

CQ Chatter

Volume B7•Issue #7 Wood County Amateur Radio Club
P. O. Box 534, Bowling Green, OH 43402

AUGUST 2006
<http://wcarc.bgsu.edu>

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Report on the July Meeting of WCARC Couzin's restaurant, Grand Rapids July 1, 2006

The July meeting of the Wood County ARC was an informal breakfast held at Couzin's restaurant in Grand Rapids, OH. The group met at 9:00 am and engaged in casual conversation before the meal arrived. After breakfast, some discussion was made of the Field Day efforts. It seems that all participants had a great time and there is strong sentiment to continue to utilize the Wood County Historical Museum as the Field Day location.

At about 10:30 am, the group adjourned to the QTH of Bob, WB8NQW, for work on the electronics project. Given that the last fox hunt was an event that all participants enjoyed and agreed that the Club should hold more often, it was determined that building projects related to improving the performance of the hunters would provide good experience for both veteran and novice alike.

The first such construction project involved building a signal attenuator that comes in handy when the fox is nearly cornered but his signal is too strong to precisely locate him/her. The attenuator

**WCARC Weekly Net:
Tuesdays at 2130
147.18 & 444.475 MHz**

**Next Meeting-
MONDAY, AUGUST 14th
At: Sheriff's Training Room
Gypsy Land and Dunbridge**

**Time: 7:30 pm
Social Time Preceding**

provides a way to decrease the signal strength at the receiver so that the front end is not overloaded and useful directional information can be obtained.

Bob, WB8NQW, graciously offered the use of his basement laboratory for the group's construction efforts. We had seven participants who wielded soldering irons and put resistors and connectors together in a shielded box to make a 20 dB signal attenuator. With this experience and with the knowledge of how to expand the capabilities of the box, we expect some super sniffers available for the next fox hunt.

Some of the participants also took time out to admire NQW's shack, which consists of not one but two Kenwood TS-2000s! Again, many thanks to Bob (and Jeanette) for welcoming us into their home. A future fox hunt project will focus on directional antennas. ■

August Contests

The full contest lineup* for the month of August includes the following:

Aug 5-6	<i>1800 to 1800 Z</i>	150 cm on up ARRL UHF 'test	all modes
Aug 6	<i>1230 to 1630 Z</i>	80 m to 20 m South African DX 'test	SSB
Aug 6-7	<i>0001 to 2359 Z</i>	10 m 10-10 Int'l Summer 'test	all modes
Aug 6-7	<i>1800 to 0600 Z</i>	80 m to 10 m North American QSO party	CW
Aug 12-13	<i>1600 to 2359 Z</i>	80 m on up Maryland-DC QSO party	all modes
Aug 13-14	<i>0000 to 2359 Z</i>	80 m to 10m WAE(urope) DX 'test	CW
Aug 19-20	<i>0000 to 0000 local</i>	10 GHz up ARRL 10 GHz 'test	all modes
Aug 19-21	<i>2000 to 0200 Z</i>	160 m on up New Jersey QSO party	all modes
Aug 19-20	<i>1400 to 0800 Z</i>	160 m to 10 m Russian Districts 'test	all modes
Aug 20-21	<i>1800 to 0600 Z</i>	80 m to 10 m North American QSO Party	SSB
Aug 26-27	<i>1600 to 0400 Z</i>	80 m to 10 m Ohio QSO party	all modes
Aug 26-27	<i>0700 to 2200 Z</i>	160 m to 10 m Hawaii QSO party	all modes
Aug 27	<i>1230 to 1630 Z</i>	80 m to 20 m South African DX 'test	CW

WCARC

Net Control Roster

Net meets every Tuesday at 2130

Jul 25	N8QMV
Aug 1	WB8NQW
Aug 8	N1RB
Aug 15	K8OVO
Aug 22	WD8ICP
Aug 29	N8QMV
Sep 5	WB8NQW

Aug 26-27 *1200 to 1200 Z* 80 m to 10m
Romanian (YO) DX 'test all modes

Aug 26-27 *0600 to 1159 Z* 80 m to 10 m
Australian Ladies ARA 'test all modes

* Please note: for the range of bands given in each entry, no contesting is permitted on the so-called WARC bands: 60 m, 30 m, 17 m or 12 m

Finding Parts

excerpted from: <http://ladyada.net/resources/procurement.html>

One of the great frustrations of electrical engineering is part obsolescence, price and scarcity. In accordance with engineering law, half of what's ordered is never used and the other half's not enough. The most popular style of EE hacking that I've seen is a pack-rat approach where everyone amasses 'a few of everything', preferably for free or scavenged. Granted, IC's are relatively cheap for their functionality, ranging from \$.60 for a 555 to \$15 for a high-speed digital signal processor, but they add up fast.

Brain Teasers

1. Which sideband is commonly used for 10 meter phone operation?
 - a.) Double
 - b.) Lower
 - c.) Amplitude compandored
 - d.) Upper

2. If propagation changes during your contact and you notice increasing interference from other activity on the same frequency, what should you do?
 - a.) Tell the interfering stations to change frequency since you were there first.
 - b.) Report the interference to your local Amateur Auxiliary Coordinator
 - c.) Turn on your amplifier to overcome the interference
 - d.) Move your contact to another frequency

3. During a disaster in the US, what frequencies may be used to obtain assistance?
 - a.) Only frequencies in the 80 meter band
 - b.) Only frequencies in the 40 meter band
 - c.) Any frequency
 - d.) Any United Nations approved frequency

finding parts---continued

(Especially since you'll need at least 2 of everything in case you short one out.) Passives add a few dollars too, and connectors can end up biting you if they're not spec'd well. And all that after dropping a few hundred dollars on a scope, meter, power supply, function generator and EEPROM programmer, not to mention the wire, boards, hand tools, etc.

In these days of low-cost, all-in-one Taiwanese epoxy-boards, just finding someone who will sell you "3 of those" can be a headache. Many hobbyists, myself

August Hamfests

Aug 5 Voice of Aladdin ARC 8 am
Aladdin Shrine Complex, 3850 Stelzer Rd., Columbus, OH. Contact James, KB8KPJ, (614) 846-790.
e-mail: kb8kpj@arrl.net

Aug 12 Cascades ARS 8 am to noon
Jackson Catholic Middle School, Jackson, MI. Contact Linda, KA8ZHV, (517) 522-8630.
e-mail: linda.stanley@acd.net
URL: www.w8jxn.org

Aug 12 NWOARC 8 am to 3 pm
Fair Radio Sales, Lima, OH. Contact Gary, K8FRS, (419) 227-6573.
e-mail: nwoarc@nicweb.com
URL: www.nwoarc.org

Brain Teasers answers: 1-d, 2-d, 3-c

WCARC Net Check-ins

27-Jun WB8NQW (NC), WD8JWJ, KC8ZJW, K8BBK, KD8CHQ, W8PSK, WB8VUL, WD8ICP, K8OVO, W8QZK (10)

included, are leaning towards "if you can't get it from Digikey, then I'm not going to design with it." Regardless, there are some tricks that can make your small-scale project easier to manage...

Getting it For Free

It's hard to go wrong with *free*. Parts manufacturers are often more than happy to ship you, for no cost, a few samples of their merchandise. They often ship within the week, sometimes the next day, and with free 2-3day FedEx/UPS. These are only the half-dozen companies I've actually ordered from, if you know others, feel free to e-mail me:

finding parts--continued

Microchip The de-facto standard for annoying microcontroller design. Regardless, it's up there with the 8051 and AVR in popularity. It seems like you can get their more popular <\$5 microcontrollers sampled. Also, of course, are their little flash memory chips, mid-freq RF chips and 'analog glue.' According to their [FAQ](#), you can get 3 of 5 different parts, twice a month, shipped via 3-day.

Analog Devices High quality analog components, from the lowly comparator to the 60Ms/s D/A converter. Almost, but not everything, is available and I've found that sending a friendly e-mail or calling them will net you what you're looking for. Unofficially, if its less than \$10, it isn't a problem. The [FAQ](#) claims that Order limits are 2 of 3 parts, but there is no limit to how many samples you can request (although more than every other week is probably pushing your luck).

Maxim/Dallas Semiconductor DC-DC converters, serial line drivers, motor control, RF...Maxim specializes in "this part does one thing and does it they way you want it" chip design. If you want something analog, they've probably got it in stock. You'll need to log in first, but they'll send 2 of 8 parts (although I've never been turned down when asking for more) once per 90 days. I've received almost everything within a week.

National Semiconductor National makes the analog work horses of the industry, and they also have some nice DC/DC converter and VCO/PLL design tools that do all that Ipeak math for you. If you're a student (or play one on TV) you can order up to 5 of almost any part, once a week. Usually arrives in a few days.

Fairchild Semiconductor The twin of National. You'll need to register but the only time I ordered something it was sent FedEx express and they didn't mind that I wanted 10. They have some [policy](#), perhaps when you click on it, it won't say "updated soon."

Texas Instruments Great things come from TI. More analog, of course. DSPs, some logic, battery management. You can sample anything off their [big list](#). 8 different parts per order, with 1 each of the expensive stuff (like DSPs) and 3 each of the more common chips. I believe you can order as often as you'd like. Boy, was I wrong: they'll put you on a blacklist if you order more than once per 90 days. eek.

Cirrus Logic Digital chips, D/A converters, Ethernet controllers, audio/video decoders, etc...Sometimes require a little encouragement/e-mail to get their samples to you.

Linear Technologies More high quality parts, finally added 'one click' sampling for most of their electronics.

Freescale (previously Motorola) A variety of ASICs, microcontrollers, and other 'high function' semiconductors. Has a sample program (haven't used it myself) where you can order 5 parts, 3 times per month.

Allegro Microsystems A smaller manufacturer of mostly DC/DC converters, you can sample from their web site

Philips Semi Lots of chips many ASICs, you have to call the regional sales office to get parts.

GIL Technologies A GML1000 and other RF PCB-laminate manufacturer. (When FR-4 just wont cut it.) They'll send you a 12"x18" sheet of their product for free.

Molex A full-range supplier of intercon-

finding parts---continued

nects, sockets, cables, etc. They'll send you 3 or so of almost all their parts, usually very quickly, but sometimes not at all.

Tyco / AMP A similar range as to Molex's. You can request samples by sending mail to the "Ask A Question" link.

ITW/Fastex Sells hardware, some of which may be useful for electronics projects (connectors, clips, etc.). Looks like you can sample up to 15 pieces of any part they offer.

MicroMetals Sells nice toroids for RF and power filtering and line conversion. Nice bunch of people, will send you 2 x 5 toroids for free.

Marktech Optoelectronics LED and LED-related electronics products. Will apparently send you 2 of any of their products.

Fox Electronics Sells crystals, oscillators, etc. Apparently will ship up to 9 samples of a crystal.

Philips Lumileds Apparently if you call their distributors you can get free samples of their very popular Luxeon super bright (1W+) LEDs

PacTec Enclosures Has a large line of nice enclosures for your electronics project, many with battery cases and clips. Will send you 2 of their new designs for free. You can buy many of their cases from Mouser or directly from their site.

New Age Enclosures Has three different but kinda nice enclosures. They'll send you one of each if you ask.

Hammond Manufacturing I don't particularly like their enclosures, but apparently they'll send you free parts if you call them up.

Getting It for Cheap

"Not the best, but still a good deal" This is not an exhaustive list, but these are my favorite surplus locations. Check in for specials,

sales, and limited-quantity items.

MPJA, All Electronics, Goldmine Electronics, American Science & Surplus Not electronics, but a lot of fun sciency things

BGMicro Wow they sell random things, for really cheap - check out the specials!

Getting It All

Sometimes you have to pay full price. Oh well.

FindChips.com If you know your part number, go here and search more than a dozen popular distributors at once! It's on my toolbar right next to Digikey and Google

Digikey The best in the business: gigantic collection of in-stock parts, reasonably low costs, amazing searchable web site, will sell small quantities of most stuff, doesn't rip you off for shipping and (most importantly) ships your order within the hour. Yes, hour. Next day really means next day. Get their catalog & cuddle it before you go to bed...they're more dependable than your boyfriend ever will be.

Mouser Used to be the big shots, but has been pushed aside by Digikey. Still, they carry a bunch of parts that Digikey doesn't. So they're second.

Allied A so-so company, but tend to have a lot more things like switches, pots, etc. than the above.

Newark/InOne/MCM Nobody likes Newark, so use them as a last resort. They'll charge you \$25 to ship a small cardboard box by UPS ground. Grrr.

FuturLec Man, I have no idea who these guys are, but they sell some really awesome chips for really cheap! (Unfortunately, they may never ship to you! Caveat emptor...) ■

Scenes from the July Meeting at Couzin's

photos courtesy of WB8NQW



*First Order of Business-
rag chewing*



*Second Order of Business-
eat breakfast*



*Fox hunt Attenuator Project
at WB8NQQ's QTH*

*Now, what is the color code
for an 82 ohm resistor?*



Soldering with a fine touch

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