

**Northern Colorado Amateur Radio Club**

P.O. Box 272956

Fort Collins, CO 80527-2956

# **The Tribander**

**The monthly Newsletter of the Northern Colorado Amateur Radio Club**

**Club Meetings are held on the 3<sup>rd</sup> Saturday of each month  
At the Golden Corral, 901 E. Harmony Rd, Fort Collins, CO.**

**All are welcome and encouraged to attend.**

**Bring yourself and your appetite at 8:00 am.  
The Meeting begins at 9:00 am.**

# NCARC Club Information

## Club Officers

|                                       |                        |               |                      |  |
|---------------------------------------|------------------------|---------------|----------------------|--|
| <b>President</b>                      | <b>Steve Henry</b>     | <b>N7GN</b>   | <b>(970)226-2817</b> | <a href="mailto:n7gn@arrl.net">n7gn@arrl.net</a>                     |
| <b>Vice President</b>                 | <b>Bill Beach</b>      | <b>K0UT</b>   | <b>(970)224-1958</b> | <a href="mailto:k0ut@earthlink.net">k0ut@earthlink.net</a>           |
| <b>Secretary</b>                      | <b>Dave Langenberg</b> | <b>KC9FOO</b> | <b>(773)612-8435</b> | <a href="mailto:dave@thelangenbergs.com">dave@thelangenbergs.com</a> |
| <b>Treasurer<br/>Membership Chair</b> | <b>Willis Whatley</b>  | <b>WA5VRL</b> | <b>(970)407-6599</b> | <a href="mailto:whatley@frii.com">whatley@frii.com</a>               |
| <b>Interference<br/>Coordinator</b>   | <b>Mike Bates</b>      | <b>N7DQ</b>   | <b>(970)219-3225</b> | <a href="mailto:n7dq@comcast.net">n7dq@comcast.net</a>               |
| <b>Newsletter</b>                     | <b>Willis Whatley</b>  | <b>WA5VRL</b> | <b>(970)407-6599</b> | <a href="mailto:whatley@frii.com">whatley@frii.com</a>               |
| <b>Technical Chair</b>                | <b>Eric Slutz</b>      | <b>N0EAS</b>  | <b>(970)282-3752</b> | <a href="mailto:eric@redginger.com">eric@redginger.com</a>           |
| <b>Hamfest Chair</b>                  | <b>Matt Kassawara</b>  | <b>KG0W</b>   | <b>(970)232-5215</b> | <a href="mailto:battery@writeme.com">battery@writeme.com</a>         |

## NCARC Repeaters

|  |
|--|
| <b>W0UPS: 145.115 MHz</b> – (144.515 MHz Input) 100 Hz CTCSS Subtone (1* on, 0* off) Autopatch<br>(40-32.926N, 105-11.898W, 7229 ft) Horsetooth Mountain, west of Fort Collins, CO |
| <b>W0UPS: 447.275 MHz</b> – (442.275 MHz input) 100 Hz CTCSS Subtone Autopatch<br>(40-32.926N, 105-11.898W, 7229 ft) Horsetooth Mountain, west of Fort Collins, CO                 |
| <b>W0UPS: 224.520 MHz</b> – (222.920 MHz input) 100 Hz CTCSS Subtone IRLP 3902<br>(40-32.926N, 105-11.898W, 7229 ft) Horsetooth Mountain, west of Fort Collins, CO                 |
| <b>W0UPS: 146.625 MHz</b> – (146.025 MHz Input) 100 Hz CTCSS Subtone<br>(40-50.266N, 105-3.017W, 5600 ft) SW of the Rawhide Power Plant, 17.5 miles north of Fort Collins, CO      |
| <b>W0UPS: 146.850 MHz</b> – (146.250 MHz Input) 100 Hz CTCSS Subtone (1* on, 0* off)<br>(40-25.341N, 104-44.182 W) Greeley, CO   |
| <b>W0UPS-5: 144.390 MHz</b> – APRS Digital Repeater<br>(40-32.926N, 105-11.898W, about 7229 ft) Horsetooth Mountain, west of Fort Collins, CO                                      |

## Nets

|   |                  |                |                    |
|---|------------------|----------------|--------------------|
| <b>ARES District 10 Information Net</b> | <b>Wednesday</b> | <b>9:00 pm</b> | <b>145.115 MHz</b> |
| <b>ARES Statewide Net</b>               | <b>Sunday</b>    | <b>8:30 pm</b> | <b>145.310 MHz</b> |
| <b>Central Colorado Traffic Net</b>     | <b>Daily</b>     | <b>7:30 pm</b> | <b>145.310 MHz</b> |
| <b>Tech Net</b>                         | <b>Monday</b>    | <b>7:00 pm</b> | <b>145.115 MHz</b> |

## Web Page

<http://www.ncarc.net>

**TECH NET**

This is a reminder that the 145.115 TECH NET has been **changed to Monday evening at 07:00 PM.**  
It is hosted by N0WIQ, Kerry. All amateur radio operators (with 2M privileges) are welcome to check in.  
It is an open forum net with Questions, Answers and Topics of interest.  
If the 145.115 repeater is not available, the net will be held on the 447.275 repeater

## Local Area Swaplists:

For those who can not wait or can not attend the area swapmeets, below are the websites for some of the regional swaplists found on the internet. These are updated weekly.

Aurora Repeater Assn. Swaplist: <http://www.qsl.net/n0ara/swaplist.html>

Colorado Repeater Assn. Swaplist: <http://www.w0cra.org/swap/craswaplist.htm>

Wyoming Swap Shop: <http://www.qsl.net/n0ara/wss.htm> (not usually updated during summer months)

New Mexico Swaplist: <http://bc-ares.org/swapnet/listings.html>

**New and renewing members for the current month:** N0XGN – Jeff KI0IO – Rob KC0VXK - Randy  
**The NCARC thanks you for your support.**

**220 MHz Net**

There is a new informal net that is being held every Thursday evening at 7:00 pm on the 224.520 Repeater.

This is the newest **W0UPS** (formerly AB0SF) machine

located at the Horsetooth Mountain site along with the 145.115 and 447.275 NCARC Repeaters.

This repeater uses the standard offset for the 220 MHz band (input on 222.920) and a 100 Hz CTCSS.  
Hosted by KG6TDB, the topics will change each week and all licensed operators are invited to check in.

For those who are interested, it also features IRLP capability (it is node 3902).

**Denver, Colorado**

Site of the

**2007 QCWA INTERNATIONAL CONVENTION**

4 - 7 October 2007

Hosted by:

**[Colorado Chapter 58](#)**

At

**The Doubletree Hotel, 3203 Quebec Street, Denver, CO 80207 USA**

<http://qcwa-58.rmhc.org/convention/>

More info to follow in future newsletters...

**Colorado 14er Event**

**08/12/2007**

Colorado 14er Peaks - through Noon

Contact: <http://www.14er.org/> for more information.

# Denver Radio Club Hamfest

08/19/2007

Jefferson County Fairgrounds 15200 West 6th Avenue Golden 8:30 AM - 2 PM

Table Cost: \$10.00 Admission: \$5.00

Contact: Note Table price DOES NOT include admission <http://www.qsl.net/w0tx>  
[kc0cua@arrl.net](mailto:kc0cua@arrl.net)

## Interested in Contesting?

There are plenty of opportunities and you do not need to know or have a "Contest Class" station to participate. Several contests have QRP (low power) classes and there are also the digital modes.

Here are few contests coming up over the next two months. They have been gathered from the sites shown below these listings.

TARA Grid Dip Shindig: 0000Z-2400Z, Aug 4

ARRL UHF Contest: 1800Z, Aug 4 to 1800Z, Aug 5

Maryland-DC QSO Party: 1600Z, Aug 11 to 0400Z, Aug 12 and 1600Z-2359Z, Aug 12

WAE DX Contest (CW): 0000Z, Aug 11 to 2359Z, Aug 12

SARTG WW RTTY Contest: 0000Z-0800Z, Aug 18 and 1600Z-2400Z, Aug 18 and 0800Z-1600Z, Aug 19

<http://www.sk3bg.se/contest/>

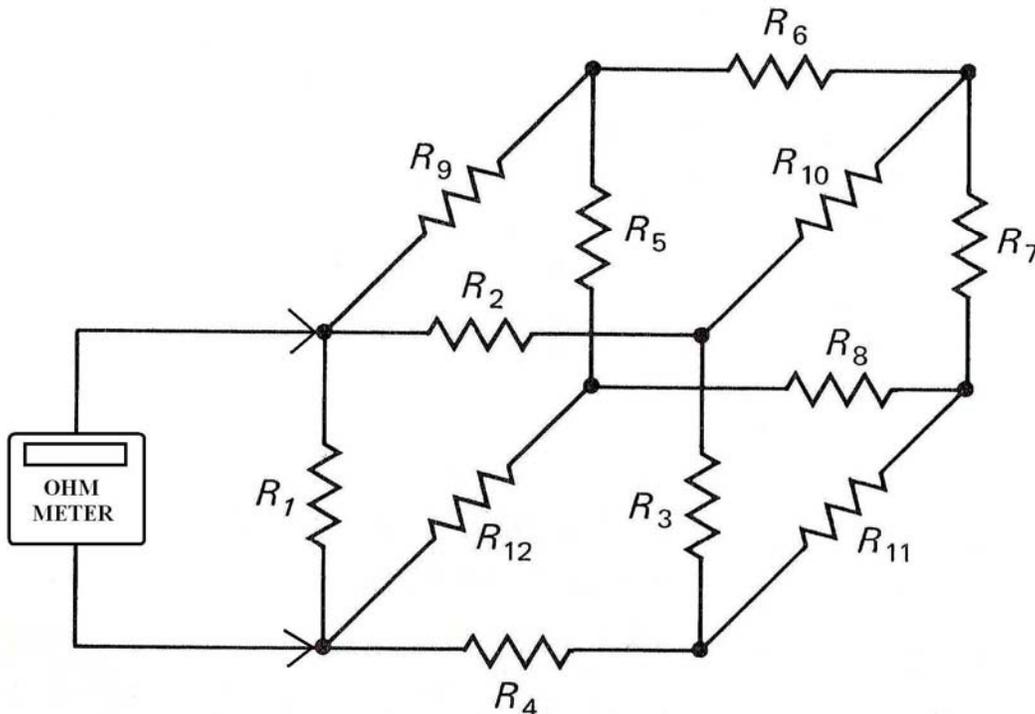
<http://www.hornucopia.com/contestcal/weeklycont.php>

<http://www.contesting.com/>

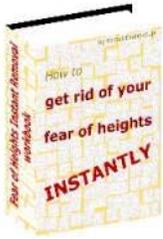
An Ohm's Law Exercise:

In the circuit shown below all twelve of the resistors are 10 K-ohm (10,000 ohms) each.  
What will the OhmMeter read when connected to the points indicated?

(The answer is stated elsewhere in this newsletter.)



**ARRL AMATEUR RADIO TESTING, AUG 18, 1:30PM at FARR BRANCH LIBRARY, 1939 61<sup>st</sup> Ave, GREELEY CO.**  
**CONTACT OJ: K00J at (970) 353-7094 [k00j@msn.com](mailto:k00j@msn.com). WALK INS OK.**



**Acrophobia** (Acro is from the Greek language meaning "summit") is an extreme or irrational fear of heights. It belongs to a category of specific phobias, called space and motion discomfort that share both similar etiology and options for treatment. This is not a good thing to have if you are an Amateur Radio operator. Many hams have towers for supporting their antennas with some of them exceeding 100 feet in height. When a person has a phobia that they need to overcome, often a process called desensitization is used. This involves exposing the person to the condition that causes the fear at progressively increasing levels and frequencies until the issue is resolved. For those hams who want an accelerated version of this process, a possible solution is shown below. The picture was taken at a distance of over a mile from the tower.



The KVLV-TV antenna tower is located three miles west of Blanchard, North Dakota, which is roughly halfway between Fargo and Grand Forks. At 2,063 ft, it is currently the world's tallest supported structure on land. It achieved that status on August 13, 1963 when its construction was completed. This tower was surpassed in height by 57 feet back in 1974 by the Warszawa radio tower near Konstancinów, Poland, but that tower collapsed on August 8, 1991, making the KVLV tower again the tallest structure on land.

Hamilton Directors and Kline Iron and Steel built the tower, at a cost of about \$500,000 (\$3.3 million in 2007 dollars). An 11-man crew assembled the tower in 33 working days, with no casualties. Broadcasting at 316 Kilowatts on channel 11, it provides broadcast coverage for an area of roughly 30,000 square miles. Its overall height above mean sea level is 3,038 feet.

After its completion, the Federal Aviation Administration imposed a limit of 2,063 ft, based on this tower's height, on any future construction. No taller structures may legally be built in the U.S. at the present time.

The KVLV tower and guy anchors take up 160 acres of space with over 40,125 feet (that's over 7.5 miles) of guy wire. The elevator cable used in construction of the tower is 7,870 feet. In a 70 mile-per-hour wind, the beacon light on top of the tower will move approximately ten feet. On top of the tower, which is reachable by service elevator (or ladder if you are into self-abuse), is a 113 feet high antenna weighing over 9,000 pounds. The total weight of steel in the tower itself is 864,500 pounds.

The tower is taller than the combined height of the Great Pyramid Khufu at Giza, the Eiffel Tower in Paris and the Washington Monument. If the tower had its base at the bottom of the Royal Gorge, the antenna would still be 563 feet above the upper rim. If a 20-second commercial started at the same moment a baseball was dropped from the top of the tower, it would end nearly four seconds before the ball hit the ground. If an ironworker on the antenna dropped his wrench, it would be traveling at a speed of about 250 miles per hour when it hit the ground.

There does not appear to be any perimeter fencing at the site but intrepid Radio Amateurs are advised to have all of their personal business affairs in order before making the journey. For those who intend to scale the structure after sunset, it is also recommended that you take along night vision equipment and pre-register with the Darwin Awards foundation.



## Coming soon: Meteor DX

Meteor scatter is a remarkable type of propagation caused by the atmospheric ionization resulting from meteors (also known as "shooting stars") entering the earth's atmosphere. Meteors vary greatly in size with many being from the size of very small rocks to particles as small as a grain of sand. Flying through space every year on certain dates, the earth passes through streams of these meteors. When the earth crosses the path of the meteors, they hit the earth's atmosphere at speeds of over 10,000km/h causing them to burn up as they reach extremely high temperatures. The resulting high temperatures leave traces of ionized air behind them at 80 to 150km in altitude.

Fortunately for Amateur Radio operators, these traces of ionized air can reflect radio waves at up to 500 MHz and sometimes beyond. They can also reflect HF signals in the range of 30MHz. Each meteor entry results in a radio wave scatter that can be categorized into either a "ping" or "burst". Pings are short openings lasting a few seconds and bursts are openings lasting for minutes. During meteor storms (when meteors occur at fairly high rates), both pings and bursts can occur so regularly that relatively long QSO's are possible. The most famous annual meteor shower is called the **Perseids** and it occurs when the earth crosses the orbit of the Swift-Tuttle comet **around August 12<sup>th</sup> or 13<sup>th</sup>** of each year. This particular shower has been known to have up to 120 meteors per hour. The 1994 Perseids event supported radio conversations having strong signal strengths for several hours and the skip distances ranged from 200 to 1800km.

Normally meteor scatter contacts are usually more brief. Because of this, APRS or VHF packet radio, as well as short voice QSOs are considered to be a good means of communication during meteor showers. The digital modes are useful due to the short packets of data containing pertinent information such as the transmitting station's callsign and with APRS, the location in each packet sent.

If you are into viewing as well as operating during this event, plan on going portable in a location with an open sky view and no late night lights nearby. The Perseids is best witnessed on a moonless night during prime meteor-watching hours, from about midnight until the first glimmer of dawn. This year, the event just happens to fall during the period of a new moon. During the prime viewing hours, the shower's radiant point, located between Perseus and Cassiopeia, will be getting high in the northeast sky, so meteors should flash across all parts of the sky at a rate of about one a minute. This "Old Faithful" of meteor showers reaches a broad maximum around mid-August. Fortunately, the Perseids stay active for several days before and after the actual peak. The direction to watch is not necessarily toward Perseus but wherever your sky is darkest (most likely this will be straight up). Good luck and good DX!

## 2007 NCVEC Meeting Held in July

The 2007 annual meeting with the FCC of the National Conference of VECs was held in Gettysburg, Pennsylvania, on Friday, July 27. There were 11 VEC organizations represented; Anchorage, ARRL, GEARS, GLAARG, LAUREL, MRAC, SANDARC, SUNNYVALE, WCARS, W4VEC, and W5YI VEC delegates in attendance. Their function is to approve Volunteer Examiners and to provide testing guidance, license examination materials and electronic filing of license applications for their accredited VE teams. The VEC System consists of 14 (FCC approved) VEC organizations that oversee the activities of an estimated 3000 VE teams and some 35,000 accredited VEs. In attendance from the FCC's Gettysburg licensing facility were FCC staffers Donna Scott, Sandra Eckenrode, Terry Fishel and Riley Hollingsworth.

Riley Hollingsworth discussed enforcement issues and complaints, which he said, were greatly reduced over the past two years. Enforcement of amateur service rules will continue to be a permanent part of the FCC's enforcement effort. Riley said that although the licensing structure is simpler he asked the VECs to be vigilant. Riley said he was pleased overall and that he has only had two new "small scale" complaints in two years about exam sessions.

Question Pool Committee Chairman Jim Wiley, KL7CC of the Anchorage VEC gave a preliminary report. The QPC is now looking ahead to revising the Element 4 question pool, which must be used for all Extra Class written examinations effective July 1, 2008. The VECs held an extended discussion of the upcoming Extra Class syllabus and pool. The QPC plan is to release the entire pool, which will include the syllabus on or around December 1, 2007.

Fred Maia, W5YI, discussed a petition filed with the FCC that involves ULS (the Universal Licensing System), CORES (the Commission Registration System) and the way information contained in these databases is handled. Amateur radio operators have the understanding that submitting their updated name/address information to ULS, either by submitting it through a VEC or filing it interactively with the FCC, was all that needed to comply with the rules, when in fact an amateur also needs to separately update CORES. ULS is maintained by the Wireless Telecommunications Bureau (WTB) and CORES is handled by the Office of Managing Director (OMD). The Part 1 (Section 1.8002(b)(2)) rules state that applicants must keep their CORES record current and most amateurs do not know about the Part 1 rule. The CORES database update is accomplished in one of two ways: by updating the information online in CORES or by filing FCC Form 161 (update/change form). The petition proposes that Administrative (address change) Updates submitted to ULS should automatically update the CORES database.

Exercise answer: 5.75 K-ohm

