The Heterodyne

Bulletin of the West Valley Amateur Radio Association
An Affiliated Club of the American Radio Relay League

West Valley Amateur Radio Association, W6PIY— http://www.wvara.org
P.O. Box 6544
San José, CA 95150-6544

Editor: Loren Singh, AD6YU— ad6yu@yahoo.com

April 2008

Next Meeting: Wednesday, 7:30 p.m., April 16, 2008 at the American Red Cross, 2731 North First Street at Plumeria (between Trimble and Montague Expressway) in San José.
Speaker: Jim Brown, K9YC — Subject: "Coaxial Chokes for VHF/UHF and HF Amateur Radio Systems," the second of a two-part presentation.

Dues: All WVARA members who have not yet paid their dues for calendar year 2008 are requested to do so. Basic membership dues are $15.00 per year. Go to the club web site to see the dues rates for other types of membership, enhanced repeater privileges, and so forth. Payment by PayPal is available.

For the WVARA Board of Directors: Repeater Enhancement?

March 23, 2008 — Marc Ziegler, W6ZZZ wrote:

I suggest that the club spend dollars to enhance the W6PIY repeaters so that they will have the ability to report the received signal strength upon receipt of a specific DTMF tone or command. I don't recall if this is technically feasible with our controllers.

The AB6VS repeater at Charlie's place has this capability: 440.550 MHz, PL 94.8 (it uses a single DTMF tone as the trigger for the report, and this works along with the AB6VS phone patch capability). I use this repeater to decide how good a signal I have to the repeater before running a net or searching for somebody to chat with.

March 24, 2008 — Kevin Smith, KK6VF wrote:

I thought we used to have this capability. As I don't generally use the DTMF features of the repeater, I just assumed it still did it (or did we lose this function when we did the major upgrade replacing the transmitter/receiver a few years ago)?

March 27, 2008 — Chuck Kamas, AD6CL wrote:
The repeater does provide an RSSI signal and it is routed into the controller. However the RSSI output of the repeater is weather broken, the wiring is wrong or the A/D card is broken. I have not had time to check this out.

Amateur radio is exempt from California's new "hands free" law: On July 1, 2008 the State of California will have new laws on the books to deal with the use of wireless telephones while driving. There has been some confusion as to whether California amateurs who operate in their

cars will be affected by the new law. According to the California Department of Motor Vehicle web site, http://www.dmv.ca.gov/cellularphonelaws/dl208_03cell_phone.pdf , "the use of dedicated two-way radios such as walkie-talkies or citizen band (CB) radios is not affected by the new law" for drivers 18 or older.

Club Net: Tuesday, 8:30 p.m. on our club repeaters:

WVARA Repeaters (W6PIY)			
Band	**Frequency**	**PL**	**Status**
6 meters	52.580-	151.4 Hz	Operating
2 meters	147.39+	151.4 Hz	Operating
1.25 meters	223.96-	156.7 Hz	Operating
.70 meters	441.35+	88.5 Hz	Operating
.23 meters	1286.2-	100 Hz	Operating

WVARA Tuesday Night Net Check-ins:

Call Sign	**Name**	**Mar. 18, 2008**	**Mar. 25, 2008**	**Apr. 1, 2008**
AB6XS	Kevin	X		X
AD6RY	Scott		X	X
AD6YU	Loren	X #	X	X #
K6EBN	Eben		X	
K6QFO	Mike	X	X	
K6RBG	Ken			X
KA6LSW	Dennis	X		
KF6UTE	Casey		X	X
KG6BKI	Brian	X		
KG6SEA	Tom			X
KK6VF	Kevin	X	X #	X
N6BIH	Senad	X		X
W6HOC	Howard	X		
W6TQG	Phil	X	X	
W6ZZZ	Marc	X	X	X
WB6KHP	Dave	X	X	
Notes: X — Checked into net # — Net control operator				

Field Day exhibit kits now available: Please visit the Field Day information page http://www.arr.org/fieldday for all the details on Field Day rules, frequencies, forms, pins, logos and t-shirts. The complete Field Day packet can be downloaded from the site as well. If you want To order exhibit kits containing printed flyers about Amateur Radio, you may order these materials at http://www.arrl.org/brochures/ on the ARRL web site. Your order must be received before June 13.

Annual Fox Hunt: A ham radio magazine is once again urging amateur radio clubs and ham operators across America to go "fox hunting." But the bushy-tailed animals have nothing to fear. Hams, after all, are not hounds, and in ham radio lingo, a "fox hunt" is one of several names for radio direction finding, a competition to locate a hidden radio transmitter. *CQ* amateur radio magazine has designated May 10 - 11 as the "CQ Worldwide Fox hunting Weekend" (CQ WW

FW), and is encouraging ham operators and radio clubs to conduct hidden transmitter hunt s at that time. — Larry Jacobs, WA7ZBO

Field Day 2008 Planning and Preparation: from Marc Ziegler, W6ZZZ —

General Information	
Date	June 28-29, 2008
Set-up	Starts Friday 1100 PDT
Operation	Saturday 1100 PDT to Sunday 1100 PDT
Call sign	K6EI to request 1x1 special event call sign
GOTA call sign	AD6RE
Location	Mora Hill, Rancho San Antonio Open Space Preserve (access is Mora Drive)
Latitude / Longitude	37.3358 / 122.0993

Field Day Committee	
Name	**Call Sign**
Jim Peterson (Chairman)	K6EI
Jim DeLoach	WUØI
Tom Dunbar	W6ESL
Scott Emery	AD6RY
Dave Hartzell	NØTGD
Phil Verinsky	W6TQG
Grant Willner	AD6RE
Marc Ziegler	W6ZZZ

Planning and Preparation Tasks	
Month and Year	**Task**
April 2008	C3S Yagi antenna assembly/test on a push-up mast in a park
	Tower trailer right-rear jack needs to be repaired.
May 2008	C4S Yagi antenna/assembly/tutorial on the tower trailer
	WriteLog and networking final testing

Site Operations	
Note	**Explanation**
1	No open flames at Mora Hill (no camp stoves, Coleman-type lanterns, etc.)
2	No generators running after sunset or before 0700 PDT
3	Need 15 fire extinguishers
4	Garbage must be brought home in bags.

Field Day 2008 Planning and Preparation: from Marc Ziegler, W6ZZZ —

Band Captains			
Band(s)	**Mode(s)**	**Captain(s) and Call Sign(s)**	**Category**
HF			
80M-10M	CW	K6EI	1A
40M-15M	Digital	W6TQG, W6ZZZ	2A
80M-10M	SSB	AD6RY	3A
80M-10M	Flex	WUØI	4A
80M-10M	GOTA SSB	AD6RE	free
VHF/UHF			
6M	SSB/FM	W6ESL	5A
2M	SSB/FM	W6ESL	free
220 MHz	SSB/FM	W6ESL	6A
440 MHz	SSB/FM	W6ESL	7A
1.2 GHz	SSB/FM	W6ESL	8A
Satellite	SSB/FM	NØTGD	free

The 59th Annual International DX Convention: sponsored by the Southern California DX Club will be held at The Holiday Inn Hotel & Conference Center, Visalia from April 25, 26 & 27, 2008. See their web site at http://www.dxconvention.org.

EMCOMMWEST 2008, Reno: is on for May 2-4, 2008 at the Circus Circus Hotel. See the web site at http://www.emcommwest.org. This year promises two exciting headliners: Dennis Dura, K2DCD — Emergency Preparedness and Response Manager from the ARRL headquarters in Newington, CT will deliver the keynote address, and host a forum. Special guest for the Saturday night banquet will be Gordon West, WB6NOA from Southern California. Gordon will also present a forum on Saturday about emergency communications, will have a display booth set up, and is bringing his mobile communications unit. Registration is now available online via the website, at www.emcommwest.org. Special room rates are available from Circus Circus, via a link on the website. Banquet seating is limited, so make reservations early! There will also be a special video presentation from Riley Hollingsworth, K4ZDH, special counsel of the FCC enforcement bureau. The Reno Ham Swap will also be held once again Saturday morning at 0600 PDT adjacent to the hotel.

Forums about leadership, public service agencies, MARS, the latest technology, and other interesting presentations will mark this year's event. There will also be a special event station on HF, VHF, and UHF. There will be raffle prizes, an all new, larger vendor room and much more. Vendors can also register on-line. Have questions and want more information? If you would like a copy of the EMCOMMWEST flyer for distribution, sned an e-mail to info@emcommwest.org
— Don Carlson, KQ6FM, Public Information Officer

Boy Scout Hi-Sierra International Rendezvous 2008: will be held August 10-16, 2008. A ham radio station will be a feature of this event and operators are needed. For more information please contact Gary Hendra, W6NOE, gary.hendra@comcast.net or rendezvous@scccbsa.org.

Emmett "Shorty" Frietas, AE6Z, SK: Emmett Freitas, AE6Z (ex-W6OIA), known as "Shorty" to his friends, passed away February 23. An ARRL life member, Freitas was on the VEC team that administered the first amateur radio license test session on August 31, 1984. He went on to participate in a total of 548 test sessions. Freitas, a US Navy veteran in WWII, served as a Chief Petty Officer (Radioman). To honor him his friends are collecting donations to purchase a brick to be installed in his name at ARRL Headquarters. Donations can be sent directly to the ARRL with the note for AE6Z or to the Pacific Division Director, Bob Vallio, W6RGG, w6rgg@arrl.org. The brick will be installed in the patio as part of the Diamond Terrace project.

2008-2009 ARRL Repeater Directory now shipping: With more than 20,000 listings for VHF/UHF repeaters across the US and Canada, the *ARRL Repeater Directory 2008 -2009* is a must have. Once again, the ARRL is offering two sizes of the book:
pocket size http://www.arrl.org/catalog/?item=1271 and
desktop size http://www.arrl.org/catalog/?item=1298

This year, not only is the pocket-sized book a half-inch larger than previous editions, it boasts a larger font size, making for easier reading. For the first time ever, this year's editions feature handy indexing tabs on the cover, easier to read listings and a "Key to Repeater Notes" located right up front in the book.

Along with these new features, both editions have the features you know and enjoy from prior years: repeater operating practices, repeater lingo and hints for newly licensed hams; frequency coordinator contact information; listings for D-Star and APCO 25 repeaters; a guide to using CTCSS tones and digital coded squelch (DCS); VHF/UHF band plans and a 2 meter channel-spacing map; IRLP (Internet linked) nodes; tips for handling interference; listings for IRLP, WIRES-II and EchoLink (Internet linked) nodes; emergency message handling procedures, and a transceiver memory log. Order your copy of the *ARRL Repeater Directory 2008 -2009* today at the ARRL web site.

Yaesu VX-6R and VX-7R Handheld Transceivers:
Q. — Does anyone in the club have experience with the Yaesu VX-6R or VX-7R handhelds?
— Michael Jennings, NJ7Z
A1. — My first handheld was a VX-6R. I really liked it. I just wish it had the dual receive like the Kenwood TH-F6A. I felt I would use the dual receive more, so I traded in the Yaesu. However, I think the Yaesu is a better radio. Yaesu would have a real winner if they had a radio with the same programming and power output steps, but with dual receive. — Roy, KE7PMY
A2. — I have 2 VX7Rs. They are good radios. A lot of the folks over on the 145.19- (PL 123) repeater have standardized on them for handheld use. They can be a little quite on transmit using the internal microphone due to their water resistant design (Handy for fishing!) They also have a special speaker/mike connector that makes external microphone choices limited without buying a special adapter cable (which you will need to program the radio as well). If you want to program it via computer look at VX7R Commander software by KC8UNJ (download from the Internet)
— I think it is better thanthe stuff you have to pay for. n the other hand, I pretty much use my IC91AD exclusively. Better audio and it does D-STAR (digital voice and data). There are only a couple of D-STAR repeaters in the area but it is growing very fast around the country/world.
I would say, if you want to be equipped for the future you may want to consider this in a radio purchase. —- John, K7VE
[From the Utah Amateur Radio Club (Salt Lake City), March 13-14, 2008]

Vice President's Visions — Marc Ziegler, W6ZZZ:

If you have any friends; neighbors; or relatives who are interested in getting a ham radio technician license, here is a collection of useful web site links to help get them started. Typically, newcomers follow one or the other of these methods:

- Many people read the ARRL book, take the online practice exams and then pass the test (in Cupertino or Sunnyvale).
- Other people prefer the formality of a class. The HRO store in Sunnyvale has flyers describing local classes.

Also included is a reference that may of interest to any folks who want to participate in CERT (Community Emergency Response Teams).

Steps 1-4 will help you get a ham radio license; steps 5-6 will get you on the air; and step 7 is for your reference.

Step	Topic	Other Information	Web Site Link
1	Becoming a Ham		www.hello-radio.org/becomeaham.html
			www.qrz.com/i/ham-radio-howto.html
2	Books	*ARRL Ham Radio License Manual*	www.arrl.org/catalog/?item=9639
		Ham Radio for Dummies	www.arrl.org/catalog/9392/
3	Exam Practice		www.radioexam.org
			www.qrz.com/p/testing.pl
4	Exam Schedules and Locations	Cupertino — AD6ZH@arrl.net	www.pdarrl.org/vec/vecscv
		Sunnyvale — 408.255.9000	www.amateur-radio.org
5	Local store for ham radios, magazines and books	Ham Radio Outlet 800.854.6046 408.736.9496 510 Lawrence Exwy #102 Sunnyvale CA 94085	www.hamradio.com
6	New User Tips for VHF-UHF Operation		www.accesscom.com/~dave6592/usertips.html
7	Santa Clara County ARES/RACES		www.scc-ares-races.org/aresraces.htm

Is shortwave a short-timer? — by Bill Schweber, bschweber@techinights.com
Electronic Engineering Times, March 10, 2008

The British Broadcasting Corporation (BBC) recently announced that it would discontinue its shortwave radio broadcasts to Europe, following the lead of other major shortwave services. The very mention of the phrase "shortwave" (the spectrum from about 3 to 20 MHz) brought a nostalgic image to my mind. Who hasn't seen those old movies in which listeners are hunched by the radio, straining to hear news from abroad or perhaps a coded message ("elephants dance

under the moon") while the signal fades, static and interference play havoc, deliberate jamming intrudes, and the radio drifts and needs retuning?

Shortwave radio is rapidly becoming a museum concept and historical artifact, right next to telegrams and postal letters. Among the reasons given by the BBC were a declining audience (an aging one, too, I suspect), the rise of on-line news and music, and the cost of running those multi-megawatt transmitters and their corresponding antenna farms.

The irony is that today's shortwave, it's worth taking a quick look at what it has taught us. It popularized low-noise front ends, antenna tuners to match impedances, dual- and triple-conversion superheterodyne architectures to optimize stage-by-stage performance and reduce images, and multiple filters to adapt to different signal modulations, among other functions. It also provided the platform for developing the PLL-based synthesized tuner with digital readout, which was far more accurate, precise, repeatable and stable than older "analog" tuners, along with advances in crystal oscillator design.

Even better, it taught us about electronics: Until the 1970s or so, you could build your own receiver from a kit (Heath, Knight and others) and end up with a fairly sophisticated product that you could troubleshoot and even modify.

We should keep one more thing in mind before putting shortwave in that shallow, barely marked grave our industry digs for its castoffs: we may be prematurely saying goodbye. The BBC pointed out that it will continue broadcasts to much of Africa and Asia, where internet access is rare and costly, despite the intentions of One Laptop Per Child (OLPC) and similar programs.

Broadcast radio is still a very cost-effective way to reach remote, isolated and relatively poor regions with news, music and education. Sure, it lacks the flexibility, depth and broadness of the web, but it is very real and very much here. We shouldn't let sophisticated solutions (OLPC and similar) get in the way of those that already work well for certain audiences and situations.

"When your problem is also part of the solution"— by Bill Schweber, *Electronic Engineering Times* , March 10, 2008

Engineers bemoan the sources of circuit and system misery, such as friction and gravity. But try feeding paper through a printer in a zero-friction world. Smart designers turn detriments into advantages.

When engineers installed Amtrak's overhead electrification system for the New York-to-Boston tracks a few years ago, they did not use springs to tension the guy wires of the overhead feeder catenary system. Instead, they used dead weights and a simple pulley. They would have needed several spring sizes, since the desired tension varied along different stretches of the line; with the weight system, they simply changed the weight load. Spring coefficient and tension vary with temperature, while tension due to weights is only a function of gravity. And, of course, the length of the wire being tensioned changes dramatically with temperature, adding to the spring challenge; a weight system doesn't care.

These designers took an abundant source of engineering frustration and made it work for them. That's good design thinking.

E. Idaho scientists develop tiny antennas to capture energy
March 19, 2008 — *Idaho Statesman* (Boise)

Researchers at Idaho National Laboratory (INL), Idaho Falls are developing tiny antennas that might one day be worn as clothing that can heat or cool the person wearing it, and even capture energy to power small electronic devices. The "nanoantennas" could also be used as wallpaper to recycle heat back into a house, just some of the possible applications scientists say they can only guess at now.

"I think we're going to be limited only by the applications we can think of in the future," said Steven Novack, advisory scientist in the National and Homeland Security Directorate at INL. "Ten to 20 years down the road, this is what we're going to be using for a portion of our energy needs."

Also working on the project are Judy Partin, a physicist in the Energy and Environment Directorate, and Dale Kotter, an electrical engineer in the National and Homeland Security Directorate. Novack said the project originally began as an attempt to make military bases more energy efficient, as well as another application he said he could not discuss.

The INL is an 890-square-mile federal nuclear research area in eastern Idaho, but it also does research on other forms of producing energy. Novack said the INL makes available to U.S. companies research that has business applic ations. Several companies are interested in the three patents that have come out of the project so far. Novack said the nanoantennas that have been developed are designed to capture infrared energy. The nanoantennas are square spirals of metal the width of a human hair stamped onto sheets of plastic. He said the original goal was to use nanoantennas to improve the efficiency of traditional solar panels, also called photovoltaic cells, but the team realized the nanoantennas themselves had even greater potent ial.

"The original concept was to use nanoantennas to help photovoltaic cells concentrate more light," Novack told the Post Register. "But what if we were using them as the harvesters themselves?"

The team estimates the efficiency of nanoantennas in captu ring energy is about 80 percent. The tiny antennas work the same way as larger antennas, resonating to a frequency's wavelength. A radio wave needs a big antenna, while infrared energy is captured with a small antenna. The technology to make the nanoantenna s has only been developed in the last decade with the help of nanotechnology, said Novack. He said that has made building the tiny antennas cheaper, with a square foot of plastic sheeting filled with nanoantennas costing as little as 50 cents.

He said the next step is developing the tiny technology needed to convert the energy collected by the nanoantennas into energy that can be used by common devices. He estimated that technology is about 10 years away. Meanwhile, he said the team is continuing to work on the nanoantennas while "the other technology catches up."

Student apologizes after his electronics project sparks a subway scare in New York City
— Associated Press, March 28, 2008

New York — A college student has apologized for causing a scare on a subw ay train when his science project short-circuited and started smoking in his backpack. Gregory Kats, 29, said the device was just a model of an elevator's inner workings. But it frightened riders on a B train near the Seventh Avenue stop on Thursday. Kats said he tried to reassure his fellow passengers that it was a school project — not a bomb — but people scrambled for the exits nonetheless. The box he was holding had a sma ll battery, wires and a motor. "They were panicking, and I realized their fear," an apologetic Kats said.

He said he tried to disassemble the contraption on the platform even as he reassured riders, "Don't worry. This is my science project."
Kats was questioned by police and later released. Kats is a computer engineering student at the New York City College of Technology.

"I'm very sorry for what happened," Kats said. "I hate to scare people. Next time, I'll be much more careful and keep my electronic projects at home."

West Valley Amateur Radio Association

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