calendar and plan on havin' a good time with the happenin' club—USECA!

See ya' there...Ken N8KC

SOS—From Page 1

Generations of Boy Scouts may have been bedeviled by code tests needed to advance in rank and earn merit badges, but they were better, more responsible individuals for the effort and experience.

Likewise, amateur radio operators who know and use Morse code are, in a sense, more in tune with themselves and others. With their battery-powered equipment, hams

continue to play an important role in modern communications, as they demonstrated during Hurricane Katrina, when land lines fell to the storm and the failure of electric plants made cell phones and the Internet useless in the face of disaster.

While it is almost certain that the FCC will drop the code requirement for amateur radio li-

censes, we would do well to use the occasion to ponder one of life's fading lessons: Just because something is hard doesn't mean it's useless and, conversely, just because something is easy doesn't mean it's good.

Editorial from the Toledo Blade
3/15/2006

Submitted by Bill, WA8JPR

Antennas—From Page 5

string to support them in position so they are laid out like sloping spokes of a wheel, spaced about 90 degrees apart from each other. I line the radials up so they can all be connected to the base of the antenna (aluminum mounting bracket), and install an alligator clip at the "antenna" end of each radial, so they can be quickly connected, or disconnected. I clip the radials to the antenna mounting bracket. (The radials slope gently away from the base of the antenna, towards the ground, but never actually touch the ground. This is an important note.)

◆Next, I tune through the 40 meter band once again, using the MFJ-259B, and once again plotting impedance vs. frequency. Note the curve is much sharper, now, although the resonant frequency (where $X = 0$) usually doesn't change much. Also, the R is now lower.

◆Then, I disconnect the MFJ-259B and replace it with the HF receiver, tuned to 7335 kHz. That's a "beacon" signal, so to speak, generated by station CHU in Ottawa, Ontario, almost exactly 3000 miles from my home. It's weak during the day, and strong at night, but can almost always be heard unless there's been a huge solar flare or other incident that just wipes out the ionosphere. I tune in CHU, and note the S-meter reading.

◆Next, I disconnect the radials by unclipping them from the antenna base. If I can still hear CHU, I log its signal strength. Note, often times, disconnecting the radials causes me to lose the CHU signal altogether, making this test rather dramatic. On a typical evening, around gray line when CHU starts 'pounding in' at S9+, disconnecting the radials can cause the signal strength to drop almost into the noise - a 9 S-unit change. Umm, how many dB is that? A lot. I reconnect the radials by clipping them back on to the antenna base bracket.

◆Reconnecting the MFJ-259B, I tune it to 7150 kHz and observe the indication, then walk around in a circle, making each radial 2' longer, by clipping another 2' length of wire (Radio Shack clip lead) onto the end of each one. I go back to the MFJ-259B and observe the indication. Quite a difference! Resonant frequency of the antenna has dropped from 7150 kHz to 6940 kHz, completely out of the band! Well, that's about right. This verifies that the radials are tuning the antenna, and capable of changing its resonance, and the proportion change is about correct for the radial length change. Golly, does this mean that the radials are, quite literally, *half* the antenna? You bet it does.

◆I unclip the extra 2' long leads, which were an experiment only to verify that the radials were affecting

resonance. Now, I roll out four insulated radials cut to 16-1/2' long each, and perform the same set of tests on 20 meters, again using the MFJ-259B, but this time using the WWV signal at 15.000 MHz as the test beacon. This is impressive, but since I only live about 850 miles from WWV, this reception test is not a good indicator of 'low angle' antenna performance: Even a very high-angle antenna will hear WWV quite well here. So, if possible, I do this test between 4:00 and 6:00pm local time during a weekday, when the ARRL CW practice and bulletins are broadcast on 14.047 MHz. The W1AW signal is strong and steady, and there for nearly two hours, so this gives me plenty of time to experiment. And, W1AW is nearly 2700 miles from me, so it's a better 'low angle' signal.

◆Note the differences, once again, using the MFJ-259B and the beacon signal received, this time using 20 meters. Holy cow. W1AW is S9+30 with the radials, and only S6 without them. How could that be? Of course it can be. The radials bring down the antenna's vertical angle of radiation (and also reception) to a useful angle for W1AW's signal. That means, the angle should now be low enough for working DX, too.

Try it. It's quite a test, and if you haven't actually performed a test just like this, you're doing your vertical quite a disservice.

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Antennas—Continued from Page 7

Real Life

I couldn't leave my 6BTV mounted to a pipe on the lawn, in the backyard. The radials would eventually get tripped over and mowed down. Kids, dogs and other organisms would cause the demise of the whole system in pretty short order, here. Plus, even though I don't mind the way antennas look, this installation was pretty ugly, even to me. I scanned the horizon and found a better place: The roof of the house.

My personal solution was to install an 8' tall Glen Martin Engineering 4-legged roof tower at the peak of the roof of our single-story home; although, frankly, a cheap 3' Radio Shack tripod probably would have sufficed. I used the stronger GME roof tower to provide for the future, when I might want to put something larger and heavier up there. Then, I made multi-band radials using combinations of heavy-duty 300 Ohm twin lead and other conductors, until I had two radials for 80m; four radials for 40m; two radials for 30m; four radials for 20m; and four radials for 10m. I don't have separate 15m radials because the quarter-wavelength radials for 40m seem to work well as three-quarter-wavelength radials on 15m. (I did try, with and without separate 15m radials, and even as nitpicky as I am, could hardly tell any difference.)

Photo B: [See Page 9] Close-up view of the 6BTV base connections, viewed looking up from the roof. I used the 'radial attachment point' mounting holes in the horizontal part of the 6BTV aluminum base bracket assembly, as well as additional holes in the vertical part of the same bracket. Here you can see what appears to be nine (9) terminals making radial wire connections; in reality, those nine terminals are carrying 16 total conductors.

So, my current system has 16 radials, four per band for 40-20-10m, and two per band for 80-30m.

This isn't ideal, but works pretty well and doesn't look too crazy up there on the roof. (I did, at one time, have 24 radials on the same vertical. I took eight down, selectively, and now have the 'minimum' configuration that actually works.) My current radial system uses 405 feet of insulated wire. At about \$.12/foot, that's a \$48.60 investment to make a \$200 vertical antenna actually work properly—a very wise investment, indeed. Of course, I encourage others to scrounge, and it should be possible to come up with radial wire that costs absolutely nothing!

Alternative

For those having sufficient real estate to effectively ground-mount such a vertical, I've found the proper way to do this is to sink the base of the vertical nearly to earth, e.g., have the feed-point within a few inches of the ground, and use lots and lots of wire radials either laying on, or buried beneath (doesn't matter) the soil. In this situation, the radials need not be resonant, but merely need to be plentiful.

Experimenting several years ago with a very large piece of property in upstate New York, and feeding a vertical against a ground-mounted radial field, I found the first few radials did virtually nothing. The next few helped. The next few helped more. And so it went, until we reached about 64 radials. After that, adding more radials didn't have much effect. In our case, we used VSWR measurement as an indication of whether the radials were actually doing their job: After about 64 radials, adding more hardly changed the antenna feed-point impedance, indicating that we probably had enough.

Using that particular vertical, we could work global DX on 160 meters, which was the idea. Without the radial field, we couldn't hear any global DX, so it wouldn't matter if they heard us, or not.

I've found, both experimentally and also by researching others' data, that a lot of wire radials 20'

long each is sufficient for amateur-band work with a ground-mounted vertical. 64 such radials would be 1280 feet of wire. I can buy a 50 lb. spool of #14 gauge copper wire for about \$100, and such a spool contains 3160' of wire. Thus, 1280' is about \$40.50 worth. Not bad.

Summary

I have a tower and beams, too. But the vertical is a great *go-to* antenna, for when the beam's aimed the wrong way, or for use in a 'round table' QSO. And I currently have no beams for 30-40-80 meters, so this vertical, and one or two simple wire doublets, is all I have. The vertical almost *always* outperforms any sort of doublet: G5RV, Windom, dipole - whatever - when working DX. Last night (August 7, 2002), I worked A71MA in Qatar 'first call' on 20 meter phone, using the vertical and a barefoot TS850S. That's not 'works great,' that's getting through on the first call, in a small pileup of perhaps 3-4 dozen stations I could hear calling Mohammad. With a vertical. And 100 Watts. And, oh yes: He did give me a '59+, very strong signal' report. I know he meant it, since he gave others '56,' '57' and '58' reports, right after me.

Photo C: [See Page 9] Here is a close-up side view of the 6BTV base and some of the radial wires and attachments. I use Scotch 88 electrical tape to securely attach all the insulated radial wires to the 2 inch diameter support pipe below the antenna's base, so the mechanical strain of the wires is supported by the tape, rather than the lug terminals. The lugs and attachments last much longer this way.

(In the background, a bit of my tower can be seen - it's about 50 feet away.)

Radials. They make verticals really work.

—Submitted by Dick, AF8X



(That's us—U S of A)

Meeting Minutes—From Page 4

Old Business

Jim, W1IK – talked about Pre-FD – May 13, Saturday, at Gladeview Picnic Area. Club will provide the burgers/dogs, condiments, utensils etc. Please bring a pass a dish. Lawn chairs are recommended. Please bring out your radios and antennas for testing and playing with. There will also be a hidden transmitter hunt on foot. :

Dennis, W8DFG reminded members about the Walk-America March of Dimes Walk, April 30, 2006, to be held at Metropolitan Beach. You need a pass the day of the walk. Dennis, W8DFG, or Brian KC8DIR can provide you with your pass. Also will have the 2-day special event radio station, using the call sign W8A. (20, 40 meters, CW, phone).

New Business

Jim, W1IK – the Monday night 8-week Morse Code Class will start up again next Monday, April 17. This is the last course prior to summer break.

Joe, K8OEF thanked Dick AF8X for his interesting articles. Joe asked for a show of hands of people who would like to have a printed copy of the Express (for those with email) at an additional cost. There were a few people who were interested. Cost to be determined.

Phil, W8IC asked for volunteers to assist in a siren check on Saturday, May 6, throughout Macomb County. There are about 25 sirens to be tested.

USECA pens are available tonight, one free to each member present tonight, with additional pens for sale at 2 for a dollar.

Business portion of the meeting concluded at 8:15 PM.

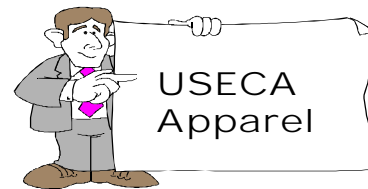
Program provided by Oakland County Emergency Management Office.

Motion to close the meeting by Jim, W1IK and Joe, N8KA, motion carried. Meeting closed at 9:20 PM.

Respectfully submitted,
Ann, KT8F, Recording Secretary

USECA VE Testing

Testing will be the FIRST Thursday of the month from September through June. Joe, N8OZ will have the CVE duty. No pre-registration is needed or wanted. Test Fee is \$14.00. Applicants need copies and originals of CSCE's and/or license. There is no copy machine at the Elks; (there is none close by). Starting time is 7:00 p.m. — please do not arrive earlier. Walk-ins are welcomed. Test site is at the Mt. Clemens Elks, 179 S. Main St., Mt. Clemens. If testing, you must have the following: picture ID (or birth certificate); and a copy of your current license or completion certificates, if any.



Jackets-\$45.00 • Sweatshirts-\$25.00
Polo Shirts-\$22.00 • Caps-\$6.00
(2X & 3X-Additional Charge)
Contact: Chuck, N8ZA
At Meetings or Phone (586) 557-4983

Photos: See article on Page 5.

Park Season—From Page 3

Now yesterday was a weekday, and not everyone can punch out from work early to play radio, but not to worry—most Lark in the Parks are on the weekends. Listen on the USECA repeater, as that's where we usually do our lark planning. If you are free some day and want to play radio, just give a shout on the repeater—it doesn't take much to convince us to go out to Metro!

Stay "radio-active"!



USECA Cork Board

? Radio Items?

ALS 600 Solid State Base Amp. No tune 1.5 to 22 MHz. List \$1129.99; sell for \$1000. (Page 86 in AES catalog) Contact Jerry, K8CFY at: k8cfy@k8uo.com.

GENERAL Radio Freq. Measuring Equipment; 2-6' cabinets; w/all frequency equipment; w/manuals; lots of electronics; \$250.

HEATHKIT Transceiver model HW-16; w/manual. 80-40 & 15 meters; no crystals; \$35.

HEATHKIT SWL radio model GR-81; 160-80-40-20 meters; w/manual \$50.

KENWOOD Linear Amp. 1000 watts, model TL-922A; 160-15 meters; \$1000.

Contact Jose, K8LJM; (586) 792-4602.

★Kenwood TS-140S. Great condition, in original box with operator and service manual. Only \$395!

★LARSEN dual band glass mount mobile antenna model: KG-2/70. It is used, but in good condition. Only \$45!

★RADIO Chest Pack. This is an all black Lone Peak Designs radio chest pack. You can strap your HT to your chest just like the pros do! These are the very same chest packs used by public service and search and rescue personnel. Many are also used by Hams during public service activity. It is brand new and costs only \$30! The normal price is close to \$35.

Contact Floyd, W8RO at w8ro@k8uo.com or 248-431-7769.

★RADIO SHACK DSP 40 \$35.00 Does not include mounting bracket or cables. Call or Email Dick Arnold, AF8X, (586) 791-3595. af8x@comcast.net

2 REPEATERS. 2 meter and 440. Yaesu Vertex VXR 5000s. CAT 1000 controllers with DVR and WX interface. Wacom cans. Peet Bros weather station. Cabinet. Contact Gerry, K8GER (989) 826-3196 or k8ger@k8uo.com.

WANTED: Motorola Expo batteries in GWO. Contact Floyd, W8RO at (248) 431-7769 or w8ro@k8uo.com

? Miscellaneous Items?

CHEVROLET, 2003 Trailblazer 4WD (W8RO/M). Excellent condition, loaded. Sandlewood exterior, Tan interior. 29K miles. Only \$19,995! For more details, contact Floyd, W8RO at (248) 431-7769 or w8ro@k8uo.com.

FREE! To a good home: Epson Apex L-1000 Dot Matrix Printer (24 pin). Very good condition with manuals and drivers! Contact Floyd, W8RO at (248) 431-7769 or w8ro@k8uo.com.

SONY Trinitron Multiscan E540 21" CRT Computer Monitor with manual; like new; 2 years old. \$195. Contact Joe, K8OEF at (586) 781-0050 or k8oef@k8uo.com.



★FOR SALE

COMET SBB5NMO – BRAND NEW! Dual-band 2M/440, blacked-out "stealthy" antenna, with tilt-over feature so you can get in the garage, I bought two from ComDac at the last swap but only needed one (AB8MJ's truck); I paid \$60 and so will you!

Archer Video Selector – Radio Shack Cat# 15-1261, has 7 F-connectors on the back, couple switched up front; \$5.

Archer Special Effects Switcher – Radio Shack Cat# 15-1274, 110V; \$5.

SPECO PAT-20 – 20W audio PA amp, with mic; \$10.

Micronta Power Supply – Radio Shack Cat# 22-124, 12VDC, 2.5A, manual; \$10.

Realistic WX Radio – Radio Shack Cat# 12-156, pocket weather radio, built-in telescopic ant. \$10.

Optimus AM/FM – Radio Shack Cat# 12-794, pocket radio, works; \$5.

TrippLite Power Supply – model PR-40, label sez "13.8V @ 40A", no meters, ¼"-20 threaded power lugs on the back, power switch on the front, yep, it's heavy! \$100.

Heathkit HS1661 – external speaker, no cord, good condition; \$50.

American Electrola DXC-100 – rare tabletop radio, only 2000 ever made, all solid state, American made with American components, allegedly the last USA-made SW radio actually made in the USA, HF receiver up to 30 MHz + FM '3M' band, AM/FM/SW, digital LED display, direct entry keypad, wooden case, front firing speaker, large internal wire loop antenna, long telescopic antenna, ext. jack, power supply, original owners manual; \$95.

Radio Shack Micronta 21-525B – SWR/Field strength meter, sold "as is"; \$10.

ROLODEX RT-8214 – electronic organizer, 2Mb of memory, touch screen like PDA, software, pc cable for backups, just got it but looks like I won't use it, so, for sale; \$20.

MFJ-915 – RF Isolator, SO-239 (PL-style) connectors, manual, like new; \$20.

1999 BMW R1100S – email for details and sale flyer; \$5900.

Adaptor – RCA-style to PL style (SO-239), have a few; \$1.

1/4" Phono – all metal male phono plug, use for mono headphones and such; \$1.

Yaesu MH-34 – Speaker mic for Yaesu HT's, single pin 4-conductor style, rotatable lapel clip, like new; \$20.

Kenwood SMC-33 – Speaker-mic for Kenwood HT's, two-pin style, right angle connector, has three programmable buttons across top, lock switch on back, rotatable lapel clip; \$45.

Computer Speakers – amplified pc speakers, used only 10 minutes; \$5.

Dummy Load – "twin tower" dual massive ceramic resistors, looks like 50+W easy; \$15.

1N3085 – huge 100V 150A recovery diodes, have one left; \$10/each.

CB Antenna – about 26" long, base loaded, base load is tunable w/2 adjustment rings, 3/8" style mount; \$5.

Cell Phone Mobile Power Cord – for cell phone with 4.8V batt., DC coaxial plug on phone end; \$5.

Power Supply – switching PS, 12-15 VDC, 16A, works, you wire it up; \$20.

Wall Warts – various voltages, email with needs; \$2 to \$5.

Duckies – UHF duck about 6" with BNC, \$5; dual band 2M/440 "Icom" style about 6" with BNC, \$15; 11 Meter black rubber duck with right angle PL259, \$5.

K-40 10/11M Whip – 4' fiberglass, black, tunable, substitute for original K-40 stainless whip & base load, no mount or coax just the antenna; \$5.

K40 – 10/11M base-loaded antenna with SS whip, no base for it just antenna; \$10.

Regency CB-501 – 40 ch CB radio, with mic, "as is"; \$10.

Colt 220 – 40 ch CB radio, with mic and power cord, "as is"; \$10.

Contact Arpad, WY8M at: wym@arrl.net or, 147.180+ MHz (100 Hz PL).

★New or changed this month.

Please notify the editor to have item(s) added and/or removed.

This Cork Board is for club members only and it's free!

Name Badges

WITH THE OFFICIAL USECA LOGO

CONTACT LAURA — (586) 749-4561

USECA APPLICATION



Rev. 3/06

DATE _____ NEW RENEWAL
 CALL _____ CLASS _____
 NAME _____
 STREET ADDRESS _____
 CITY _____ STATE _____ ZIP _____
 TELEPHONE # _____ PRINT # IN ROSTER YES NO
 BIRTHDATE _____ EMAIL ADDRESS _____
 MEMBER: **ARRL** YES NO **RACES** YES NO

FOR FAMILY MEMBERSHIPS ONLY:

CALL _____ CLASS _____
 NAME _____
 BIRTHDATE _____
 MEMBER: **ARRL** YES NO
RACES YES NO

CALL _____ CLASS _____
 NAME _____
 BIRTHDATE _____
 MEMBER: **ARRL** YES NO
RACES YES NO

Annual Membership Dues: Regular: \$20 — Family: \$30
 Applications can be given to the Membership Secretary at monthly meeting or mailed.
 Please make check payable to: **USECA** — Address: **P.O. Box 46331, Mt. Clemens, MI 48046**
 (Allow 4-6 weeks for processing.)

USECA reserves the right to accept or reject New or Renewal Memberships.

Local Area FM Nets

DAY	TIME	CLUB	FREQ.
SUN	1:00 pm	USECA/Information	147.180
SUN	8:00 pm	USECA/Traders/Helpers	147.180
SUN	9:00 pm	HPARC/Info	146.640
SUN	9:00 pm	Garden City ARC	146.860
SUN-SAT	10:15 pm	S. E. Michigan Traffic Net	145.330
MON	7:30 pm	SATERN	147.180
MON	8:00 pm	MECA/Info	147.200
MON	8:00 pm	GMARC (PL 123)	443.075
MON	9:00 pm	USECA/Morse Code Class	147.180
TUE	9:00 pm	Motor City Radio Club	147.240
WED	9:00 pm	ARPSC/Info	145.490
THU	8:00 pm	RACES/ARES	147.200
THU	8:30 pm	LCARC/Info	147.080

VHF PL'S — 100 Hz

On The World Wide Web
 USECA Home Page

WWW.USECA.NET

Local HF Nets

DAY	TIME	CLUB/DESCRIPTION	FREQ.
MON	7:30 pm	LCARC/15 Meter CW	21.165
MON	9:00 pm	LCARC/15 Meter Phone USB	21.395
WED	7:00 pm	USECA/6 Meter Phone USB	50.150
THU	7:30 pm	LCARC/10 Meter Phone USB	28.435
THU	9:00 pm	USECA/15 Meter Slow CW	21.140
FRI	10:00 pm	USECA/80 Meter CW	3.710
FRI	11:00 pm	USECA/10 Meter Phone USB	28.425

Listings in **BOLD** are USECA club nets, but ALL ARE WELCOME!

Net Ops Schedules

2-METER NETS

	SUN. 1 PM	SUN. 8 PM**
WEEK	147.180 MHz	147.180 MHz
1	VA3IDJ	W1IK
2	KT8F	N8EB
3	-OPEN-	W8RIT
4	-OPEN-	KW8Z
5*	WB8E	-OPEN-

*If applicable

**Traders/Helpers Net

NCO's—If you're unable to take your net please get a replacement or contact Brian, KC8DIR (586) 749-4561—Don't wait!

USECA

UTICA SHELBY EMERGENCY COMMUNICATION ASSOCIATION, INC.
P.O. Box 46331 • Mt. Clemens, MI 48046

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FIRST CLASS MAIL



MAY 2006

"The Happenin' Club"

Club Activities

MONTH	DATE	TIME	EVENT
MAY	9	7:30 pm	General Meeting
MAY	11	7:00 pm	VE Test Session
MAY	13		Pre-Field Day & Picnic
MAY	19-21		Dayton Hamvention
JUN	1	7:00 pm	VE Test Session
JUN	13	7:30 pm	General Meeting & Fox Hunt
JUN	24-25		Field Day
SEP	7	7:00 pm	VE Test Session
SEP	12	7:30 pm	General Meeting
OCT	5	7:00 pm	VE Test Session
OCT	10	7:30 pm	General Meeting
OCT	29	8:00 am	USECA 21st Annual Swap
NOV	2	7:00 pm	VE Test Session
NOV	7	7:30 pm	General Meeting (Nominations)
DEC	7	7:00 pm	VE Test Session
DEC	TBA	7:00 pm	USECA 19th Annual Christmas Party
DEC	12	7:30 pm	General Meeting (Elections)

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