

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 3rd 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

President	Steve Henry	N7GN	(970)226-2817	n7gn@arrl.net
Vice President	Eric Slutz	N0EAS	(970)282-3752	eric@redginger.com
Secretary	Dave Langenberg	KC9FOO	(773)612-8435	dave@thelangenbergs.com
Treasurer Membership Chair	Willis Whatley	WA5VRL	(970)407-6599	whatley@frii.com
Interference Coordinator	Mike Bates	N7DQ	(970)219-3225	n7dq@comcast.net
Newsletter	Willis Whatley	WA5VRL	(970)407-6599	whatley@frii.com
Technical Chair	George Salzmann	AB0SF	(303)961-0841	ab0sf@yahoo.com
Hamfest Chair	Michael Robinson	N7MR	(970)225-7501	michael@frii.com

NCARC Repeaters

W0UPS: 145.115 MHz – (144.515 MHz Input) 100 Hz CTCSS Subtone (1* on, 0* off) Autopatch (40-32.926N, 105-11.898W, 7229 ft) Horsetooth Mountain, west of Fort Collins, CO
W0UPS: 447.275 MHz – (442.275 MHz input) 100 Hz CTCSS Subtone Autopatch (40-32.926N, 105-11.898W, 7230 ft) Horsetooth Mountain, west of Fort Collins, CO
W0UPS: 146.625 MHz – (146.025 MHz Input) 100 Hz CTCSS Subtone (40-50.266N, 105-3.017W, 5600 ft) SW of the Rawhide Power Plant, 17.5 miles north of Fort Collins, CO
W0UPS: 146.850 MHz – (146.250 MHz Input) 100 Hz CTCSS Subtone (1* on, 0* off) (40-25.341N, 104-44.182 W) Greeley, CO
W0UPS-5: 144.390 MHz – APRS Digital Repeater (40-32.926N, 105-11.898W, about 7229 ft) Horsetooth Mountain, west of Fort Collins, CO

Nets

ARES District 10 Information Net	Wednesday	9:00 pm	145.115 MHz
ARES Statewide Net	Sunday	8:30 pm	145.310 MHz
Central Colorado Traffic Net	Daily	7:30 pm	145.310 MHz
Tech Net	Tuesday	7:00 pm	145.115 MHz

Web Page

<http://www.ncarc.net>

TECH NET Announcement!

This is a reminder that the 145.115 TECH NET is held Tuesday evening 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

CW Practice Session!

This is a reminder that the 145.115 CW Practice Session is held Friday evening 06:00 PM.
It is hosted by WOEP, Chris. All amateur radio operators (with 2M privileges) are welcome to check in or listen.

NCARC Winter Superfest

Saturday, January 20, 2007

Lincoln Center's Canyon West Room: 8am - 2pm

Vendor setup begins at 6am.

Tables \$5 includes 1 admission

Doors open at 8am

Admission \$5

VE Testing in the Ludlow Room begins at 9:30am

**Lincoln Center
417 W. Magnolia St.
Fort Collins, CO 80521**

Prizes to be announced

Flyer and more information on the Webpage:

www.ncarc.us

www.ncarc.net

Contact Michael, N7MR

970-225-7501

970-282-1167

michael@frii.com

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.hfradio.org/wb4uic/Wyo%20Swap%20Shop%20I.doc>

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

BARC Fest

09/24/2006

Vendor Setup beginning at 6:00 AM

Doors Open to all at 8:00 AM

Boulder County Fairgrounds

9595 Nelson Road (corner of Nelson and Hover Roads), Longmont

Talk-in on 146.700 (-) Repeater

Admission \$5

Door Prizes Drawn Every Hour!

Breakfast & Lunch by Papa Carr BBQ Catering

Boulder VE Team – License Exam Testing Held at 10AM Sharp!

For More Information Contact: BARC70@arrl.net

New and renewing members for August:

W8CNY – Mike KA0PEK – Phillip KT0L – Rick W0GCR – Gary WD0GIJ – Carl AC7CS – David K0EUS – David NK0R – John WB0TSX – Ted

The NCARC thanks you for your support.

VHF – UHF PROPAGATION

If you are interested in VHF/UHF long haul propagation, here is a website that you should visit.

<http://www.vhfdx.net/spots/map.php?Lan=E&Frec=50&Map=NA>

It provides a (close to real time) graphic display of worldwide activity based on input to DX Clusters.

EOSS-112 Balloon Launch

LAUNCH DATE: **23-September-2006** LAUNCH SITE: **Windsor, CO** LAUNCH TIME: **7:30 am CDT (13:30 UTC)**

Directions:

Go to the Windsor exit on I-25 (Exit Number 262). Proceed East on Hwy 392 approximately 1.3 miles to County Road 3. Take County Road 3 south a few hundred yards. The launch site will be on the East side of the road. Numerous vehicles with antennas will undoubtedly mark the spot!

Pre-Flight Information

Website:

<http://www.eoss.org>

On Air Net:

Check into the weekly EOSS net every Tuesday evening, except the 2nd Tuesday of the month.

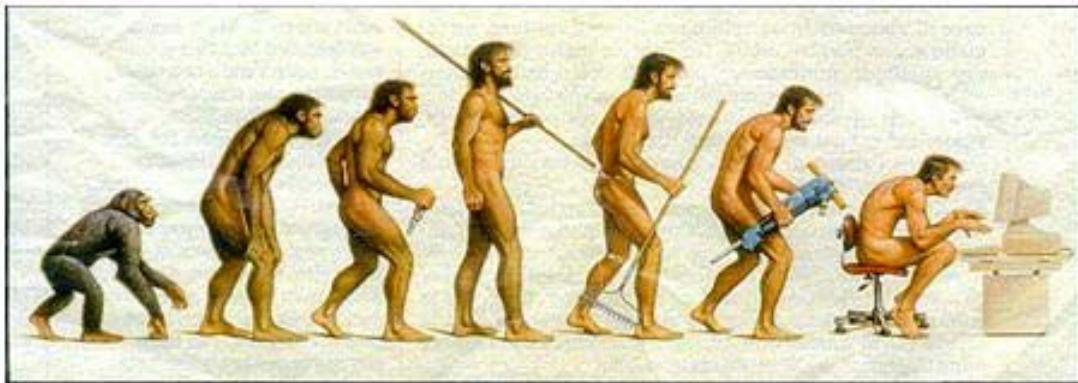
Tuesdays at 8 PM Local time

147.225 MHz 107.2 Hz tone [CRA Repeater](#) (Denver)

145.460 MHz 107.2 Hz tone [CRA Repeater](#) (Boulder)

145.160 MHz 107.2 Hz tone [CRA Repeater](#) (Colorado Springs)

146.640 MHz backup [DRL Repeater](#) (Denver only)



Somewhere, something went terribly wrong

NCARC minutes

15 July 2006

Respectfully submitted by Rick Kile (WA7BNG)

1. The meeting was called to order by Steve, N7GN at 0900. 17 hams and 4 non-hams were present. We welcomed three new members from the recent ham class- K2CSU, K0BYU, and KC0WZV.
2. Reports
 - a. Meeting Minutes: Steve, N7GN read the minutes from the June meeting (Dave, KC0FOO) was out on a business trip). The minutes were approved as read.
 - b. Fest Committee: Mike, N7MR reminded people that the NCARC swapfest will be held at the Lincoln Center on 20 January 2007.
 - c. Treasurer's report: Willis, WA5VRL reported \$9856.00 in checking and \$2150.63 in savings. There were 5 renewals so far in June.
 - d. Tech committee report: George, AB0SF reported that the new 145.115 antenna had to be re-ordered and that the vendor made a mistake in the price. The antenna was actually \$389 more than initially quoted. This increase was still within the initial motion approved by the club. George has contacted an individual/company who can do the antenna installation. This will be scheduled in the future since this individual was currently out of state.
3. Old Business
 - a. Rick reported on Field day and Hamcon 2006.
4. New Business
 - a. MS Walk-about. This is the same weekend as the Tour de Cure. People will be walking for 50 miles on bike trails in Fort Collins. We need approximately 15 people to help out. Contact Steve, N7GN if you can help.
 - b. Hamfest: Mike led a discussion about door prizes. One proposal was to have one big prize and lots of smaller prizes. Another suggestion was to have 6 HT's. After a lengthy discussion the consensus was to have Mike make the prizes decision and report back to the club.
 - c. Tour de Cure: This will be held on the 26th of August. This is a fund-raiser to prevent and help with diabetes. There will be 12 rest stops. APRS will be used as well as several mobile installations. Mike, N7MR will be net control.
 - d. Presentations: Nothing planned for July. In August we will have a presentation about the Citizen Weather Observer Program. We are looking forward to a power pole connector presentation and having someone come up from the Denver FCC field office. Some other ideas were offered-such as having a regular show and tell of new ham radio products, and a follow up on the transmitter hunts.
5. Adjourn: The meeting was adjourned at 9:45 am.

Loveland Repeater Association
Upcoming meeting on Saturday, September 2, 2006
Buffet at 8:00 am, meeting at 9:00 am
Wayside Inn, Berthoud, CO

NOTE: It was announced at the August NCARC meeting that the Wayside Inn will not be available after this meeting. The LRA will be investigating other locations in the area and further info will be posted, as it becomes known.

Quarterly NCARC Pizza Party
on Monday, September 4, 2006
Buffet beginning at 5:30 PM
Woody's Wood Fired Pizza
518 W. Laurel St.
Fort Collins, CO

Citizen Weather Observer Program

If you did not make the August NCARC meeting, then you missed an excellent presentation on the Citizen Weather Observer Program given by Russ Chadwick, KB0TVJ. This program is very popular and many participants are also Amateur Radio operators. Numerous citizens who get involved with this program discover the "radio connection" and end up getting their Ham licenses.

The image on the following page shows some of the activity in this area. The markers beginning with the letters "CW" are citizen weather stations reporting data to the system (not stations running a CW mode of transmission on HF). Most of the Ham station markers were received on the 144.390 MHz APRS frequency and the CW stations were received over the I-gate connection on the Internet.

Here are the links for further info about the CWOP:

<http://info.aprs.net> or <http://www.cwop.net> or you can contact Russ at russ@cwop.net

HF Beacons

There is no shortage of beacon stations on the HF Amateur bands that are useful in determining when a band is open (and to what area of the world). They vary from homebrew projects transmitting from an operator's home QTH to highly coordinated systems. A search on the Internet will reveal enough listings to keep a person occupied for a very long time.

Even during the sunspot minimum that we are enduring, HF beacon stations can often be heard when there appears to be no other activity on the band. This can happen for numerous reasons. One of them can be that everyone is just listening on the band and no one is bothering to make a CQ transmission to see what response might occur. If you hear the HF beacons on the band, try calling for a little while and you might be surprised at the contacts you make.

One of the more sophisticated and interesting beacon systems is the "Northern California DX Foundation / International Amateur Radio Union" Beacon System.

The NCDXF/IARU Beacon System operates on five Amateur bands, transmitting on specific frequencies at times precise enough to determine the propagation path (to distinguish between "short" and "long" paths). Because the speed of the signal and the distance between the beacon and the receiving station is known, the measurement of the time from when it was sent to when it arrived provides the indication of which path was used.

Each beacon in the NCDXF/IARU system transmits every three minutes, day and night. The table below gives the minute and second of the start of the first transmission within the hour for each beacon on each frequency. A transmission consists of the callsign of the beacon sent at 22 words per minute followed by four one-second dashes. The callsign and the first dash are sent at 100 watts. The remaining dashes are sent at 10 watts, 1 watt and 100 milliwatts.

Call	Location	14.100	18.110	21.150	24.930	28.200
4U1UN	United Nations	0:00	0:10	0:20	0:30	0:40
VE8AT	Canada	0:10	0:20	0:30	0:40	0:50
W6WX	United States	0:20	0:30	0:40	0:50	1:00
KH6WO	Hawaii	0:30	0:40	0:50	1:00	1:10
ZL6B	New Zealand	0:40	0:50	1:00	1:10	1:20
VK6RBP	Australia	0:50	1:00	1:10	1:20	1:30
JA2IGY	Japan	1:00	1:10	1:20	1:30	1:40
RR9O	Russia	1:10	1:20	1:30	1:40	1:50
VR2B	Hong Kong	1:20	1:30	1:40	1:50	2:00
4S7B	Sri Lanka	1:30	1:40	1:50	2:00	2:10
ZS6DN	South Africa	1:40	1:50	2:00	2:10	2:20
5Z4B	Kenya	1:50	2:00	2:10	2:20	2:30
4X6TU	Israel	2:00	2:10	2:20	2:30	2:40
OH2B	Finland	2:10	2:20	2:30	2:40	2:50
CS3B	Madeira	2:20	2:30	2:40	2:50	0:00
LU4AA	Argentina	2:30	2:40	2:50	0:00	0:10
OA4B	Peru	2:40	2:50	0:00	0:10	0:20
YV5B	Venezuela	2:50	0:00	0:10	0:20	0:30

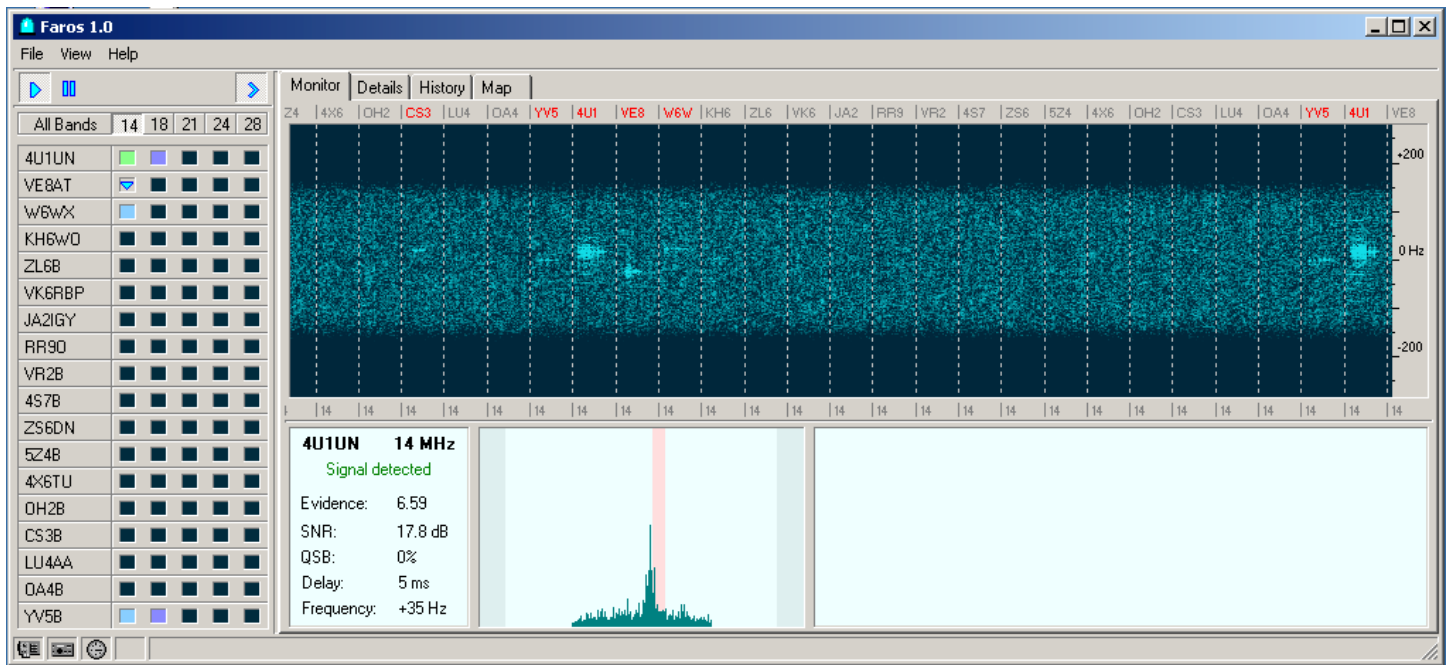
A large amount of information regarding this system is available on the Internet at <http://www.ncdxf.org/Beacon/intro.html> and the site has numerous links to other related topics.

Because of the staggered frequency and time relationships of this beacon system, many modern "computer controllable" receivers and transceivers can be used with software application programs to monitor all five of these bands for openings around the clock at the operators QTH.

One program that works very well for this is called "Faros" and is available as shareware on the Internet. The NCDXF site listed above provides a link to it. The Faros program requires an Internet connection to synchronize its clock to one of the world time standard signals and an audio connection from the receiver to the computer sound card. The computer control of the radio is not necessary to monitor a single band at a time. That control is only needed if you want to cycle through all five bands during the monitoring process. The only "programming" needed is entering your location (latitude and longitude). The program was written by VE3NEA and the various screens are easy to understand. A sample of the "Monitor" screen from the program is shown on the following page. The lack of activity is due to the low solar activity and my use of a 75-meter NVIS antenna while monitoring from my QTH in west Fort Collins.

If you are not into the computer aided propagation technology; just checking for the signals from the various beacons on the frequencies found in the beacon listings can provide a quick check on band openings. Just be aware that many of the homebrew beacon stations can be temporarily or permanently inactive for quite some time before the listing for them is updated.

As sunspot cycle 24 ramps up over the next five years or so, all of the HF beacon stations will be of great benefit in determining which propagation paths are actually open at any a specific time, especially on the 24 and 28 MHz bands.



Faros Monitor Screen

BACKWARD SUNSPOT #2!

Evidence continues to mount that the next solar cycle (Solar Cycle 24) is beginning. For the second time in a month, a backward sunspot has appeared. The first backward spot (sighted on July 31st) was tiny and fleeting but this latest one is big and sturdy. It is a bipolar sunspot with an assigned number of 905.

"Backward" means magnetically backward. Compared to how sunspots have been during the past 11-year solar cycle, the north and south magnetic poles of sunspot 905 are reversed. This is what happens when one solar cycle gives way to another. It is well known that sunspots reverse polarity between each 11-year solar cycle.

The onset of Solar Cycle 24 is big news, because the cycle is expected to be intense (but don't expect any big storms right away). Solar cycles take years to ramp up to full power. The next Solar Max is expected in 2010. If you just got into Amateur Radio within the last four years and have privileges on the HF bands, you will probably be impressed by the changes in propagation that are going to happen over the next five years.

