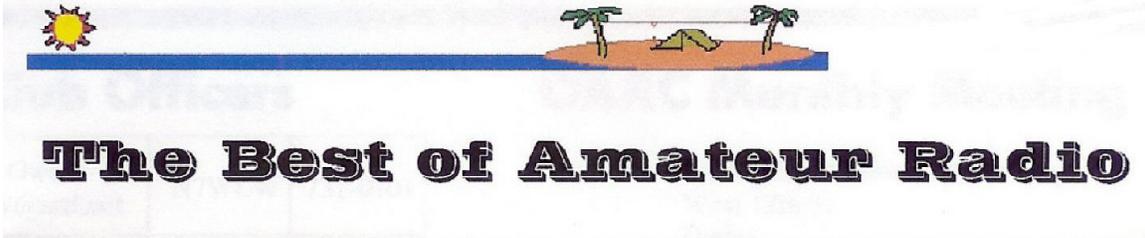




WATTS NEWS



Welcome to the OARC e-Magazine

www.OgdenArc.org

JUNE 2006

Next Club Meeting

4th Sat & Sun June 24 & 25, 2006

Topic: ARRL - Field Day Activity



Mike Fullmer KZ7O
President



Kent Gardner WA7AHY
Vice President



Chad Roylance KD7WQS
Secretary



Jim Southwick N7JS
Treasurer



Charles Horn KD7SST
Director #1



James Clarke KD7SWL
Director #2



Gary Liptrot N7ZI
Past President - Advisor



Val Campbell K7HCP
Webmaster/Editor

PREVIOUS CLUB MEETING

3rd Saturday May 20, 2006
APRS - Greg Lundell K7UHP

It was 9:00 am when our Club President, Mike Fullmer KZ7O, called the meeting to order and initiated something new to the club by asking all in attendance to stand and announce their Name, City & Call Sign. It was great to be able to associate a name/call to a familiar face for the members and visitors that we may not have previously known quite so well as others.

Mike made several announcements, one of which was regarding the recent off site club activity, the 7th Call Area QSO party (7QP). Several club members met at the QTH of Earle Sanders where we had the luxury of operating his maximum legal limit station feeding a multi-element, multi-band beam antenna at 100'. A lot of fun was had by all that attended. We racked up an amazing 109 QSO's for 7194 points in the contest, placing us near or possibility at the bottom of the ranking of those who were truly competing. But what-the-heck, we did it for the fun of it, not to win anyway. Thanks to Earle for sharing his home and station with us for this special event. Mike reminisced about the profound success of the Northern Utah Hamfest, held in South Ogden last April. Lastly, there was considerable discussing about OARC's Field Day activity coming up the 4th weekend in June. Check the website for dates, time and details. Hope to see you there.

As usual, we held a drawing for several door prizes and one for the newest ham in attendance. He was so new to the hobby that he repeatedly had to keep looking at his FCC license to remember his call sign. We welcome the Newest Ham in attendance = KE7HPQ (Bill). Other door prizes went to the following hams:

[N7VVW - Steve](#), [AD7HI - Dan](#), [W0KP - Stan](#), [AC7QO - Dave](#), [AF7J - Tom](#), [KE7EOZ - Emilse](#), [WA7AHY - Kent](#)

We had a very special guest presentation for the meeting this month. As you can see from the sub-title above, Greg Lundell K7UHP shared his talent and experiences with a communication technology called Auto Position Reporting System (APRS). First let me tell you that Greg is a Utah Highway Patrol officer, badge and license tag number 138, so be on the lookout for him as you travel the Interstate Highway systems of Utah. Greg has a rather unique situation in his job as a public safety officer and as a licensed radio amateur operator in that he has been successful in combining some if the elements of both interests while on the job as well as when he is off duty.

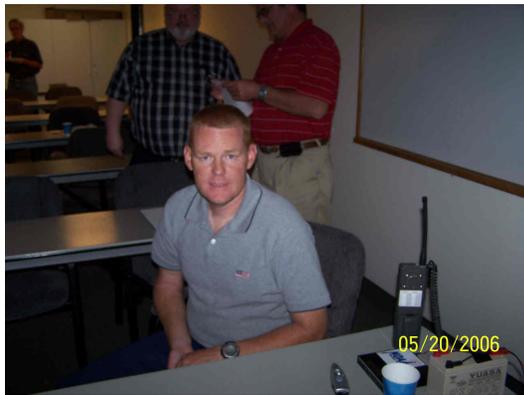
Amateur radio APRS operates on VHF 2-meters digital frequencies using simplex repeaters or "Digi's on the national APRS frequency of 144.390 Mhz. Hams can configure a mobile GPS unit to a Digi-repeater that continually transmits their Lat/Long coordinates to an APRS fixed station that in turn places the mobile station call sign and location on specific internet mapping sights for the rest of the world to track and follow. For example, Tim KE7DOA, a previous club member, just moved from Weber County back to his home state of Florida. While in route he continuously transmitted his travel progress to interested fellow hams and friends. You can also send and receive text messages to/from APRS stations. Others in the audience (you know who you are) expressed an interest in putting a Digi in their teen-agers (sons/daughters) car to track their whereabouts when they're out driving about the neighborhoods or where ever they may be going. Very interesting concept - wouldn't you say? By the way, if you choose to do this, Greg K7UHP will be watching also.

Check "AR HOBBY NEWS", later in this newsletter, for additional APRS information (handouts) and APRS links provided by Greg Lundell. Thanks Greg for the very interesting presentation.

Until next month,
73, Val Campbell K7HCP

CLUB MEETING PICTURES GO HERE

(More pictures on OARC web site "Photo Gallery")



Ham Radio Licensing - Code Free Technician Class

The class was a great success!

- 28 attended initially
- 20 completed the class
- 32 tests administered
- 19 new Technician licenses issued

Sponsored by OARC club vice president Kent Gardner WA7AHY and South Ogden Stake of the Church of Jesus Christ of Latter-day Saints Emergency Communications Specialist.

Class Schedule: (7:00 pm to 8:30 pm)

- Wed 26 Apr 2006 at 7:00 PM
thru
- Wed 31 May 2006 at 7:00 PM

Class Location:

- South Ogden Fifth Ward Church
4380 Orchard South Ogden, UT 84403

VE Test Session and Location:

The June VE test session location was relocated from the Weber Center to this class location to accommodate all those taking the class.

VE Test Session

June 07, 2006

Mary Hazard (VE Liaison) reports the following VE Test Session activity.

- 19 new Technician licenses issued.

New License or Upgrades

Congratulations to the following Amateur Radio Operators who were recently licensed or upgraded to a higher class license.

- | | | | |
|---------------------|--------|---------------------|--------|
| • Cathy Ashman | KE7IFG | • Don P. Hopfenbeck | KE7IFA |
| • Jeffrey Ashman | KE7IFH | • Jason M. Miles | KE7IET |
| • Chazz D. Berglund | KE7IER | • David T. Perry | KE7IFF |
| • David A. Berglund | KE7IGF | • Jacob D. Perry | KE7IFC |
| • Robert B. Blass | KE7IFE | • Larry D. Savage | KE7IEX |
| • Linda L. Cammack | KE7IFB | • Charles E. Uibel | KE7IEZ |
| • Ceva G. Cottrell | KE7IEV | • Brett M. Webster | KE7IES |
| • Marian Crawford | KE7IFD | • Kellie J. Webster | KE7IEY |
| • Layne C. Ferrin | KE7IEQ | • Carol A. White | KE7IEW |
| • Steve Hawkins | KE7IEU | | |

Thanks to the following VE's who assisted during the examination session:

- | | |
|----------------------------------|---------------------------------|
| • Mary Hazard, W7UE (VE LIAISON) | • Gary Liptrot, N7ZI |
| • Brad Bate, N7SWW | • Kim Owen, KO7U |
| • Alan Bryner, KK7UD | • Stephen Mike Stanford, WB7TSQ |
| • Clifton Jenkins, N7ZTY | • Kenneth Wilson, N7OG |

A Message from our President

Mike Fullmer KZ7O



Summer is here, the warm (hot) weather has hit. This is perfect weather for outdoor antenna work but it is also a busy time for yard work which is why we should always wait until winter to do the antenna work. It is just part of the antenna "black magic".

Mays club meeting on APRS went very well. I really appreciate Greg Lundell K7UHP coming and doing this presentation for us. I have reserved the Riverdale fire station for our club meetings for the rest of the year. Riverdale has been very accommodating to us and I really appreciate this.

The next club meeting is Field Day. This is back at the same location as last year which is in Eden, near Pineview. See the web site for directions. We invite everyone to come visit us. There will be a Dutch oven dinner in the evening for all who show up. We ask that you bring a dish to share of something such as a salad or desert. The club will provide the chicken and potatoes from the Dutch ovens. Come up and operate a radio. We will have two radios operational on HF. We are at the bottom of the solar cycle right now so

signals are a little weaker but there will still be plenty of contacts to be made.

Speaking of field day, the club sold the 4000 watt generator last fall and we just purchased a little 1000 watt one. We will get to break it in at field day. We will have the little generator and batteries to power the radios.

There is no regular club meeting this month, just field day.

To keep everyone up to date, the August barbeque or steak fry is August 19. We have reserved the Riverdale Park bowery, just 100 yards to the north of the Fire Station where we have been meeting. The August meeting is also elections for next years officers, so please be willing to volunteer or at least accept a position if someone volunteers your name. It really is not that hard to be an officer. It does take some time, but the duties are fairly well outlined and are not really that hard.

Well, that's it for this month, have a great summer.

Mike, KZ7O

Repeater Update

There is no news to report about the repeaters. As far as I am aware, nothing has changed this past month. There is some work that needs to be done on Mt Ogden, but access is difficult right now. The snow drifts are still very deep at the top and the bottom of the road is dirt. Last year there was only a 6 week window that a 4 wheeler could get to the top. The snow drifts were real slow to melt and we had an early snow storm at the top the middle of September. It has been warmer this year so the snow has melted more but we will have wait to see how soon the road gets opened to the top.

Mike, KZ7O

CLUB NEWS

Next Club Meeting

When: 4th Saturday & Sunday June 24 & 25, 2006
Time: 12:00 PM Sat thru 12:00 PM Sunday
Location: Eden Utah Field Day Camp Site
Topic/Activity: ARRL Field Day
Talk-in: -146.82 (pl=123) <<< for Field Day

New/Changed Call Sign Activity

Congratulations to the following Amateur Radio Operators who recently changed their call signs.

- Michael Webster N9NZ (previously KD7BIS)

MORE CLUB NEWS

Another OARC member has been published. Yes, Kim Owen KO7U wrote an article about the Hydrogen Fuel Cell that he displayed at the 2005 Northern Utah Hamfest and the 2005 Davis County Amateur Radio Club Field Day event. QST just published his article in the June 2006 issue, page 44. You can see the article in full, in this months newsletter - Feature Article, below.

Congratulations Kim. Good Job!

Good News for Hams over 30 years of age

Chronological Age	Celsius Age
32.0	0.0
33.0	0.5
34.0	1.1
35.0	1.6
36.0	2.2
37.0	2.8
38.0	3.3
39.0	3.9
40.0	4.4
41.0	5.0
42.0	5.6
43.0	6.1
44.0	6.7
45.0	7.2
46.0	7.8
47.0	8.3
48.0	8.9
49.0	9.4
50.0	10.0
51.0	10.6
52.0	11.1
53.0	11.7
54.0	12.2
55.0	12.7
56.0	13.3
57.0	13.9
58.0	14.4
59.0	15.0
60.0	15.5
61.0	16.1
62.0	16.6
63.0	17.2
64.0	17.7
65.0	18.3
70.0	21.1
75.0	23.8
80.0	26.6

AR HOBBY NEWS

APRS by Greg Lundell - K7UHP

History of APRS

- <http://web.usna.navy.mil/~bruninga/aprs.html>

APRS Software

- <http://www.aprs.net/vm/index.htm>
- <http://www.tapr.org/tapr/html/gpsf.html> (Scroll down left side of page to APRS Software Library)
- <http://www.uiview.net/>

APRS How-to Links

- <http://www.aprs.net/vm/index.htm>
- <http://www.aprs-is.net/javAPRSSrvr/javaprfilter.htm>

TinyTrak3 Kit (Tiny Tracker III)

- <http://www.byonics.com/tinytrak/index.html>

FindU

- <http://www.findu.com> Java scripts to locate stations and observe weather trends
- <http://map.findu.com/callsign-??> Locates station via callsign with suffix

APRS Net (Internet Tracking)

- <http://www.aprs.net> (Java maps of local traffic)

Other APRS Internet Software

- APRSSoft
- WinAPRS
- APRS Plus (Street Atlas)
- UI-View (most popular – includes MAPs)
- Waypoint (Garmin)

Ex-Ham Gerritsen Convicted in Federal Court

Jack Gerritsen of Bell, California, who was briefly licensed as KG6IRO, was convicted in federal court in December on six counts related to unlicensed radio transmissions and interference with emergency communications. According to a Justice Department news release, the jury deliberated for less than an hour before returning guilty verdicts on all six charges. Gerritsen, who represented himself at the trial, was convicted of interfering with a Coast Guard search-and-rescue operation, interfering with American Red Cross radio operations as the agency prepared for disaster relief operations, and causing the cancellation of an Army Reserve homeland security training exercise by interfering with MARS (Military Affiliate Radio System) communications. Gerritsen had previously served a year in prison in California after being convicted on state charges of interfering with radio communications of the California Highway Patrol. He is due for sentencing on the federal charges on March 6 and faces a maximum possible penalty of 15 years in federal prison. In addition, the FCC has fined Gerritsen \$42,000 for violations in connection with the interference cases.

FEATURE ARTICLE

QST June 2006 pp.44

No fueling: Field Day with Hydrogen

By Kim Owen, KO7U

A hydrogen fuel cell that powered a Utah clubs CW station last FD was so quiet it shared quarters with the ops. The half gallon of water it generated as waste was a bonus.

The day was warm in the high thin air and the nights were chilly (in the 40s) on June 25, 2005. Yes, it was Field Day, and we were at 8978 feet in the Wasatch-Cache National Forest, the traditional FD location for the Davis County Amateur Radio Club (DCARC). In this rustic setting, about 50 hams and family members assembled to operate SSB, CW, PSK and GOTA stations.

The site does not have any power, water or restroom facilities, so we brought our own. Camping gear, generators, batteries, radios, antennas, cable, grab-n-go kits and, most importantly, "KR7APR," the club's porta-potty on wheels complete with an antenna on top, were hauled up to the site. The latter was pulled up by Dion Dostaler, KC7VTC, with his Hummer, a photo moment not captured.

Trailers, campers, motor homes and tents were assembled along the trees in the shade. Coaxial cables from the radios to antennas were lying on the ground. Towers were raised and wire antennas were strung through the trees. Twisted pair wires connected the three logging computers forming a network. Power cables were strung from the generator to station sites.



Jim Ratti, AF1JR, at the entrance to the CW station trailer. We consumed about half of the hydrogen from one of the two cylinders.

Fuel Cell Power

A hydrogen fuel cell powered our CW station during the entire 24 hour event. We felt that the heavy duty cycle and switching of a CW station would be the worst environment that the fuel cell would see in Amateur Radio.

The hydrogen fuel cell is more descriptively called Photon Exchange Membrane (PEM). This cell was manufactured by Ballard Power Systems Inc, of British Columbia (www.ballard.com). The cell delivers 1200 W or 46 A at 26 V dc for a minimum of 1500 hours, which is just over 2 months. Unloaded, the output voltage is about 45 V dc.

We used a dc/dc converter for regulation that met the specifications of a typical HF radio running 100 W. The input voltage range is from 20-50 V dc with an output of 13 V dc at 20 A continuous.

It is unfortunate that the dc/dc converter was only designed for one station because there was more than enough power for two HF stations.

The fuel was contained in a K size bottle of hydrogen gas. A K size bottle is about 4 feet high. The bottle contained a pressure of 2000 PSI. To meet the lower input pressure requirements of the fuel cell, we used a regulator and set it at about 20 PSI. The cell will accept gas pressure at 10 to 250 pounds/in². We consumed about 1100 PSI from one bottle over the 24 hour FD period. We expected the output power performance to be degraded because of the thinner air (oxygen) at the high altitude. On site, we could not see noticeable differences from the performance we had seen at an earlier test at an altitude of 4500 feet.

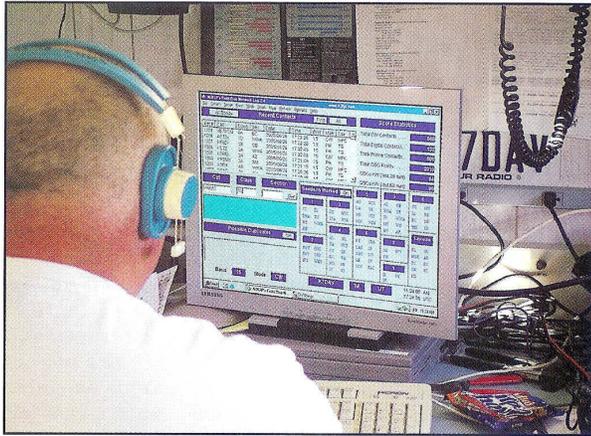
The cell is much quieter than a generator. In fact, we kept it in the same trailer as the CW equipment and operators. The footprint is also very nice. It is less than 24 x 12 inches, just over a foot high and weighs about 29 pounds, much less than a full size battery.

This fuel cell requires a computer and 18-28 V dc to start up and shut down. The software that came with the cell provided ample information about the various parameters, like output current and voltage, fuel consumption, temperature, oxygen, and clear text error codes. There are built in safety features to protect both the system and people. For example, a hydrogen detector will shut down the system if dangerous levels are found.

The operational environments are very broad. The cell will operate from 37-86°F and 0-95% humidity. The only thing missing is a bucket to collect the waste. The waste, of course, is water and we made about a half gallon.



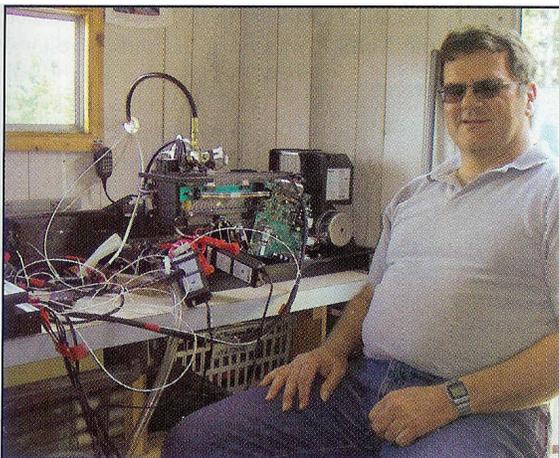
ARRL Section Manager Mel Parkes, AC7CP, at the CW station. The hydrogen fuel cell is at the right.



With 30 minutes to go, Lou Little, WA7JOF, logs another one. The fuel cell powered the CW station for the entire FD period.

Hydrogen fuel cells are environmentally friendly and provide a highly efficient source of power. Though there are other fuels besides hydrogen for fuel cells, hydrogen is the world's simplest and most ubiquitous element. Hydrogen can be easily extracted from water, propane and natural gas, to name a few.

The fuel cell operated beyond our expectations. The altitude did not seem to be a problem. It will perform well as an alternate power source for Amateur Radio emergency communications. Based on our experience, the model we used at Field Day could provide power for multiple HF and VHF/UHF radios.



Author Kim Owen KO7U takes a break inside the CW trailer.

Photos by the author.

Kim Owen, KO7U, received his Novice license, KB7NQG, in 1991. He now holds an Amateur Extra class license. He participates in ARES and RACES, and belongs to two clubs, DCARC and the Ogden ARC, and as a Volunteer Examiner supports both clubs' test sessions. Kim operates HF SSB and PSK, and finds CW "very relaxing". Aside from Amateur Radio, Kim loves to play guitar (classical and finger-picking styles) and tennis. He and his wife Beth have five children. Kim is an electronic engineer who has worked for the Air Force for 20 years. You can reach the author at 3914 White Rail Ln, West Haven, UT 84401; ko7u@arrl.net.

ANNOUNCEMENTS

Next Club Meeting:

4th Sat-Sun June 24-25, 2006

- The Ogden Amateur Radio Club meetings are usually held on the 3rd **Saturday** of each month.
- **Time: 12:00 PM Sat - 12:00 PM Sun**
- **Location: Eden Utah Field Day Camp Site (see website for map)**
- **Topic/Activity: ARRL Field Day**
- **Talk-in: -146.82 (pl 123.0) (for Field Day)**

Check OARC web site for details
www.ogdenarc.org

- Please invite a friend to join you. You do not have to be a member of the club to participate in our club meetings or activities. We invite all to join us.
- If anyone is interested in doing a presentation on something or just have something unique to show at the meetings.
- Please get a hold of any of the officers and let us know.

Next Weber Co VE Test Session:

October 04, 2006 (Wednesday)

- Exam sessions are held in Ogden every few months, *usually* the first Wednesday in February, June, and October.

Time: 05:00 PM *Walk-ins allowed*

Location:

**WEBER CENTER
2380 Washington Blvd,
Room # 112
OGDEN, UT 84401**

Contact: VE Liaison:

Mary Hazard w7ue@arrl.net (801-430-0306)

Cost: \$14.00

Two forms of **ID**, one of which must be a **picture ID**.
For "Upgrades" bring current **license** and a **copy** of current license, and any **CSCE's**

Most **calculators** allowed. Calculator memories must be cleared before use.

Club Web Site

Be sure to visit our club web site.

- www.OgdenARC.org

Club membership is open to anyone interested in Amateur Radio. You do not need an amateur license to join us. Dues are used to operate the club, field day activities, and repeater equipment maintenance.

You do not need to join the club to participate with us.

Club Call Sign

Listen to the club repeaters for this very familiar CW ID. You do know Morse Code don't you?

- **W7SU**

ARRL Field Day is held on the last full weekend of June every year.

Location may vary each year so watch this notice for details as time draws near.

See you there.

OARC REPEATERS			
FREQ	CLUB	TONE	LOCATION
146.820-	OARC	123.0	Mt Ogden
448.600-	OARC	123.0	Mt Ogden
146.900-	OARC "Talk-in"	123.0	Little Mtn (w/auto patch)
448.575-	OARC	100.0	Little Mtn (w/auto patch)

OTHER AREA REPEATERS			
FREQ	CLUB	TONE	LOCATION
146.620-	UARC	none	Farnsworth Pk
147.120+	UARC	100.0	Farnsworth Pk
449.100-	UARC	146.2	Farnsworth Pk
449.500-	UARC	100.0	Farnsworth Pk
147.040+	DCARC	123.0	Antelope Isl
447.200-	DCARC	127.3	Antelope Isl
449.925-	DCARC	100.0	No Salt Lake
145.290-	UBET	123.0	Brigham City
145.430-	UBET	123.0	Thiokol
448.300-	UBET	123.0	Thiokol
146.640-	BARC	none	Logan
146.720-	BARC	103.5	Mt Logan
147.260+	BARC	103.5	Promontory Pt
449.625-	BARC	103.5	Mt Logan
145.250-	WSU	123.0	* coming soon
449.250-	WSU	123.0	* coming soon
145.490-	K7HEN	123.0	Promontory Pt
146.920-	N7TOP	123.0	Promontory Pt
449.775-	N7TOP	123.0	Promontory Pt

AREA CLUB MEETINGS & WEB SITES

CLUB	WEB SITE	DATE/TIME	LOCATION
Ogden ARC	ogdenarc.org	3 rd Saturday 09:00 am	Check OARC web site ...
WC ARES	ogdenarc.org/join.html#ares	2 nd Thursday 06:30 pm	Weber Co. Library Ogden Utah
WC Sheriff Comm-O		1 st Saturday 09:00 am	Weber Co. Sheriff Complex West 12 th Street Ogden Utah
Barc	barconline.org	2 nd Saturday 10:00 am	Cache Co. Sheriffs Complex 200 North 1400 West Logan Ut
CSERG	dcarc.net/ares.htm/	Last Wednesday 8:30pm	Clearfield City Hall Clearfield Utah
Dcarc	dcarc.net	2 nd Saturday 10:00 am	Davis Co. Sheriff Complex Farmington Utah
NU Ares	home.comcast.net/~noutares/	3 rd Wednesday 7:00 pm	Cache Co. Sheriff Office Logan Utah
Uarc	xmission.com/~uarc/	1 st Thursday 7:30 pm	UofU EMC Bldg Room 101 Salt Lake City Utah
Ubet	27meg.com/~k7ub/	4th Thursday 6:30 pm	BE-Thiokol: 24 East 100 South Brigham City Utah
Utah DX Association	udxa.org	3 rd Wednesday check web page for details	check web page for details Salt Lake City area
UvhfS	ussc.com/~uvhfs/	Each Tuesday 8:00 pm (refer to web site)	Weekly 2 meter net (no eye ball meetings)
WD Arc	westdesertarc.org/	1 st Tuesday 7:00 pm	Tooele County Courthouse Tooele Utah
WsuArc	arcweber.edu	3 rd Thursday 5:30 pm	WSU Blding #4 Room ? Ogden Utah

LOCAL AREA NETS

DATE	CLUB	FREQ
Daily @ 12:30 PM mt	Utah Beehive net HF	7.272 Mhz HF LSB
Daily @ 07:30 PM mt	Utah Code net HF	3.708 Mhz HF CW
Daily @ 02:00 UTC	Utah Farm net HF	3.937 Mhz HF LSB
Sunday @ 8:45 AM	Ogden Old Timers HF net	7.193 Mhz HF LSB
Sunday @ 7:30 PM	UBET ARC	145.430 - 123.0 (training net)
Sunday @ 8:30 PM	SATERN Net	145.900 - 123.0
Sunday @ 9:00 PM	Morgan	147.060 = simplex
Sunday @ 9:00 PM	UARC Info net	146.620- no PL tone required
Monday @ 9:00 PM	2-meter SSB net	144.250 Mhz 2-meter USB
Tuesday @ 6:30 PM (winter)	Weber ARES	448.600 - 123.0
Tuesday @ 8:00 PM (summer)	Weber ARES	448.600 - 123.0
Tuesday @ 8:00 PM	VHF Society Swap	147.120 + 100.0
Tuesday @ 9:00 PM	Bridgerland ARC	147.260 + 103.5
Wednesday @ 8:00 PM	UBET ARC	145.290-, 145.430-, 448.300- (all 123.0)
Wednesday @ 8:30 PM	CSEARG	145.770 simplex
Wednesday @ 9:00 PM	No. Utah 10m HF net	28.313 Mhz HF USB
Wednesday @ 9:00 PM	6-meter SSB net	50.125 Mhz 6-meter USB
Thursday @ 6:30 PM	Davis Co Elmers Net	147.040 + 123.0 New Hams
Thursday @ 7:00 PM	Davis ARES	147.420 = simplex
Thursday @ 8:00 PM	Weber State ARC	146.820 - 123.0 (coming soon)
Thursday @ 8:00PM	RACES State VHF	145.490 - 123.0, 146.680 - 123.0 3 rd Thursday - even months only
Saturday @ 8:00AM mst	RACES State HF	3.920 Mhz HF LSB 3 rd Saturday – odd months only
Saturday @ 11:00AM mst	QCWA net HF	7.272 Mhz HF LSB

OARC OFFICERS

President: Mike Fullmer KZ7O
Vice Pres: Kent Gardner WA7AHY
Secretary: Chad Roylance KD7WQS
Treasurer: Jim Southwick N7JS

Director #1: Charles Horn KD7SST
Director #2: James Clarke KD7SWL

"WATTS NEWS" e-Magazine

Editor: Val Campbell K7HCP
Photos: Maggi Campbell N7HCP

OTHER CLUB FUNCTIONS

Webmaster: Val Campbell K7HCP
VE Liaison: Mary Hazard W7UE
Repeater Engr: Mike Fullmer KZ7O
Past President - Advisor:
Gary Liptrot N7ZI

73 es cul de W7SU

www.OgdenArc.org