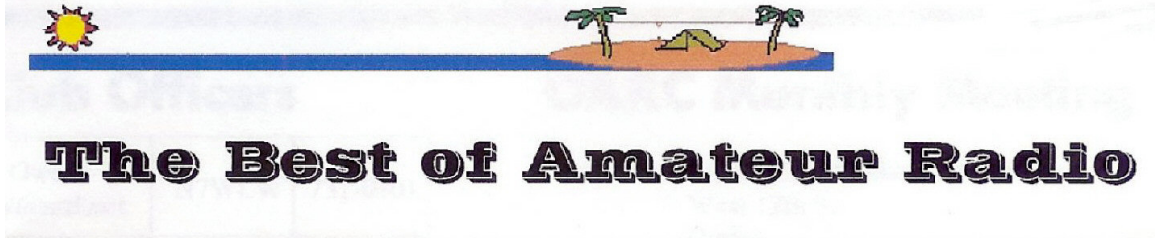




WATTS NEWS



Welcome to the OARC e-Magazine

www.OgdenArc.org

June 2005

Next Club Meeting

June 25 & 26, 2005

Topic: ARRL Field Day



Gary Liptrot N7ZI
President



Mary Hazard W7UE
Vice President



Jim Southwick N7JS
Secretary



Charles Horn KD7SST
Treasurer



Mike Fullmer KZ7O
Director #1



James Clarke KD7SWL
Director #2



Val Campbell K7HCP
Webmaster/e-Magazine Editor

PREVIOUS CLUB MEETING

May 21, 2005

Once again it was a very beautiful Saturday morning, one of the best this spring, and over two dozen Amateur Radio enthusiasts were about to arrive at Shady Lane Park in Pleasant View at 9:00 am for a Pancake Breakfast and the June meeting of the Ogden Amateur Radio Club. As it turns out the Pancakes looked and tasted more like French Toast. Oh well.

Kim Owen K07U set up a temporary field HF Ham station to show how easy it is to operate HF. Before the meeting and before breakfast the early arrivals checked into the Saturday morning HF RACES net.

After everyone had a chance to eat breakfast, Gary Liptrot N7ZI started the meeting with several announcements. **Notice that the June meeting will not be held on the usual 3rd Saturday.** Instead we will meet at the OARC - Field Day camp site on the weekend of June 25 & 26. See additional details elsewhere in this newsletter and on the club web page.

Gary reported on the latest status of the Little Mountain repeater and auto-patch. New solar cells and batteries are being installed. When work is completed the auto patch will be available to both the 2-meter and 70-centimeter repeaters. Stay tuned for progress details. Since the meeting it has been reported that the Mount Ogden 2 meter repeater is now back up on the mountain top and operating normally. Put out a call and start a QSO with someone - anyone.

Gary announced that the OARC newsletter, "Watts News" has a new On-Line Swap-Meet feature called **O'bay**. Check out the club website to buy or sell something - anything radio related. It's free to all.

Gary reminded us all that the club has a "Club Store" that stocks limited inventory, high volume supplies such as coax cable, connectors, etc. If you think the club should stock one of this Fox and the club winners were.... Chad KD7WQS and Winona KE7EEJ Roylance.

your favorite radio related items, please let us know.

Mel Parks AC7CP, ARRL Section Manager spoke about the up-coming Utah Hamfest at Ruby's Inn, Bryce Utah (July 29-31). Check out the club website for a web-link to details.

Dave Harris K7PDW announce that the Pony Express Ride event across Utah would take place Saturday June 18 starting at 5 am, entering Utah from Evanston Wyoming and exiting to Nevada on Sunday June 19. Details are available on the OARC website Activities page and the DCARC website.

The following recent/new members were in attendance and were welcomed to the club meeting.

- Tim Samuelson KE7DOA
- Chad Roylance KD7WQS
- Winona Roylance - ham-in-training

Since the meeting Winona Roylance attended the Weber County VE Test Session and is now a licensed Radio Amateur Radio Operator. **Congratulations Winona - KE7EEJ.** Listen for her on the VHF/UHF bands.

Kent Gardner WA7AHY brought a few items from his ham shack for Show & Tell. Thank you Kent.

The meeting topic/activity this month was a "FOX HUNT". In fact - 2 fox hunts. One Fox was hidden locally within Shady Lane Park for beginners and practice. It was transmitting on 145.000 Mhz. Several were able to find this Fox very easily, however some did not fair so well (including me). Another Fox was hidden a few miles away, in an abounded grass field in Pleasant View, to challenge the more experience hunters. This FOX was transmitting on 145.410 Mhz. The first to find

Well, that's the wrap for this month. As we stated before, we are the fastest growing Amateur Radio Club in Utah and we appreciate

all the support and participation from everyone.

73 - Val Campbell K7HCP



Next Club meeting

ARRL FIELD DAY

June 25 & 26



See our club website for details...

<http://www.ogdenarc.org>

Notice: **Field Day activity in lieu of June meeting.**

Activity: **ARRL Field Day outing event**

When: **Saturday June 25 & Sunday 26, 2005**

Time: **All day Saturday & Sunday till noon**

Where:

Camp site on the North Fork River - just off Hwy 158 - near Eden - Ogden Valley

Talk-in: **-146.82 (pl=123)**

OARC's Youngest HAM!

Congratulations to OARC's newest and youngest Ham

Winona F. Roylance - KE7EEJ - Technician

(Winona is 10 years old)



From The OM's Shack

Gary Liptrot N7ZI



Hi folks,

Field Day is fast approaching and the OARC Board has been buzzing with activity. Originally we were slated to go up on Monte Cristo but with the wet weather and abundance of snow in the high country we decided not to go that route this year. Earle Sanders (NT7Y) has generously offered his family's property up near Eden. The turnoff is just short of the four-way intersection in Eden. The mailbox on the South end of the Century 21 parking lot on the West side of the road sits next to our access road. We will have signs posted so you can't miss it. Look at our website for pictures and directions. If you have questions call or email one of the

Board members. This is a great place for camping and has high trees for wire antennas. There's a stream that runs right next to the campground and we will have a couple of camping trailers for His & Her outhouses. We will be assigning members to help us set some stuff up beforehand.

If you have never operated an HF radio, now's your chance. You don't need a license to do so. We will have control operators helping you and you will be using the club callsign W7SU. Field Day runs from Saturday noon to Sunday noon. We will start operating 12:00 (noon) Saturday and stop operating at 12:00 (noon) Sunday. We will leave after the takedown and clean-up is done. Saturday night we will have a free club sponsored Burger and Hot Dog dinner. The next morning we will have French toast, eggs and sausage or something along those lines. This is an opportunity to get to know everyone and their families better. Please come join the fun. The atmosphere will be relaxed and yet the operating will be in-tents (get it, I crack myself up) ... B)

Take care and I'll see you at Field Day,
73 de n7zi Gary

"Why buy something for ten bucks when you can make it for a hundred." JR

Biography

Chad Roylance KD7WQS and daughter Winona KE7EEJ



Hello fellow club members! My name is Chad Roylance (KD7WQS), and I was asked to write a short biography for myself and my daughter Winona (KE7EEJ). First, a little about myself.

I am 33 years old and I have lived in North Ogden for my entire life. I come from a large family of 11, with 5 brothers and 5 sisters, with me right in the middle. I have a wonderful wife, Mihyun, and I have been married for 12 years. You can probably tell by my wife's name that she is not from around here. She is from Seoul, South Korea. I have 3 children: Winona (who I will tell you a little bit more about) Age 10, Zach - Age 8, and Ashton - Age 5.

I attended Weber High School and Weber State University, I also attended the Ogden - Weber Applied Technology Center, where I studied plumbing. I finished school in 2001 and I am currently employed as a plumber in this area. I have been plumbing for 10 years now. I enjoy my current occupation, as it allows me to meet many diverse and interesting people.

I received my radio license in June 2003 at the urging of a neighbor, who is also a licensed amateur radio operator. I have my technician's license and I am currently studying for my General license with my daughter Winona. We hope to take the test together in the near future. Though I had my license for 2 years I did not get active in amateur radio until earlier this year. Now I

use it almost every day, and it is one of the most enjoyable activities I can think of.

I have many hobbies, and beside my current love of radio, I do not favor one above the other, and enjoy all my other hobbies. I do amateur astronomy, and I own an 11" Schmidt Cassegrain type telescope. On a warm summers night you can usually find me in my backyard staring up at the sky, looking at stars, planets, clusters, asterisms, nebula, galaxy and other phenomena. I also do some astrophotography with a CCD (charge coupled device) camera. Taking pictures of Nebula and Galaxies is among my favorite pastimes.

I also SCUBA dive. Though I must admit, I don't do it enough. I have been diving for nearly 4 years. For those of you who have never done SCUBA, I highly recommend it. I wish Utah had more places to dive. I have never SCUBA'd in the ocean, though I hope to do it soon.

The favorite hobby of my family is Geocaching (much like transmitter hunting with GPS coordinates). It is also a fun way to spend a Saturday morning. I am also an avid Gamer (that is someone who plays Video Games in layman's terms). I collect video games, coins, Olympic Pins, action figures (ah yes the kid in me that refuses to grow up), anime (Japanese animation) and books. I love to read.

Enough about me, now let's talk about Winona. (She wants you to know you can call her Winnie) Winona is 10 years old and will be in 6th grade at Bates Elementary School. She is a very bright student and excels at everything she tries. She has been a licensed amateur radio operator for a couple of weeks now and says she is enjoying every minute she finds someone to talk to on the air.

Her hobbies are as many and as diverse as her father's hobbies. She loves amateur radio and was very excited that she

passed the test on June 1st. I feel my incentive of a new radio if she passed the test was quite the enticement. Now my 8 year old son wants to study for the test if I make him the same deal.

Besides her new found love with radio, she loves astronomy, reading, and creative writing. She also wants to get her SCUBA certification, and is quite miffed that she has to wait until she is 12. She also loves swimming, and can be found swimming in the backyard almost everyday (including the cold ones). She loves to rollerblade, draw, and be with friends and family.

Winona has a sweet disposition and is kind to everyone she meets. She loves being with her dad, and as you can see by her hobbies, loves to do many of the same things that I do. She loves attending club meetings, and thinks they are 'cool.'

I am very proud of Winona. She has accomplished quite a feat, passing the radio exam at such a young age. I hope she keeps aiming for the stars. She has high goals and high aspirations, she is highly motivated and accomplishes everything she sets her mind on.

73, Chad Roylance (KD7WQS) & my daughter Winona (KE7EEJ).

*Next month stay tuned for another OARC Officer/Member Biography.
It could be you!!!*

UPCOMING EVENTS

PONY EXPRESS EVENT

June 18 & 19

Contact Dave Harris K7PDW
(woody1122@earthlink.net):(801-775-8405)

Pony Express Re-Ride

<http://www.xphomestation.com/2005-reride.html>

Saturday June 18 @ 5am - enter Utah from Evanston WY
Sunday June 19 @ 2am - exit Utah to Nevada

UTAH HAMFEST/CONVENTION

July 29-31, 2005

The Utah Hamfest and Rocky Mountain Division Convention will be held this year at Rubys Inn adjacent to Bryce Canyon National Park (one mile before the park).

Pre Registration for the event will close on 1 July. Registration after this date will be at the door.

There is a website that has information about the event. www.utahhamfest.org
The web information about prizes/speakers/seminars is updated as the information changes.

John Mabey W7CWK Utah Hamfest publicity chairman (w7cwk@arrl.net)

CLUB NEWS

Auto Patch at Little Mountain

The Little Mountain 70cm repeater -448.575 (pl=100) now has a functional autopatch.

Operation:

- Star90 with 7 digits as one continuous string
- OR-
- Star575, let up and listen for dialtone, then Punch in 7 digits.
- # takes down the patch.

For security reasons 7 digit numbers are required. All others numbers are blocked including all out of area calls and 911 calls. However the 911 feature wil be enabled soon.

The autopatch is only operational on the 448.575 repeater at this time. Ofter the new solar panels and batteries have been installed, the autopatch will be enabled on the 146.90 repeater also.

Mike Fullmer KZ7O, Repeater Engineer

VE Test Session - June 1, 2005

The Ogden Amateur Radio Club (OARC) held the Weber County VE Test Session at the Weber Center, 2380 Washington Blvd, room #112, Ogden Utah on Wednesday June 1st, 2005 at 5pm.

Eight (8) tests were administered and the following five (5) passed for new licenses or upgrade:

- **Thomas A. Harrington - KE7EEH - Technician**
- **Jody Orme - KE7EEI - Technician**
- **Winona F. Roylance - KE7EEJ - Technician (Winona is 10 years old)**
- **William Ward - KE7EEK - Technician**
- **Andy Zarkou - N7QWS - General**

Congratulations - New HAMS !!!

Thanks to the following six (6) VE's that assisted with the test session:

- Mary Hazard W7UE - VE Liaison
- Brad Bate N7SWW
- Charles Horn KD7SST
- Gary Liptrot N7ZI
- Kim Owen K07U
- Ken Wilson N7OG

The next scheduled test session will be held on Wednesday October 5, 2005 at 5pm. Hope to see you there.

Mary W7UE, VE Liaison

AR HOBBY NEWS

Dits & Dahs

It's unlikely that you would ever encounter any of the following words or phrases while sending or receiving CW morse code ... at least lets hope.

One of the states of Austria in Morse Code has 7 pairs of alternating dits and dahs:

KARNTEN = (-.- .- .-. -. - . -.)

A Finnish partitive case "of a shoe" in Morse Code has a total of 13 alternating dits and dahs:

KENKAA = (-.- .- .-. -. -.- .- .-.)

A Finnish tongue twister for "a water devil hissed in the elevator" in Morse Code has 56 dits in a row.

It has a total of 59 dits and 2 dahs which is the greatest ratio (30: 1) known in any mix:

VESIHIISI SIHISI HISSISSA =

(...-), (... ..), (..... ..-)

A tropical American bird and native African drum in Morse Code contain only dahs:

MOT MOT & TOM TOM = (-- --- - --- --- -), (- --- --- - --- ---)

Plural of SHEESH in Morse Code may be the longest word containing only dits:

SHEESHES = (...)

The longest palindrome (reads the same backward or forward) in Morse Code is:

INTRANSIGENCE = (. . - . - .-. .- - - . . - . - .-. .)

UARC Microvolt - March 2005

Top Signs You Need an Elmer...

- Your friend tells you he has a new two meter radio and you figure one of the meters must be for SWR and the other for power out.
- You hear a conversation on the low bands about CW and you think they're referring to the cold war.
- You hear someone sign with "this is N8XXX, mobile 4," and you think it's because he has three other radios.
- You hear that someone won a 40 meter radio at a ham fest and you wonder how they're going to get something that large in their house.
- You build a Morse code key out of Plexiglas and can't figure out why it won't key your radio.
- You think the difference between short wave and long wave is the speed at which you move your wrist back and forth.
- You're thinking about joining your other ham friends in the local A TV group because you own a four wheel drive vehicle that will go just about anywhere.
- You think a collinear antenna can only be used with two amplifiers.
- You think FM is the modulation type that came after EM, DM, CM, BM, and AM.
- You wouldn't mind getting into Packet Radio but no matter how much you practice you can't get the hang of sending those beeps and braps with your keyer.
- You wonder what sound a short wave makes and why anyone would want to listen to one.
- You think the repeater owner would be a lot happier if instead of talking about his cavities he just went to the dentist and got them filled.
- You think a CW ID is the number the Army gave you on your dog tags during the cold war.

UARC Microvolt - March 2005

FEATURE ARTICLE

What Time is it?

By James Clarke KD7SWL

Many Hams and SWL's use WWV and WWVH as a signal check for each frequency bands for the possibility of it being open for DX or not. If you can hear a female voice announce the time, which is from WWVH in Hawaii, on of the frequencies of 2.5, 5, 10, 15 or 25 MHz then chances are that you can get good reception to the west, which is most likely to happen at night time. If you hear a male voice then you are hearing the Boulder, CO site. Both of these radio signals are a government service of the Department of the Chamber of Commerce who govern the National Institute of Standards and Technology (NIST).

The time element that you hear is kept by a cesium frequency standard that is updated continuously with the National Time standard which is currently an atomic Cesium Fountain clock (NIST-F1) accurate to less than 1 femto second. This means it would neither gain nor lose a second in more than 30 million years. This frequency standard is converted into a time code and audio signal that can be broadcast. At least 1 of the HF frequencies should be usable from any location on any given day. The received signal will have a lag time depending on your receiving location and its accuracy is 1 to 20 milliseconds. WWVB (LF 60 KHz) is a bit better with an accuracy of 0.1 to 15 milliseconds.

You could just to listen to the time but there is actually a lot more information present during an hour of the broadcast of time announcements and the almost constant tick-tock. Each part of the broadcast can be used by specialized time and frequency standard equipment that is capable of receiving the signals. Three different audio tones are sent during each hour at different intervals. A 500 Hz Tone, a 600 Hz Tone and a 440 Hz Tone (first A above middle C on the music scale). The 440 Hz tone is sent only once per hour except for the first hour of each day. This tone can be used as a starting point on a chart recorder or other timing device. The 440 Hz

tone can also be used to calibrate tuning forks for musical instruments as well. The 500 Hz and 600 Hz tones alternate after each time announcement.

The ticking sounds are 1000 Hz (WWV) 1200 Hz (WWVH) pulses that are 5 milliseconds long every 10 milliseconds unless they are at the beginning of a tone (the 29th and 59th seconds) or at the top of the hour. These tones can be used to "zero beat" your HF radio to see how much the difference the radio's indicator is off from the actual frequency. Zero beat tuning is accomplished by carefully tuning in on the center of WWV and WWVH so that the tone that will sound like a low frequency whistle goes down in scale, stopping just at the point where the tone disappears, you may need head phones to do this. At this point the station's audio will become intelligible once again. In some cases this tuning method will improve the readability of the station. In most sideband receivers use the most narrow bandwidth filters for increased selectivity. Your frequency uncertainty is limited by the resolution of your receivers read out usually to within 100 Hz to 1-5 KHz. If you beat the frequency at the 10 MHz frequency and your receiver shows 10000.2 KHz then your dial has an offset of 200Hz.

The doubled ticks are the amount of correction to be calculated and are heard during the first 16 seconds of each minute. You can determine the amount of the correction by counting the number of doubled ticks (in units of 0.1 s). If you want to see how it is calculated go to this web site <http://www.boulder.nist.gov/timefreq/> and download the Time and Frequencies book in a PDF file at <http://www.bldrdoc.gov/timefreq/general/pdf/1383.pdf> I have it posted on the yahoo group as well.

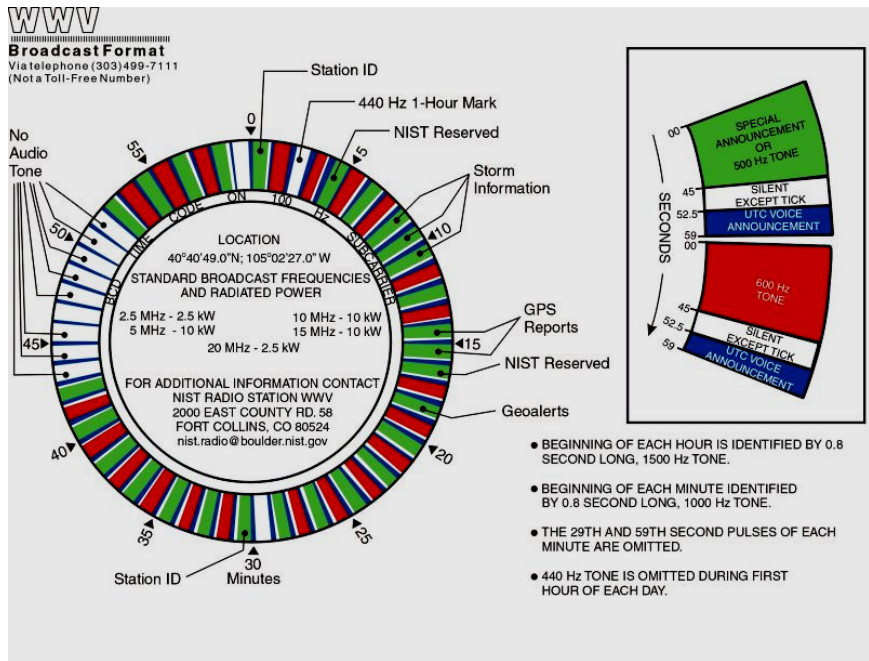
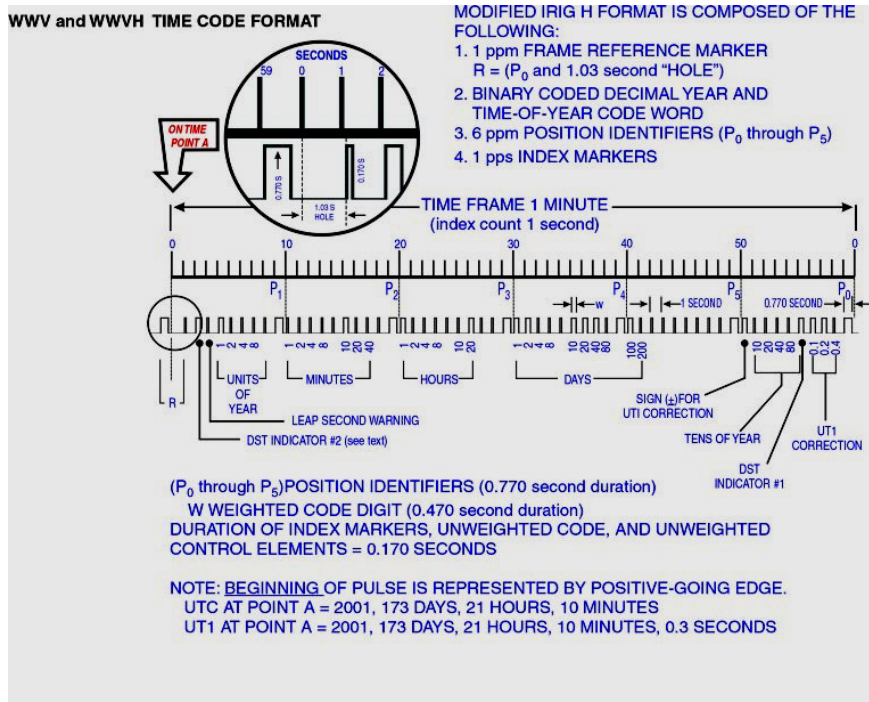
A 100 Hz sub carrier is also broadcast on these signals with a binary coded decimal

(BCD) format. This signal can be read by many consumer electronics ranging from the watch I wear to my alarm clock that I don't know how to set right. Most of these products are set to receive the 60kHz signal of WWVB which is only the BDC signal broadcast.

You should now be able to hear and decode each part of the broadcast. Time is a very important fixture in our lives not only in the hobby but in every thing we do. If the timing events were not the same everywhere our cars would not run and the telephones would not

function properly along with countless other events dependant devices we use. Our economy would not function with out a buyer and a seller reaching each other at the same time to make a transaction or even to have your paycheck calculated properly. When you listen to the time it is fun to think about the possibilities and events that occur because a really cool atomic clock in Boulder CO is keeping the time for us, but that could just be the Meteorologist in me.

James Clarke KD7SWL



ANNOUNCEMENTS

Next Club Meeting:

June 25 & 26, 2005

- Each meeting of the Ogden Amateur Radio Club is held on the **3rd Saturday** of each month (*except June*).
- **Time: All day Sat and Sun till noon**
- **Location:**

Camp site on the North Fork River - just off Hwy 158 - near Eden - Ogden Valley

Talk-in on 146.82- (123.0)

- **Meeting Topics:**

- **ARRL Field Day event**

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 5, 2005

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

Time: 05:00 pm *Walkin's 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 **CSCC'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 "Talk-in"
448.600-	OARC	123.0	Mt Ogden
146.900-	OARC	123.0	Little Mtn (patch – soon)
448.575-	OARC	100.0	Little Mtn (auto patch)

OTHER AREA REPEATERS			
FREQ	CLUB	TONE	LOCATION
146.620-	UARC	none	Farnsworth Pk
449.100-	UARC	146.2	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
OARC	ogdenarc.org	3 rd Saturday 9:00 am	No June Meeting - instead ARRL Field Day Activity
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
WsuArc	arcweber.edu	3 rd Thursday 5:30 pm	WSU Bldg #4 Room ? Ogden Utah
Barc	barconline.org	2 nd Saturday 10:00 am	Cache Co. Sheriffs Complex 200 North 1400 West Logan Ut
Ubet	27meg.co/~k7ub/	4th Thursday 6:30 pm	BE-Thiokol: 24 East 100 South Brigham City Utah
Dcarc	dcarc.net	2 nd Saturday 10:00 am	Davis Co. Sheriff Complex Farmington Utah
CSERG	dcarc.net/ares.htm/	Last Wednesday 8:30pm	Clearfield City Hall Clearfield Utah
Uarc	xmission.com/~uarc/	1 st Thursday 7:30 pm	UofU EMC Bldg Room 101 Salt Lake City Utah
UvhfS	ussc.com/~uvhfs/	Each Tuesday 8:00 pm (refer to web site)	Weekly 2 meter net (no eye ball meetings)

LOCAL AREA NETS

DATE	CLUB	FREQ
Daily @ 12:30 PM mst	Utah Beehive net HF	7.272 Mhz HF LSB
Daily @ 07:30 PM mst	Utah Code net HF	3.708 Mhz HF CW
Daily @ 08:00 PM mst	Utah Farm net HF	3.937 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
Tuesday @ 6:30 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 net HF	28.313 Mhz HF USB
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	3.918 Mhz HF LSB 3 rd Saturday – odd months only
Saturday @ 11:00AM mst	QCWA net HF	7.272 Mhz HF LSB

OARC OFFICERS

President: [Gary Liptrot N7ZI](#)
Vice Pres: [Mary Hazard W7UE](#)
Secretary: [Jim Southwick N7JS](#)
Treasurer: [Charles Horn KD7SST](#)

Director #1: [Mike Fullmer KZ7O](#)
Director #2: [Jim Clarke KD7SWL](#)

"WATTS NEWS" e-Magazine

Editor: [Val Campbell K7HCP](#)
Photographer: [Maggi Campbell N7HCP](#)

OTHER CLUB FUNCTIONS

VE Liason: [Mary Hazard W7UE](#)
Repeater Engr: [Mike Fullmer KZ7O](#)
Webmaster: [Jim Clarke KD7SWL](#)
Webmaster: [Val Campbell K7HCP](#)

73 es cul de W7SU

www.OgdenArc.org