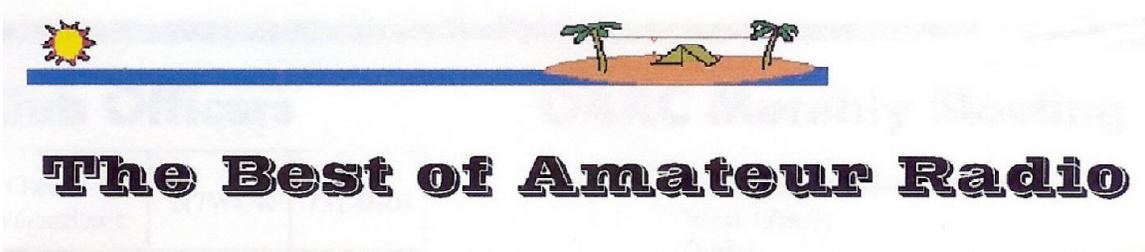




WATTS NEWS



Welcome to the OARC e-Magazine

www.OgdenArc.org

APRIL 2009

Next Club Meeting

3rd Saturday April 18, 2009

Topic: Software Defined Radio (SDR) by Jeff Anderson KD7PAW



Kent Gardner WA7AHY
President



Justin Doxford KE7ROQ
Vice President



Maggi Campbell N7HCP
Secretary



Jeff Anderson KD7PAW
Treasurer



Mike Webster N9NZ
Director #1



Beth Harrington KE7ELF
Director #2



Val Campbell K7HCP
Webmaster/NL Editor

PREVIOUS CLUB MEETINGS

3rd Saturday March 21, 2009

Emergency Antennas

Ray White, K7RFW, was the speaker for the Ogden Amateur Radio Club's (OARC) March 2009 meeting. His PowerPoint presentation covered a broad spectrum of operating in the high frequency (HF) and very high frequency (VHF) bands. He gave particular emphasis to his "Buddipole™" portable antenna that he brought in a small hand-carry bag. He demonstrated a variety of configurations merely by adding and moving various whip antennas segments. Photo 1 was taken from the Buddipole's website and shows how it is configured as an HF dipole with a tripod stand. Ray also showed a roll-up j-pole emergency antenna for 2 meters (not shown) made from 300 ohm twin-lead and a piece of 50 ohm mini-coax. It fits easily into a plastic sandwich bag ready for grabbing and going.

The second half of the meeting was a show-and-tell of a number of different portable/emergency antennas brought by member Stan Sjol, W0KP. Photo 2 shows four antennas. At the lower left is a "YoYo" antenna covering 40 through 10 meters. It was identified by a sticker as a "Unadilla" by W2UA. Each side of the dipole is unwound to the desired band/wire length and the stranded/covered wire ends are wound several times around the "T" on each YoYo to prevent further unwinding and then the center conductor is raised and the ends supported also. Stan was nice enough to lend this antenna to me to take on a camping trip that next week to the Snake River Canyon near Buhl, Idaho. I configured it to 40 meters and made a CW contact the first afternoon with my QRP Ten Tec Argonaut 509. The next day I configured the antenna to 20 meters and worked another afternoon CW contact to the Midwest and also a SSB contact a few minutes later. As an aside, I checked into the Ogden Bishop's Storehouse ERC net as a visitor by talking to an Indiana station which then relayed my report to Ogden. I never heard the Ogden station. The dipole seemed a better performer than my longwire antenna with a tuner that I usually use. I think, though, that the YoYo is a fair weather antenna. It was very cold and windy and it would have been uncomfortable, to say the least, to get out of my warm trailer to change bands at night in the cold.

Another neat, but heavy-duty military style of a reel-type dipole is shown at upper center. It was made by Rockwell and covered 80-10 meters. The stranded copper wire and case metal construction lends itself to rough use. Once unwound to the desired band the wires are wrapped around some Bakelite/rubber binding posts (not shown). Photo 3 gives suggestions on what frequencies and antenna heights to use.

At lower right-center is an FT-817 Miracle Whip tunable unit covering 3 MHz to VHF and at upper-right is an aluminum bracket that accepts two mobile whips to form a dipole.

Photo 4 shows two more of Stan's portable antenna collection. The one on the left is an MFJ-1621. It covers 40 through 10 meters and is tunable via the controls on the box and by adjusting the whip length. The one on the right uses a simple tripod stand that accepts standard mobile vertical element/loading coils. In this case, the coil is a 40 meter version. Both do not have counterpoise elements/wires, but Stan adds them with a clip lead arrangement.

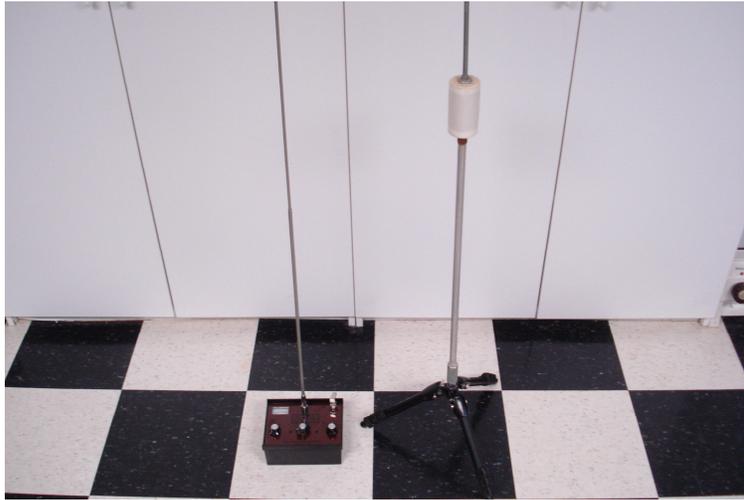
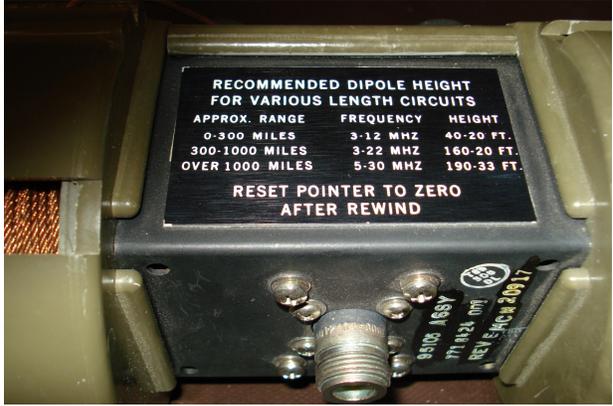
Two other antennas belonging to Justin Doxford, KE7ROQ. One was a handheld beam antenna made from a carpenter's rule/tape measure and PVC pipe. Its main use is for direction finding/hidden T-hunting. The neat feature about it is that the carpenter's rule elements can be folded back over each other by at least half for easier transport/storage. The other was a commercial J-Pole by Arrow. To make it more portable, a section of the longer element could be unscrewed and stored in the base angle bracket.

The entire meeting was a real eye opener and showed just how creative amateur radio operators could be when it comes to a "Grab and Go" scenario for emergency communication purposes.

TNX

Kent Gardner, WA7AHY





NEXT CLUB MEETING

When: 3rd Saturday April 18 , 2009
Time: 9:00 AM
Location: Riverdale Fire Station

Topic: Software Defined Radio (SDR)
by Jeff Anderson KD7PAW

Talk-in: -146.90 (pl=123)

Jeff will present and demonstrate the mysteries and excitement behind the emerging technology of "Software Defined Radios. Complete radios are defined by very few physical components and then used in conjunction with a computer sound card to produce a complete replacement for what we have previously expected to find inside our so called modern radios of yesterday and today.

Northern Utah Ecomm Hamfest 2009 in April

Refer to details elsewhere in this month's newsletter.

WB6YOK presents...

Davis County - General Class licensing course

April 18th at 10 am.
Mills Montessori, Layton Utah.

Walk-ins are welcome.

CLUB BUSINESS

OARC Technician License Classes

The OARC Technician Class course has concluded. Thanks to all those that attended. One OARC member, Clint Hall, was so anxious to become a ham that he couldn't wait for the class to conclude. He found a VE test session held elsewhere in Utah and passed the exam with flying colors. He has obtained his new call sign and has already purchased a 2 meter Kenwood mobile transceiver. Please welcome KF7BNB to Amateur Radio.



Thanks to Justin Doxford KE7ROQ our club vice president for conducting this class. He says if there is enough interest he will consider doing another class later this year.

Club Badges

OARC Club badges are still available for all club members and non-members.

The cost is \$8.00 each. You can order the badge with either a "PIN" clip or a "MAGNETIC" clip.

Badge includes your Call Sign in large letters and your First Name in a somewhat smaller font in white lettering on a pitch black background. See example below.



Place your order along with \$8.00 in advance for each badge ordered and specify Pin or Magnet style fastener, Call Sign and First Name.

Contact any club officer via email or at the next club meeting.

See web site www.ogdenarc.org "Club Officers" page.

OARC's O'bay (On-Line Swap-Meet) sale items needed...

OARC's O-bay (On-Line Swap-Meet) sale/wanted items needed for the web site...
Visit <http://www.ogdenarc.org/> then click on Swap-Meet

TECHNICAL TIDBIT

Amaze your ham friends, be the first to tell them...

At five minutes and six seconds after 4 am on the 8th of July this year,
the time and date will be 04:05:06 07/08/09.

This will never-ever happen again.

OTHER BUSINESS

EmComm Northern Utah Hamfest

Date: 4th Saturday, April 25 2009

Time: 09:00 am

Location: Browning Armory, South Ogden

Additional information at <http://ecommutah.com>

EComm HamFest 2009

SPONSORED BY
WEBER COUNTY SHERIFF'S COMMUNICATION TEAM
&
WEBER COUNTY ARES

KEEP THIS DATE OPEN!!!

Date: April 25, 2009
Time: 09:00 hrs to 16:00 hrs
Location: Browning Armory 625 E 5300 S So. Ogden Utah

Applied for ARRL Sanctioning to be 2009 ARRL State Convention. There will be a Dinner Speaker from ARRL. More details to come on location and cost. Must pre-sign up for ARRL Dinner

REGULAR ADMISSION \$5.00
Includes ticket for Raffle

SWAP MEET TABLES AVAILABLE
(SWAP MEET FROM 0900 TO 1800 HRS)
\$3.00 FOR HALF TABLE
\$6.00 FULL TABLE

Some of our Class Offerings (completed agenda TBA):

ERS and State Plans (Bob Craven)
NIMS 100/200 Class with Certificate (Lance Peterson)
DStar (Steve Carver)
National Weather Spotter Refresher
License Test Session (Mary Hazard and Larry Griffin)
Communication Exercise (limited class size)
"HF Everything" (Ray White)
Hands on ATV / Packet / and much much more
Emergency Response and Public Safety Displays and Vendors:



Pre-registration information:

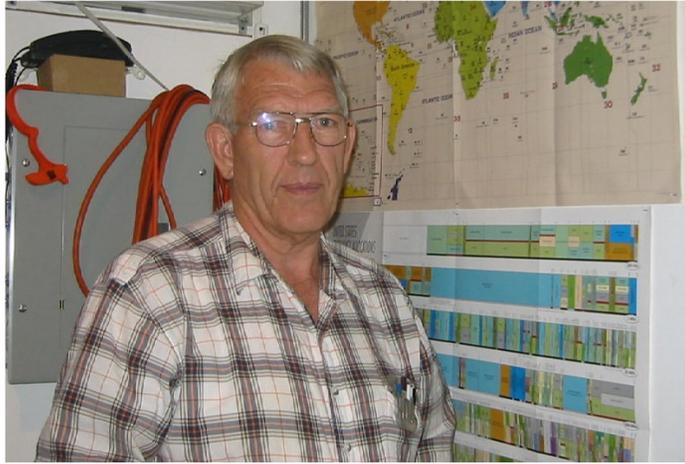
Jeff Kinney: 801-782-7781 or nokinney@comcast.net

Ray White: 801-546-2549 or crwhite@airmail.net

Sal Salizar: 801-791-4023 or sal84404@netzero.net

***Save the Date!! Don't miss Utah's premier annual
Emergency Communications Hamfest for the latest in emergency
training, networking and swap meeting***

FROM THE PRESIDENTS SHACK



Kent Gardner WA7AHY

From the President's Shack - April 2009

In these days of economic downturn, where jobs are lost, used cars are purchased instead of new and repairing old vehicles seems to be the way to do things, it brings to mind how most of us do things in ham radio normally. I know that in our most productive time of life we have a better chance of freeing up some money for new radio gear purchases. Promotions, selling a house or retiring are three that come to mind where we treat ourselves to new gear.

For a lot, especially those whose apartments or houses are furnished in "early marriage" or those who have limited incomes in retirement, used gear is welcome on the bench. In my experience, good things happen. Working with older equipment seems to help me bond with the gear and become vested in my project, where perhaps getting new gear would move me towards becoming an appliance operator. It could be that the newer gear might force us to learn new technology. I still need to learn how to set my squelch on my handheld via menu instead of turning a knob, but that isn't a part of what I am trying to get to.

Whether we need to learn new technology or work with old radios, it behooves us to sit down and concentrate on how things work and how they can be fixed or made better. A single bulb desk lamp with some newspapers under a piece of gear on the kitchen table brings comfort and warmth to the soul. The blizzard might be blowing outside, but our minds are generating heat and questions inside. How many times have you awakened in middle of the night with the answer to a nagging question you had about your radio? How many times did you think to bring out your VOM or multi-meter and made one measurement and find the problem right away or did you make hundreds of tests before you found a bad component?

Which reminds me, with Circuit City out of business, I am going to have to take apart my stereo amplifier and figure out why there is no audio output when I try to play a DVD, but yet the AM and FM output works just fine.

TNX Kent Gardner, WA7AHY

NEWS ARTICLES



FCC Denies Michigan Ham's Request for Ruling

In October 2007, Christopher Kaczmarek, KB8MLC, of Saginaw, Michigan, petitioned the FCC for a ruling regarding the installation of his Amateur Radio antenna. Kaczmarek told the FCC that he received a notice from the manager of his mobile home community stating the antennas were not allowed and asked for "a ruling from the Commission recognizing [his] right to an Amateur Radio antenna structure." On April 6, 2009, the [FCC denied Kaczmarek's request](#) for a ruling in his favor, based on the fact that PRB-1 protections do not extend to private homeowner's agreements.

The Commission agreed with Kaczmarek that Section 97.15 of the Commission's Rules provides that "state and local regulation of antenna structures must not preclude amateur service communications, must reasonably accommodate such communications, and must constitute the minimum practicable regulation to achieve the state or local authority's legitimate purpose." In its letter to Kaczmarek, the FCC pointed out that it has not, however, extended this policy to regulations promulgated by private parties.

Saying that it has considered this same question twice before, the FCC told Kaczmarek that it "chose not to preempt private land use regulations that restrict the installation of antennas and associated support structures used by Amateur Radio stations. As agreements between private parties are voluntarily established and freely entered into, the Commission is hesitant to interfere with them unless it is shown that private agreements will seriously disrupt the federal regulatory scheme."

FCC, Indianapolis Police Department Address Unlicensed Operations

In response to an investigation by the FCC, the Indianapolis Metropolitan Police Department ([IMPD](#)) has taken action to prevent further use of Amateur Radio frequencies by unlicensed officers. Any Amateur Radio equipment in the cruisers of unlicensed officers was removed by order of IMPD Chief of Police Michael T. Spears.

According to the FCC, some IMPD officers were using the radios to supplement their normal communications channels, including using amateur frequencies for tactical communications during drug surveillance. As part of its inquiry, the FCC reminded the IMPD of the large number of tactical channels available on a secondary basis to police departments from the public safety pool of frequency allocations.

"We are pleased that IMPD has put a stop to this unlicensed activity," said ARRL Regulatory Information Manager Dan Henderson, N1ND. "The investigation by the FCC, coupled with the expedient cooperation and correction of the problem by the IMPD, eliminates a situation that had raised serious concerns in the amateur community."

The FCC stated they would monitor the situation and follow-up appropriately if needed.

CLUB BLOG

No VHF SWR Meter? No Problem.

By Dan Romanchik, KB6NU

I subscribe to a lot of amateur radio mailing lists. One of the most interesting is the HamRadioHelpGroup mailing list (<http://groups.yahoo.com/group/HamRadioHelpGroup>). Recently, a ham asked:

Will a CB SWR meter work on a 2 meter ham radio??

Mark, K5LXP, replied:

"Yes and no. I use a CB SWR meter to check 2M antennas all the time. There is a trick to it however."

"If all you want to do is check SWR on your 2M antenna, you don't necessarily have to buy a dedicated VHF/UHF SWR meter. What I keep in my tool bag for that is a cheapie \$5 hamfest special CB SWR meter. They really don't work well on 2M but there's a trick you can do that will net a reasonably accurate SWR reading on 2M with one of these meters. What you do is connect up the meter as usual, key the rig with the switch in the forward power position, set the adjustment for full scale. Now, without touching anything, swap the coax connections so that the rig is connected to the ANT' side of the meter, and the antenna is connected to the 'XCVR' side. The reading you see on the meter will be very close to your real SWR. The closer to 1:1 your SWR is, the more accurate it will be. It would be more convenient to have a real SWR meter or antenna analyzer if you do a lot of testing, but for a quick antenna check after a mobile install or whatever, the \$5 CB meters work OK."

"The theory is relatively simple."

"A basic SWR bridge is comprised of two couplers, each of which consist of a stripline or a pickup loop, and a detector diode. One coupler is used to detect forward power, the other reflected."

"At 27 MHz, the precision of the components required isn't too stringent. Just about any diode will work, and minor imperfections in the stripline or pickup coils won't impact the accuracy that much."

"But at 2M suddenly minor differences between the striplines, stray capacitance, and type of diode starts to matter. By using just one of the couplers for both the forward and reverse readings any error that exists in that coupler is the same for both readings and thus cancels out. It's unlikely it'll work at 440 however, it's just too much to ask to expect a true 50 ohm network and zero bias or hot carrier diode in a cheap CB meter."

"The absolute reading on 2M may still be somewhat inaccurate, especially at high SWR but odds are you don't care about that. All you're interested in is 1:1 or as close to it as you can get, and for that the \$5 meters will be good enough."

When I asked his permission to use this, Mark said, "I don't get the credit, I picked it up from an old-timer years ago." Well, Mark, you might not get the credit for thinking this up, but you certainly get the credit for passing it on. Thanks!

When not reading his e-mail, Dan likes to work CW on the HF bands. You can catch him around 7030 kHz or 3530 kHz. He blogs about ham radio at www.kb6nu.com.

SPECIAL ARTICLE

A few months ago our club president, Kent W7AHY, drove to Pocatello Idaho to visit John Wilson KOIP the past president of the Pocatello Amateur Radio Club. It seems that John has been collecting ham gear for quite some time now. Take a look! Do you see anything that sparks any nostalgia from your past?



FEATURE ARTICLE

In February Aaron Farr W7HJK presented to OARC on the subject of "Digital TV Conversion". At that time everyone thought that all of the high power analog TV stations in this nation would be turned off on February 17, 2009. Well, things changed soon thereafter. The conversion has been postponed until June 12, 2009. Tom Harrington AF7J thought that you might benefit from the following additional information regarding pointing your digital TV antenna in the right direction. He has also provided a list of the channels that are waiting there for your viewing pleasure.

DIGITAL TV

Submitted by Tom AF7J

Get your GPS out or get a Map and Compass and find an Azimuth.

But before we do that lets look at a video or two on "YouTube":

<http://www.youtube.com/watch?v=EWQhlmJTMzw>
<http://www.tvantennaplans.com/>

Now where to point your digital TV Antenna:

This is where the words GPS or Compass and Azimuth comes in.
Read the info on this site carefully. There are hidden links too...

<http://www.crutchfield.com/S-OZPOJ2OSN2m/app/learn/article/default.aspx?pp=T&page=All&aid=1218&articlegroupid=49>

If you can't find the link start at this site:

<http://itouchmap.com/latlong.html>

Then go to this site:

<http://www.ngdc.noaa.gov/geomagmodels/Declination.jsp>

The pay off page:

<http://www.2150.com/broadcast/default.asp>

Station tower locater site: (click on "Choose an Antenna")

<http://www.antennaweb.org/aw/welcome.aspx>

**24 DTV Channels received at my QTH with a home built
Coat Hanger Bow-Tie antenna:**

- 2.1 KUTV - CBS
- 4.1 KTVX - ABC
- 4.2 KTVX - Untamed Sports (hunting Shows)
- 5.1 KSL - NBC
- 5.2 KSL - US Universal Sports (Olympic Games)
- 5.3 KSL - WX (Weather)
- 7.1 KUED - PBS
- 7.2 KUED - PBS World
- 7.3 KUED - V-Me PBS Spanish
- 9.1 KUEN
- 9.2 Mhz World
- 9.91 KUER FM - Audio from KUER with Video from KUEN
- 11.1 KBYU - PBS Byu
- 11.2 KBYU - BYU TV
- 11.3 KBYU - BYU TV International
- 11.4 KBYU - Create
- 13.1 KSTU - FOX SD Standard Definition
- 13.2 KSTU - FOX Digital TV
- 14.1 KJAZ - IND Larry H Miller
- 16.1 ION
- 16.2 Qubo
- 16.3 ION - life
- 30.1 KUCW - CW

ANNOUNCEMENTS

Next Club Meeting:

3rd Saturday April 18 2009

- The Ogden Amateur Radio Club meetings are usually held on the 3rd **Saturday** of each month.
- **Time: 9:00 AM**
- **Location: Riverdale Fire Station**
- **Topic: Software Defined Radio (SDR) by Jeff Anderson KD7PAW**
- **Talk-in: -146.90 (pl 123.0)**

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:

1st Wednesday June 03, 2009

- 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: \$ 15.00

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
ATV	UARC	Ch-58	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
448.825-	IRLP/Echo	123.0	Clearfield City
449.950-	IRLP	123.0	Clearfield City
449.425-	IRLP	100.0	Nelson Peak
147.360+	Summit County	100.0	Lewis Peak

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	3.570 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 Co Net	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 @ 8:00 PM	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	CSERG	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 @ 8:00 PM	Weber State ARC	146.820 - 123.0 (coming soon)
Thursday @ 8:00PM	State RACES VHF/IRLP	145.490 - 123.0, 146.680 - 123.0 3 rd Thursday - even months only
Thursday @ 8:30 PM	Davis ARES	147.420 = simplex
Thursday @ 9:00PM	Wasatch Back Net	147.360 + 100.0
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: Kent Gardner WA7AHY
Vice Pres: Justin Doxford KE7ROQ
Secretary: Maggi Campbell N7HCP
Treasurer: Jeff Anderson KD7PAW

Director #1: Mike Webster N9NZ
Director #2: Beth Harrington
KE7ELF

"WATTS NEWS" e-Magazine

NL Editor: Val Campbell K7HCP

OTHER CLUB FUNCTIONS

Webmaster: Val Campbell K7HCP
Board Advisor: Stan Sjol WOKP
Board Advisor: Mike Fullmer KZ7O
Repeater Engr: Mike Fullmer KZ7O
VE Liaison: Mary Hazard W7UE

73 es cul de W7SU

www.OgdenArc.org