



The SPARK GAP

147.375  T-110.9  444.350

Volume 2 Number 6

June 2005

IN THIS ISSUE

CVARC Meeting Minutes	Antennas
Next Club Meeting	Technical Tidbits
Club Happenings	Ask Elmer??-
Amateur Related News Bites	
Area Hamfest Activities	
Contest Buzz	

PRESIDENTS CORNER

by Gale, WD9HFT

NEXT CLUB MEETING

The next club meeting will be June 23, 2005 at 7:15 PM. at Connell's in the Airport. For those wanting to eat, we will be ordering at 6:15 PM.

CLUB HAPPENINGS

CVARC Tailgate Swapfest.

July 9, 2005 8-12AM in the Eagles Club parking lot – Lake Hallie. Cost \$5 for Sellers and Buyers. Bring your gear and make some money. **FREE COFFEE. FOOD Service from 9-12.** Children 12 and Under FREE with paid Adult admission. <http://www.W9CVA.org>.

AMATEUR RELATED NEWS BITES

by John, W9SWL

Always check the Newsline page on W9CVA.org for the latest in ARRL News happenings. It is published weekly and will keep you informed about what the ARRL is involved with.

ARRL News

AREA HAMFEST ACTIVITIES

by John, W9SWL

June

4 - Tailgate, St Paul, MN 146.76 3M - McKnight Road to Conway Rd 146.76

5 - Hubertus, WI (MKE)

30 - Clear Lake, SD

July

9 - CVARC Tailgate Swapfest 8-12 Eagles Club in Lake Hallie.

9 - Oak Creek, WI

12 - Wheaton, IL

16 - Brainard, MN

16 - WI Assoc Repeater WAR - Eau Claire Airport 1100-1500

Aug

13 - Baraboo, WI 0700-1200 608-356-2313

www.qsl.net/ytarc/hamfest.htm

20 - Madison, WI AM Jamboree

20 - Young America (MSP)

CONTEST BUZZ – by John, W9SWL

ARRL Contest Calendar can be found here:

<http://www.arrl.org/contests/calendar.html> a more complete list follows. **June 2005:**

VK/Trans-Tasman 80m Contest, CW	0800Z-1400Z, Jun 4
IARU Region 1 Field Day, CW	1500Z, Jun 4 to 1459Z, Jun 5
RSGB National Field Day	1500Z, Jun 4 to 1500Z, Jun 5
QRP TAC Sprint	1800Z-2359Z, Jun 4
WorldRadio Friends' Day QSO Party	1800Z, Jun 4 to 1800Z, Jun 5
RSGB 80m Club Championship, Data	2000Z-2130Z, Jun 6
ANARTS WW RTTY Contest	0000Z, Jun 11 to 2400Z, Jun 12
Portugal Day Contest	0000Z-2400Z, Jun 11
Asia-Pacific Sprint, SSB	1100Z-1300Z, Jun 11
ARRL June VHF QSO Party	1800Z, Jun 11 to 0300Z, Jun 13
GACW CW DX Contest	1500Z, Jun 11 to 1500Z, Jun 12
RSGB 80m Club Championship, CW	2000Z-2130Z, Jun 15
SARL Kid's Day	0700Z-0900Z, Jun 16
All Asian DX Contest, CW	0000Z, Jun 18 to 2400Z, Jun 19
SMIRK Contest	0000Z, Jun 18 to 2400Z, Jun 19
AGCW VHF/UHF Contest	1600Z-1900Z, Jun 18 (144) and 1900Z-2100Z, Jun 18 (432)
West Virginia QSO Party	1600Z, Jun 18 to 0200Z, Jun 19
Quebec QSO Party	1700Z, Jun 18 to 0300Z, Jun 19
Kid's Day Contest	1800Z-2400Z, Jun 18

RSGB 80m Club Championship, SSB	2000Z-2130Z, Jun 23
Marconi Memorial HF Contest	1400Z, Jun 25 to 1400Z, Jun 26
ARCI Milliwatt Field Day	1800Z, Jun 25 to 2100Z, Jun 26
ARRL Field Day	1800Z, Jun 25 to 2100Z, Jun 26
His Maj. King of Spain Contest, SSB	1800Z, Jun 25 to 1800Z, Jun 26

ANTENNAS

by John, W9SWL (If you would like to know about a specific type of antenna - drop me a note)

What does an antenna tuner do and how does it work?

An antenna tuner, (transmatch), doesn't really TUNE your antenna OR ANY PART OF IT!

What an antenna tuner or transmatch does do, however, is transform the impedance at the antenna feed output at the radio to a value that your transceiver can handle, (typically 50 Ohms). When thinking about antenna tuners and SWR, it's important to remember that the tuner has no effect whatsoever on the SWR between itself and the antenna. It's the SWR between the transmitter and the tuner that is changed with the tuner controls.

All a tuner does is act as a kind of adjustable impedance transformer between the radio and the antenna. It takes whatever impedance the antenna system presents, up to the design limits of the tuner, and attempts to convert it back to 50 Ohms--or something reasonably close to that value for the transceiver. When the transceiver "sees" a 50 Ohm impedance, it is able to load or produce its maximum designed RF output into the system because it is designed to operate into a 50 ohm load. **Your rig "thinks" it's seeing a 50 ohm antenna on it's output!**

That power is transferred through the antenna tuner, to the feed line and, ultimately, to the antenna--minus any losses incurred along the way. **If you have high losses and a poor excuse for an antenna, you will have a poor excuse for a good signal no matter how well your tuner "tricks" your radio.**

Most of the power will be lost as heat in the tuner and very little will get to the other station!

These losses are the reason that the highest efficiency feed-line for each individual case is desirable and why some amateurs use ladder line on HF, which has the least loss per foot, which means maximum power at the input terminals of the antenna.

TECHNICAL TIDBITS

by Ron, W9RMA

Choices and consequences of station lightning protection

Safety around lightning is a measure of acceptable risks and cost/benefit. The odds of a home being struck change only slightly because it has antennas on the roof, dipoles in the trees, or even the presence of a short tower. But if you are struck, the consequences of damage and injury increase dramatically when improper or no protection is provided for personnel and equipment.

This website outlays the basic knowledge, safe design and installed equipment that are employed in the lightning protection system of a US Coast Guard Auxiliary Radio Facility. This should also be relevant to the Civil Air Patrol, MARS, and Amateur Radio stations who provide emergency communications capability for public safety or the military. The presentations here assume a basic understanding of electricity and electronics. Numerous professionals were consulted and contracted in the design and completion of the system described here. The as built system meets NEC and NFPA code. Assistance was also provided by several Amateur Radio stations. See credits and links at the last page of the website. Estimated time to read the entire site: 45min-1hr.

WARNING:

Contact with high voltages from electricity or lightning is deadly. Consult a licensed professional before you design, build, connect to or operate any kind of electrical grounding system or lightning protection scheme. The website owner assumes no liability for any material or advice presented here, all of which is for purely educational purposes. Web Site:

<http://members.cox.net/pc-usa/station/ground0.htm>

ASK ELMER ??

by John, W9SWL

What is an antenna? "A metallic apparatus for sending or receiving electromagnetic waves." It is simply something that radiates or receives RF energy.

CVARC OFFICERS

President – Gale Sorum (WD9HFT)
Vice President – Bert Spangler (W9ZZI)
Secretary – Ron Krueger (W9JRW)
Treasurer – Ron Anderson (W9RMA)
Past President – John Ingersoll (W9SWL)

Mailing Address:

Secretary - CVARC
18310 79th Ave
Chippewa Falls WI 54729
Web: <http://www.w9cva.org>
Email: info@w9cva.org