

Colorado QRP Club
The Low Down

Promoting QRP Since 1994

Club News...



The 2007-2008
Winter Fox Hunts

40M

The 40M QRP Fox Hunt will begin on Thursday, 11/01/07 and conclude on Thursday, 03/27/08.

Many are called, and many are chosen....

If you would like to be a 40M Fox this winter please complete the 40M Fox Application Form!

80M

The 80M QRP Fox Hunt will begin on Tuesday, 10/30/07 and conclude on Tuesday, 03/25/08.

Information available at :
<http://www.qrpfoxhunt.org>

CQ CQ CQ Net controllers

The Colorado QRP Club is in need of Net Controllers for the Monday night 2M nets. It's easy and it's fun. We provide you with the script and you can take it from there to develop your own "Net-tique". If you live on the Denver Front Range from Ft. Collins to Colorado Springs please consider a try at the mike. Contact Jim Pope - KG0PP at Ejim@aol.com



Colorado QRP Club Rampart Range site 2007

CQC Field Day Colorado 2007

By Vince Kumagai, KI0RB

Colorado QRP Field Day 2007 started easily enough. Past years it has been a scramble to get all the details covered. The biggest concern I've had in the past was the condition of the antenna trailer. This is the single biggest piece of Field Day equipment CQC has to muster. Weighing in at 2200 lbs fully loaded the load out includes 3 crank up towers, a 40m, 20m and 15m beam, several hundred feet of coax and nylon guying rope, and all several pounds of stakes and tie off hardware. Last year the effort was put into finally getting a set of springs and new tires installed. Up till then the trailer was equipped as a solid axle rig which made the last ten miles up Rampart Range Road a "shear" delight for the CQC member driving the tow vehicle. Along with keeping track of the QSO totals Al Dawkins, K0FRP, Field Day Chairman, also kept track of how high we could get the trailer to bounce. The unofficial record has it as "about 6 feet" according

Continued on page 3

For more information, visit our website at www.cqc.org

Issue 62 October/November
2007

Picture credits to
Vince Kumagai - KI0RB
Roger Wendell - WB0JNR
Pete Inskeep - NO2D

Inside:

CQC Field Day 2007--1

The Winter QRP Fox Hunt--1

STOP! Thief- 4

CQC Picnic 2007- 6

Building the Norcal
FCC! and FCC-2- 8

No solderK2 kit-11

Morse Express
Christmas Key 2007-12

Our next Regular meeting will take place Saturday, November 10, 2007 at 10:00 am
Meeting Location: Offices of Milestone Technologies
10691 East Bethany Drive,
Suite 800
Aurora, Colorado



Colorado QRP Club
Post Office Box 17174
Golden CO 80402-6019

The Low Down

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The Low Down

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QRP Information Net: The Colorado QRP Club also meets on the air every Monday evening at 2000 local time on the 147.225 repeater serving the eastern slope of the Rockies from Cheyenne, WY, to Pueblo, CO, with linked repeaters in Boulder (145.46) and Colorado Springs (145.16). Backup frequency: 145.145. The Club's Denver metro simplex liaison frequency is 146.445. Meeting Dates: 2004 Meetings: Jan. 10, Mar. 13, May 8, July 10, Sept. 11, Nov. 13 at a location to be determined. Annual Picnic: Sat. Sept 18, 2004. Annual Banquet: To Be Announced. Changes will be announced on the Monday evening Net and posted on the [WWW,CQC.ORG](http://WWW.CQC.ORG) website, if time permits.

Informal Monthly QRP Gatherings: Members meet informally at a local restaurant -- details on the web-site. Annual Dues: \$12.00. Join via the internet at WWW.CQC.ORG. Or, send dues and requests for membership applications to: CQC, POB 17174, Golden CO 80402-6019.

Internet: WWW.CQC.ORG. Information, membership, renewals, officers, activities, CQC Swap List and CQC-List subscriptions.

Correspondence: Editor, The Low Down POB 17174. Golden CO 80402-6019.

CQC Logo mugs

Don't leave your shack without it!! Vince, our club Secretary, arm-wrestled a half dozen vendors until we got a good deal on a few dozen of these beautiful, cobalt-blue coffee mugs. Get yours while supplies last!!

Photo courtesy Marshall Emm N1FN



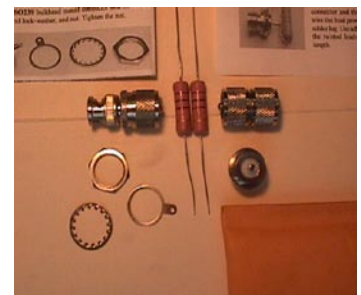
Photo courtesy Marshall Emm N1FN

\$10.00 (Pick one up at our meeting or other gathering)
\$4.00 (Shipping and handling if we mail one to you...)
Order from our web site using our PayPal secure service.

Photo courtesy Marshall Emm N1FN

CQC RFL-10 QRP Dummy Load Kit

The kit consists of 2 5W metal oxide resistors an SO239 socket and includes adaptors for connecting to either SO239 or BNC antenna sockets. Rates to 10W continuous power for at least 60 seconds, with a flat SWR across the HF spectrum.



\$7.00 - Members
(Includes Shipping and Handling!)
\$9.00 - Non Members
(Includes Shipping and Handling!)

New CQC Logo Tee Shirts

These beautiful tees are 100% cotton with the club logo and motto. Your call sign and name call can be added for \$2
Available in sizes XXL, XL, L and M

Photo courtesy Marshall Emm N1FN



Photo courtesy Marshall Emm N1FN

\$12.00 plain or \$14.00 with Call and/or Name
\$4.00 Shipping and handling
Order from our web site or pick one up at the next meeting and please specify size.

Photo courtesy Marshall Emm N1FN

Tentative Meeting
Schedule for 2007:

Sept 9 - Picnic@QTH KG0PP
Oct 13 - Chat 'N Chew
Nov 10 - Regular
Dec 8 - Chat 'N Chew

Regular Meeting Location:
Offices of Milestone Technologies
10691 East Bethany Drive,
Suite 800
Aurora, Colorado

CQC Field Day 2007

to Al. I am happy to report that the new springs and genuine trailer rated tires make that a thing of the past. However, FD day 1 turned up a surprised when after arriving at the Rampart Range site we came to discover that someone had stolen the 20m beam and the elements from the 15m beam and a 15 element. A 2m yagi was also missing. Speculation has it that a "midnight recycler" made off with the aluminum pieces and most likely sold them to a scrap yard. The CQC Rampart team under the direction of Paul Beckett, KF7MD, was able to cobble together the remaining parts into a functional 15m and 20m beams. On 40m Paul put up a 2 element delta loop strung from the vacant 40m tower.

I did not remain at the Rampart Range site for the weekend. I only went up on Friday as part of the antenna crew. Day 2, Saturday, I rode my bike out to the CQC Aloha site at Cherry Creek State park with is about 6 miles from my house. CQC Aloha made it's return this year under the direction of Aloha site chairman Dick Schneider, AB0CD. This year's Aloha site was great. CQC reserved the Cherokee camping area and had access to 6 RV pads and an equal number of tent sites. I arrived mid afternoon to find the site up and running. The antenna farm included a Gap Titan and inverted Vee for HF and a 3 element yagi for 6m. The Aloha site was manned by a majority of the CQC executive staff including Pete Inskeep, NO2D, President, Scott Garcia, KC0HSV, CQC VP, Vince Kumagai, KI0RB, and Secretary. Roger Wendell, WB0JNR, Treasurer also on bicycle mobile stopped by to take pictures and drop-in operate for bit.



Colorado QRP Club Aloha@Cherry Creek State Park 2007

Stolen Antennas from our Field Day Trailer

Al Dawkins K0FRP FD co chair with KF7MD

Frank K0FEI arrived at the back parking lot of MorseExpress where our FD trailer was stored 352 day of the year. Frank and I noticed that some of the 432 and 2 meter antennas were not on the top rail of the trailer. Maybe Vince took some of the stuff off the trailer that we never used. I checked and see the 20m boom yep everything seems good. Frank hooked up and pulled away with the trailer.

I had a few more things to pick up and did so and headed for the hills.

Upton arrival Paul KF7MD said “Guess what no 20 m elements and no 15 m boom”.

What I said !!, after further discussion we were missing the whole top tier of the trailer.

All toll the missing antennas were:

Not used

2 meter yagi

432 yagi

3 el tribander TH-3 JR

3 el tribander Mosley 3 el

What's left

2 50 ft crank-ups

1 35 ft crank-up

20 meter boom 26 ft

4 15m elements

A true Field Day is to improvise with what we had left.

Paul had a tree el delta loop for 20m tucked away in his FD stuff.

We put the 4 15m elements on the 20 m boom and raised the 20m crank-up tower.

We shorted the spacing just a bit for the reflector and director and it seemed to resonant fine.

We erected the 15 m tower and used it to support the 3 el delta loop pointing east and a single loop north/south. The tower also served as a support for the single el 40m loop and the center of the 80 m dipole.

That's the best we can do and it worked out well with 1285 Q's.

Continued on page 5

Gary Breed K9AY who designed the antennas for the previous K0NA Field Day dynasty On Rampart range. I will be contacting him to see if the original design still exists.

The 2 yagis were designed for low front to back which did sacrifice gain but enabled working off the back side of the yagi possible.

Jim KG0PP has donated 2 yagis a 3 el 20 and a 3 el 15m. We will probably add a 4th element to the 20 m and add length to the 15m boom.

We did use the tribander when we entered 3A battery using the tribander on SSB. We normally run CW 100% in the bottom of the sunspot cycle on 80 to 15m, but add a 3rd station at the top of the cycle when 15/10m are open all day.

We will not miss the 2m and 432 antennas but sorry they did not go to a good home instead of the recycle plant as we assume in this day and time of cashing in on recycled aluminum. We assume that's where our aluminum went, chopped up and sold as scrap.

We have no idea when this theft occurred but you will see by the results we will prevail. The competitive site still prevails and overcome adversity.

Given the magic site, great cw operators and the competitive attitude to do with what we have is the answer.

Disclaimer "Field Day is not a competitive event". WHAT !!! That's why we have a competitive CQC Field Day and a laid back Field Day. See you in June 2008.



Trailer "Lite"

Colorado QRP Club Has QRO Attendance

by Pete Inskeep NO2D

The Colorado QRP Club (CQC) held its annual picnic on September 8, 2007. This year Club members cajoled Jim Pope, KG0PP into making his 5 acre spread available for the picnic. In lieu of the usual hot dogs and burgers, Jim and Dennis Davis, KC0PEH, smoked up a storm of barbecued ribs, chicken and pulled pork using a secret mix of sauces, the ingredients of which are known only to Jim. The attendees provided side dishes, desserts and refreshments.

Jim was “volunteered” to host the picnic not only because his ranch is a great venue for a picnic, but also because the Club members were eager to see his collection of pristine used ham radio gear. Jim’s ham shack is unique in that it is located in several different areas of his home. Shelf after shelf of radios “to die for” line the walls of each of his shacks. Additional shelves hold a wide variety of accessories and literature. As we were cleaning up at the end of the picnic Jim said, “...and you did not even get to see the whole QRP collection!”

As Club members, spouses, significant others and children were finishing dessert, Club Secretary, Vince Kumagai, KI0RB, presented the plaque to Al Dawkins, K0FRP, for his Colorado first place finish in the QRP division of the November Sweepstakes. . Al is also a Co-Chair of the Club’s “competitive” Field Day site. CQC is a perennial top tier finisher in the 2A QRP division of the ARRL Field Day “non-contest.”

Next we held the “Left Foot CW Keying Contest.” An infernal keying machine, created by Marshal Emm, N1FN, is annually hauled out of a padlocked closet for this contest. It consists of a long board with a rococo gas pedal at one end, and a spring and key to drive an oscillator. Each contestant must send a specific message using her or his left foot (or right foot, if left handed). Contestants are judged on accuracy and speed, as well as “presentation.” Presentation consists of not looking like an idiot while awkwardly stomping on this contraption with one foot. This contest was won, foot down, by Vince KI0RB, while Frank, K0FEI, and Pete, NO2D, tied for second.

The second competition was more technical and skilled. Al, K0FRP, gave each team a like sized piece of wire. Instructions were to cut the wire to the correct length to make a quarter wave antenna for 24.9 megahertz. No measuring devices, other than body parts, could be used. Al, K0FRP, “The Judge,” measured all the wires with a tape measure. Lou Warshawsky, KC0ZMO, and teammate Sarah won top honors, missing the correct length by only $\frac{3}{4}$ of an inch! Their prize was a solar powered flashlight. We are still scratching our heads on how a solar powered light works in the dark!

The Colorado QRP Club sponsors a web page, www.cqc.org, which contains a wealth of information about the Club, as well as links to many other ham radio sites. This web site is designed and maintained by our Club treasurer, Roger Wendell, WB0JNR. It is well worth checking out on a regular basis. The Club meets on odd numbered months, and holds a “Chat & Chew” informal luncheon gathering on even numbered months. CQC also sponsors two short QRP contests each year. These are the Great Colorado Gold Rush in August and the Great Colorado Snowshoe Run in

December. Membership information and applications are available on the www.cqc.org web page.

CQC also publishes a periodic QRP Newsletter, the "Low Down," which is available to members either via the internet or via hard copy. Vince is the "Low Down" editor. As well, CQC is the sponsor of the QRP Foxhunts, which are a real test of QRP skills, especially during this low period in the Sun Spot cycle.

The third picture [See picture P3.jpg] shows several of the Club members admiring some of the gear that the Club is helping the family of Club founder, Rich High, W0HEP (SK), dispose of. At the center of the picture Club Vice President, Scott Garcia, KG0HSC, admires one of two Drake 2B receivers from Rich's collection. Vince, and Dick Schneider, AB0CD, are coordinating the sale of the equipment. Dick is also our "Aloha," or fun QRP Field Day site.

What made this picnic so special for the Club was being able to share our ham radio hobby in an enjoyable and social way with other family members and friends, many of whom don't often get a chance to meet and talk with other hams and family members in the Club. Everyone is already looking forward to next year's picnic.

Pete Inskeep, NO2D, President, CQC.



Jim KG0PP, Vince KI0RB and Barb XYL enjoy some BBQ and cajun.



Vince KI0RB (right) presents Al K0FRP (left) the ARRL Sweepstakes 2006 Single Operator QRP Colorado section plaque.

The award was sponsored by the Colorado QRP club.



Frank K0FEI displays his "fist" errr "foot".



"Hey buddy, want to buy a radio?"
Dick AB0CD displays some items from the Rich High W0HEP estate. sale.

Building the Norcal FCC-1 and FCC-2

Al Dawkins K0FRP



The FCC-1 is a very flexible Frequency counter using a nonvolatile EEPROM and a 2 line 16 character display. The display is a bit small compared to big radios or the 7 segment led displays but being backlit it is very readable even for my aging eyes.

The FCC-1 alone is a counter from 500 Hz to 50 MHz with a 30 mv input sensitivity. A pre-scaler can be added to count up to above 2 GHz. Jackson Harbor kits has a pre-scaler for \$10 plus \$2 S/H.

You can program the readout to read any radio VFO IF combination.

Resolution of 1 HZ, 10 Hz and an IF offset fro 0- 268 MHz.

The kit uses discrete parts (no SMT) and of course a box must be chosen to meet your needs. The kit is \$35 and easy to build, I built it in a few evening hours while in South Carolina it sat for a while waiting for the FCC-2.



When the FCC-2 arrived, I saw all the SMT parts and waited until I went home and brought back my solder station and magnifier head band.

The FCC-2 plugs into the FCC-1 and is a DDS VFO. The FCC-2 is also \$35 but does not come with the AD9834 DDS chip. You may order it with the kit for \$15 more or get 2 AD9834 chips for free as Analog Devices samples. It's easy to get these samples and they arrived before the FCC-2. As I said before this kit is all SMT and you can see by the picture there are many parts to place on the board. There is a new EEPROM to place into the FCC-1 to support the FCC-2.

I was mounting one of the LT1395 op amps and it just flipped out of my tweezers and it was gone. If your construction area has carpet, forget trying to fine parts. The project final was delayed by ordering samples from Linear Technologies.

The AD9834 is about ¼ inch on a side and has 10 leads on each side. I blob solder each side then use solder wick to pull the solder from between the leads and leaves the leads soldered. I used 2 methods to solder the SMT parts. One is to use a toothpick and a very small dab of super glue and glue the part to the board then solder. Later I tinned the part on both connection areas the used a tweezers to hold the part the soldered the part to the board. By tinning, the solder flowed onto the board very nicely without adding any more solder. There are kit builders out there who will mount the SMT parts. I do not know what they charge. Sent Mike WA6OUW wa6ouw@aol.com.

Now what do I have with the FCC-2.

I have the same capabilities as the FCC-1 but I also have a DDS VFO from DC to 20 MHz. The VFO uses

a shaft encoder and provides CW and RTTY support. The firmware supports all bands from 160 to 2 m. The FCC-2 provides dual VFO's, RX VFO and the other TX VFO, 10 freq memories. fast TR switching, RTTY transmit using MMTY software to generate the FSK shift using TXD and RTS from the computer com port.

The Hi Z output is 600 ohms specifically designed as an audio generator. It's output is DC to 18MHz. Use this to test audio amps, audio filters and bandpass filters.

The lo Z output of the FCC-2 is from 3 to 25 mw. Real QRPp but I'll refer to that later.

Now the search for a case. LMB has sloped panel metal cases but they were over \$20 painted. Plus to get the FCC-2 into the sloped part of the case, I needed a case over 9 inches deep. Keep searching. I found PacTec

<http://www.pactecenclosures.com/Plastic-Enclosures/XP-Series.html>

These XP series look like a hand held test instrument with a rubber boot and stand. Available in Black or PC Bone (beige) 5.5 in X 3.6 X 1.1 inches. The price \$13.29 but again FREE SAMPLES. I got 2 sample cases, one with a battery compartment, which would not work, not enough room. The case is very close to being too small but it all fit but tight. It took a lot of measuring, filing, Dremel tool cutting to get it to fit. The board is NOT mounted it sits in place and I used a piece of foam to hold the board. It is very stable and the board will not move.

Now back to the RF output. Beta testers have made QSO's just using the output directly into an antenna. I thought about using an amplifier but using it to key a transmitter would be much better. I have an One'r, which I've used in many QRP contests, crystal controlled. This DDS VFO works very nicely as a vfo. Use this to drive Tuna Tin's, Universal Transmitters, Pixie II etc. The best is using it to drive crystal controlled tube type transmitters. I have a 6T9 tube transmitter and it works on any of the WRL, Heathkit, Johnson, Eico, Knight kit transmitters. N4QA has used his FCC-2 to drive a Knight T-60 and even use it on 6m using 8.35 MHz multiplied up to 50.100.



This is a fun project and the possibilities are endless.

Have fun building

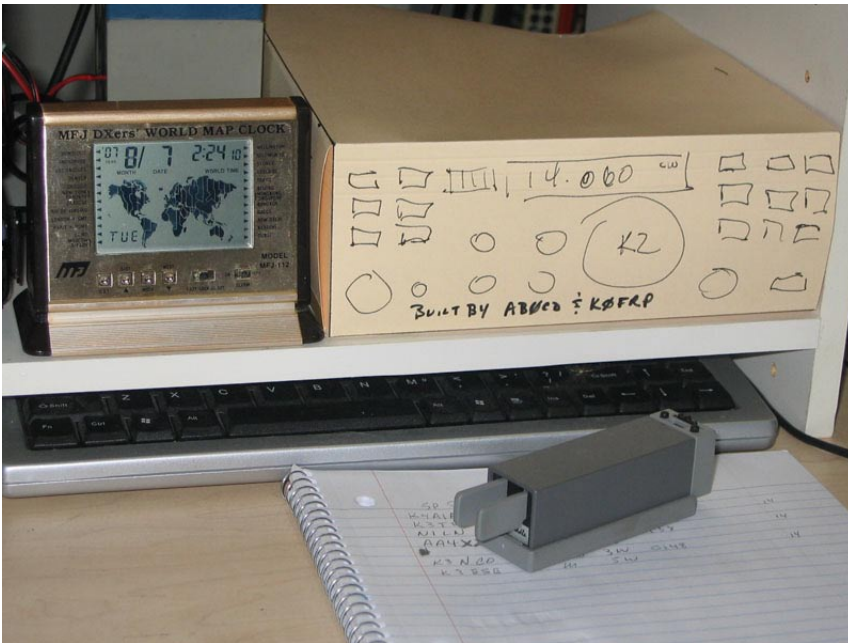
Al K0FRP

Stories and pictures for the CQC Low Down are provided by CQC Club Members. Please consider sharing your QRP experience with other members and friends. All stories are welcome and appreciated. They can be submitted to KI0RB@arrl.net

CARDBOARD K2

CUTLINE INFO:

A Palm Keyer-Paddle keeps a close eye on AB0CD's Cardboard K2 placeholder rig, which, with its 180-foot long dipole made out of string, has not worked one single station. The cardboard K2 (officially the C-K2) is available in kit form from the Colorado QRP Club. The kit consists of a manila file folder, a pair of scissors, a black Sharpie pen and a few staples. The Palm Keyer-Paddle and the C-K2, acting as a shack placeholder, are anxiously awaiting completion of the longest (real) K2 building project in Elecraft history. AB0CD bought and started the rig, then got distracted with business and graduate school. K0FRP picked up the ball earlier this year and is completing the K2, one of the beta test build units - serial no. 74. Photo: AB0CD



DONATIONS for the CQC Garage Sale.

Let the Colorado QRP Club help you clean your shack.

Donations to CQC are used to sponsor club projects and activities such as the ARRL Sweepstakes Awards and PPRAA Summer QSO Party awards. If you are clean out the shack and would like to donate equipment contact Vince Kumagai, KI0RB, at KI0RB@arrl.net. The Colorado QRP Club is listed with the Colorado Secretary of State as a "Not for Profit" organization. Donations may be tax deductible. Check with your tax preparer for details.

Amateur Radio NEW PRODUCTS

Morse Express has released its seventh annual Christmas Key.

The 2007 Christmas Key is a fully operational miniature Marconi style telegraph key, hand machined from solid brass, under-plated with nickel and finished in 18 carat gold. It is mounted on an ebony base which measures 2" by 1" and weighs a surprising 3« ounces. All of the usual adjustments (trunnion bearing tension, lever spring tension, and contact spacing) are available by means of gold plated screws with matching locknuts, and the sculpted ebony knob is very comfortable to use.

According to Marshall Emm (N1FN) at Morse Express, a distinguishing feature of Marconi keys was the presence of contacts at the front and rear of the key. When you close the key, the rear contacts open an instant before the front contacts close, an arrangement that is very useful when a separate receiver needs to be muted.

The base of each key is engraved with the Morse Express "Speedy Key" logo and "Christmas 2007." The Christmas key will add something special to straight key operations through the Holiday season and Straight Key Night.

This is a limited edition of 200 keys, and each key bears an engraved serial number on the base. The 2007 Christmas Key is \$79.95, plus s/h, and is available only from Morse Express. Pictures and more information are available on the Morse Express web site at www.MorseX.com where you will also find secure ordering facilities.

Call (800) 238-8205 toll free to order by phone, or (303) 752-3382 for more information.

