

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	Roger Mitchell	N0MCR	(970)207-9295	n0mcr@netzero.com
Secretary	Dave Langenberg	KC9FOO		dave@thelangenbergs.com
Treasurer Membership Chair	Willis Whatley	WA5VRL	(970)407-6599	whatley@frii.com
Interference Coordinator	Robert Slate (change pending)	N0TQN	(970)484-3716	slate@frii.com
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) (Various locations around N. Colorado)

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	8:00 pm	145.115 MHz

Web Page

<http://home.earthlink.net/~ncarc/index.htm>

Northern Colorado Amateur Radio Club (NCARC) Presents

FALL HAMFEST 2005

Admission \$5 (children under 12 free)
Tables \$5 (includes 1 admission)

Saturday, September 17, 2005
Open to public 8:00 am to 1:00 pm!

Talk in: 145.115 (-offset 100 Hz CTCSS)
146.520 Simplex

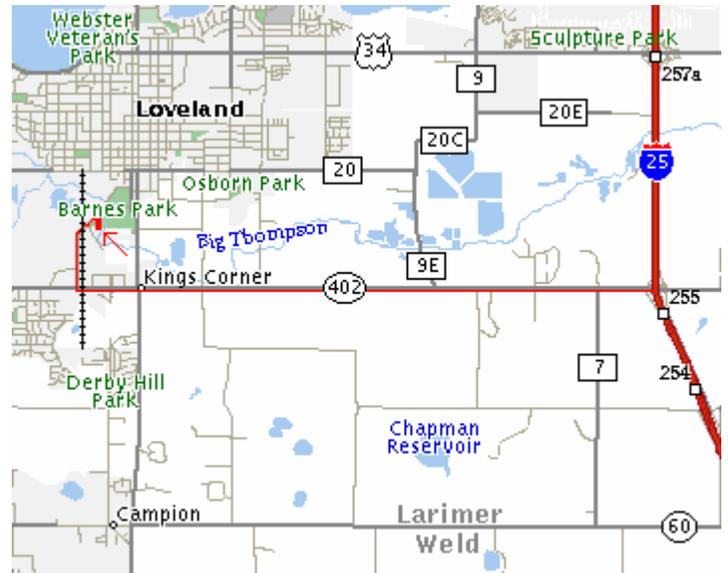
Vendors Setup beginning at 6:30 am
Old Larimer County Fairgrounds
700 S. Railroad Loveland Co.

www.qsl.net/ncarc

ARRL VEC EXAMS 10:00 am Prompt

Foxhunt Workshop at 9:00am

Foxhunt at 11:00am



Grand Prize: **Yaesu FT-8800R**



2nd Prize: **Heil ProSet Plus**

3rd Prize: **Kantronics KPC-3 TNC**



DRAWING at NOON
(You need NOT be present to win)
Fun ! Friends ! Food !

Take I-25 to exit 255. Go west on Colorado 402 past Hwy 287. Turn right on Roosevelt just past the railroad tracks and follow the road north to the Old Larimer County Fairgrounds. Located at the southwest corner of Barnes Park.

GPS: 40.23.302N 105.04.750W

Hourly door prizes...donated by HRO, Denver

See you there !
73, NCARC

For Advance Table Reservations contact:
Willis Whatley, WA5VRL
(970) 407-6599

Make checks payable to NCARC
2920 Bassick St. Fort Collins, CO 80526

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 Tech Net will be held on the 447.275 repeater.

YOU MIGHT BE A HAM IF...

Buying flowers for your spouse or spending the money on a new antenna is a moral dilemma.

Everyone else on the Alaskan cruise is on deck observing the scenery and you are still on your personal tour of the ship's radio room.

Your home library consists entirely of technical publications and equipment manuals.

You can copy CW at 20 wpm but can't read your own handwriting.

You remember the exact length of a 75-meter dipole but forgot where you parked the car... for the third time this month.

You spend an hour on the air debating the expected results of an antenna test that will take less than 10 minutes to perform.

You burned down the Vo-tech annex at your high school with your Tesla-Coil project.

You have a chronic habit of destroying things in order to see how they work.

You save the power cords from all broken appliances.

You have more friends on the air than in real life.

You still have the 100-in-1 electronic kit that you got for your tenth birthday.

Your favorite James Bond character is "Q".

Your HF rig costs more than your car.

Sec. 97.1 Basis and purpose.

The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:

- (a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.
- (b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.
- (c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.
- (d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.
- (e) Continuation and extension of the amateur's unique ability to enhance international goodwill.

And if you still have junk to sell or treasure that you could not find at the NCARC Fall Hamfest in Loveland...**BARCFEST**

Sunday, September 25, 2005 at the Boulder County Fairgrounds

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

Admission \$5 (Children 12 and Under Free with Paid Adult Admission)

BARC Will Provide a FREE Radio Testing Service

Door Prizes Drawn Every Half-Hour

Grand Prize drawing held at Noon for a Yaesu HT

Breakfast & Lunch by Papa Carr BBQ Catering

License Exam Testing Held at 10AM Sharp by Boulder VE Team

Public Doors Open to Public at 8:00 AM

Vendor Doors Open at 6:00 AM

Colorado Amateur Radio Weather Network Celebrates Its 50th Anniversary!

Reprinted from the NWS Boulder website

A flood in Trinidad in 1955 brought together amateur radio operators from near and far, including some who were soldiers at Camp Carson. It was obvious that there was a need for weather reports from small localities, and so the Colorado Amateur Radio Weather Net, with the help and sanction of the National Weather Service, began on August 30, 1955.

The Colorado Amateur Radio Weather Net is still going strong with 76 members providing valuable weather information on a daily basis to the National Weather Service in Boulder.

It was in May of 1955 that Trinidad, Colorado had its big flood. Bob Oberman, W0NVU, as any good ham operator would, worked forty-one hours straight, handling the traffic and messages having to do with the flood.

The Army at Camp Carson had sent their top radio technicians, Mac Jackson, W0KBB, and others to help in the communication with the flood. These soldiers found Bob had the best possible set-up so they moved in on him. He was glad to be relieved after 41 hours.

Then some member of the ham radio community in the next week or two said something like, "Ya know, if people had been pinpointing and reporting the weather from upstream of this flood, it would have been less of a disaster!" This subject was not dropped!

Across that following summer, a group was formed of interested ham operators. Carl Steffan, W0FDP, talked with Meteorologist-in-Charge Albert W. Cook of the National Weather Service in Denver. On August 15, 1955, Cook wrote an official letter to Carl, asking him to inquire into the amateur radio community and if it would be possible for the ham operators to form an official Amateur Radio Weather Network under National Weather Service. Their mission was to collect weather data from areas not covered by official weather stations. This letter and its implications to the ham radio community was first discussed on the High Noon Net and then, of course, among the group that had expressed interest in reporting their weather.

There was little or no argument. The group was ready. Fifteen days after Meteorologist A. W. Cook wrote his letter, on August 30, 1955, Mac, W0KBB, and Bob, W0NVU, began sharing the job of Net Control of the weather net. It was three weeks later that all the red tape was pulled through, and the first formally sponsored Colorado Amateur Radio Weather Net was held on September 21, 1955. Mac, W0KBB, was Net Control. The Frequency was 3.945 Megacycles or megahertz as we call them now.

By June of 1956, when Gene Link of Boulder, W0IA, became Net Control, there were a dozen stations checking in regularly: W0TNK, W0SWK, W0MMT, W0YMP, W0DRY, W0AGU, W0HOP, W0IA, W0NIT, W0LEK, W0WJR, W0NVU, and W0ACH. Gene shared some of the load with Lou Rieder of Sterling, W0IES. (Lou had one of the finest, purest AM signals on the air with no distortion and a narrow bandwidth. It seems to some that the technology to attain that has since been lost!) Charter Membership closed down soon. Earl Morrison, W0ACH became a charter member and Earl's son Rick proudly took his father's call when Earl died; thus W0ACH still gives the weather from Longmont. Smitty of Fleming, K0DAP, was an active early member and his son Chuck Schmidt, K0DAQ still sends in the weather from the same farm outside of Fleming.

Tarz had been sending in weather data as a Cooperative Weather Observer from his farm outside of Sedgwick since 1947, taking over from a railroad agent named Buskirk when Sedgwick had a spur going to Denver. Buskirk was maintaining the tradition of Sedgwick that had begun in 1865 when it was Fort Sedgwick. Tarz got an award from the National Weather Service in 2002 for 55 years of service and he's still sending in weather data.

Kieth Bowhan, W0DGM, had also been a Cooperative Weather Observer in Hugo, Colorado. In those days and for many years to come, Weatherman Bowman gave Colorado its weather and often would give the location and the ham radio call sign of his source of the information. Keith loved listening to Bowman, and one day it came to his mind that he could send in his weather from Hugo which Weatherman Bowman could broadcast on the air.

Since the beginning of the Weather Net, there have been several ways used to get the information in. Relays are a daily occurrence on 3.945 MHz. Often in the earlier days, it seemed that the only way to send the weather, and be heard was in Morse Code, or as a last resort, to make a phone patch or a long distance phone call which would then be relayed.

In the early days the Weather Service received information from radio-equipped weather balloons and recorded the weather by teletype. Our Net Manager Bill de Wolfe, W0LVI, once had a job repairing teletype machines. William Ray of NOAA in Boulder still remembers working the teletype machines that looked a bit like desks with windows showing through to the roll of paper getting holes punched with sprockets. He typed approximately 75 words a minute on round keys that took a lot of hard pounding to get the machine to punch the holes in the tape.

Pilots and other travelers have listened regularly to the weather net on their radios before they would take off in the morning. Farmers, ranchers, mountain people and the general populace listened also. The need for an accurate local report has been obvious and the work much appreciated by many people in the world at large. It wasn't until the early 80s that we started reporting weather on Sundays.

The next Net Manager was Val Eldridge, K0ZSQ. She ran the Weather Net from 1963 to 1981 with the help of her husband Howard, W0HE. She was a well-organized and amiable person. The group was growing, attaining a membership of around 60 Colorado members and a couple of dozen out-of-staters, some of which have been with us for decades, like Joe of Nampa Idaho, K7CBA. The next Net Manager was Karl, WA0HJZ of Golden Gate Canyon with his wife, Lou, and then came Bill of Thornton, KA0CXW, with his wife Rebecca, and now our present Net Manager, Bill de Wolfe, W0LVI.

In 1968, Bob Swanlund joined the group. His location was the top of Squaw Mountain at 11,440 feet. He and his wife Margaret leased land from the Forest Service, built a stone house up there and began the antenna farm on Squaw Mountain. Up until then, the 2 meter 146.940 repeater had been available only from a building in Denver, but he helped to get the antenna installed above timberline on Squaw Mountain and enlarged the 2 meter net considerably. This caused there to be two nets running at once and so two Net Controls became a necessity. But there were several times when for one reason or another Bob would run both nets himself. He would also listen for weather on a 6 meter repeater that we no longer use, and receive phone patches (although he didn't have a telephone on Squaw Mountain).

We, the Colorado Amateur Radio Weather Net Operators, are proud to be providing this service for the state of Colorado.

This information was provided by Bill DeWolfe and Jane Wodening, both of the Colorado Amateur Radio Weather Net.

This is the first NCARC Newsletter that I have produced as the editor. Please send any corrections or submissions to me at the e-mail address shown on the NCARC Club Information page or to the NCARC, P.O. Box 272956, Fort Collins, CO 80527-2956. The cut-off date for the newsletter is the last day of each month. Any item received after that date will be summarily dismissed or placed in the following month's Newsletter ☺.

WA5VRL
Willis Whatley

A brief Transformer Quiz:

1. A bell transformer reduces the voltage from 120 V to 15 V. If there are 22 turns on the secondary, find (a) the number of turns on the primary and (b) the turns ratio.
2. The 110 V primary of a transformer has 500 turns. Two secondaries are to be provided to deliver (a) 22V and (b) 5 V. How many turns are needed for each secondary?
3. A transformer connected to a 120 V 60 Hz line delivers 750 V at 200mA on the secondary. Find (a) the primary current and (b) the power drawn by the primary and (c) the turns ratio.
4. Find the turns ratio of a transformer used to match a $1,600\Omega$ load to a 4Ω load.
5. The impedance of the output circuit of a power stage is $8,000\Omega$. What is the turns ratio of a transformer used to transfer the power to a 500Ω line supplying a public-address system?
6. Find the turns ratio of a microphone transformer required to couple a 20Ω microphone to a 500Ω line.
7. A 55:1 output transformer is used to match an output tube to a 4Ω voice coil. Find the impedance of the output circuit.
8. Two 2N406 output transistors work in push-pull into a load impedance of $14,000\Omega$. Find the required turns ratio of a transformer to match the output to an 8Ω voice coil.
9. Find the turns ratio of the transformer needed to match a load of $4,500\Omega$ to two 9Ω speakers in parallel.
10. The secondary load of a step-down transformer with a turns ratio of 6:1 is 800Ω . Find the impedance of the primary.

Answers on back of page.

1a. 176 1b. 8:1 2a. 100 2b. 22.7 3a. 1.25 A 3b. 150 W 3c. 6.25:1 4. 20:1 5. 4:1
6. 5:1 7. 12,100 Ω (55)² x 4 Ω 8. 41.8:1 or 42:1 9. 31.6:1 or 32:1 10. 28,800 Ω (6)² x 800 Ω

