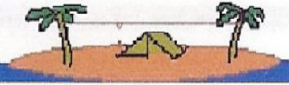




WATTS NEWS



The Best of Amateur Radio

OARC e-Magazine

www.OgdenArc.org

MARCH 2020

Next Club Meeting/Activity

March Meeting



Dave Mamanakis KD7GR

President



Mike Taylor KE7NQH

Vice President



Barbara Siddle KB7FWW

Secretary



J. Siddle KG7CJN

Treasurer



Gil Leonard NG7IL

Program Director



Bob Smith KG7EIZ

Activity Director



Val Campbell K7HCP

Webmaster/NL Editor

PREVIOUS CLUB MEETING/ACTIVITY

February Meeting

3rd Saturday 15 February 2020

9:00 AM

Riverdale Fire Station

Topic:

Show & Tell

NEXT CLUB MEETING/ACTIVITY

March Meeting

3rd Saturday 21 March 2020

Date: 3rd Saturday 21 March 2020

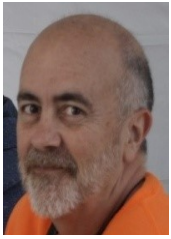
Time: 9:00 AM

Club Meeting - On the Air - via Amateur Radio

Mt Ogden 70 cm repeater 448.600 MHz (- offset, PL tone = 123.0)

Topic/Speaker: "NETS" by Gil Leonard - NG7IL

PREVIOUS MEETINGS PICS



Photos by Tim Samuelson KE7DOA

“February 2020 Meeting - pictures”

More photos located on the club web site home page.







OARC COMING EVENTS



Next Activity

March Meeting

3rd Saturday 21 March 2020

See the following page for details

Next VE Test Session

1st Wednesday 03 June 2020 @ 6:00 PM

At the Sheriff's Office

CLUB NEWS

Club Meeting - On the Air - via Amateur Radio

Date: 3rd Saturday 21 March 2020

Time: 9:00 AM

Location: Mt Ogden 70 cm repeater 448.600 MHz (- offset, PL tone = 123.0)

Topic/Speaker: "NETS" by Gil Leonard - NG7IL

OARC March club meeting at the Riverdale Fire Station will not be available for our use due to the abundance of caution on the part of Riverdale to stop the spread of the Corona Virus.

As an alternative Gil Leonard NG7IL will conduct an alternative meeting 'net' over the air. It's ironic that originally Gil planned to present to the club at the regular meeting on the topic of "Nets".

What an opportunity to demonstrate the resiliency and capabilities of amateur radio and amateur radio operators. This is as close to an actual emergency as we can get.

This is going to be MORE than just a net. It will be a virtual club meeting, a learning experience and fun to be had by all.

Listen in and be prepared to 'Check In' when the alphabetical sequence of your call sign comes up.

Be creative and operate on emergency power and/or use a temporary antenna, maybe go mobile or operate from an unusual location.

Here's an idea: **Take a picture/selfie of yourself operating your radio OR a picture of your ham station and email it to the OARC web master at w7su@arri.net.**

Most of all, Have Fun! Listen In and Check In!

Dave's Rag Chew



Dave Mamanakis KD7GR

Greetings my friends!

I'm writing today about Band Plans!

I know, I know... it might not be the most interesting topic, but I think you might see the use of it. The FCC has, for the most part, left the Ham Radio Bands in the hands of the Ham Radio Community. This is actually a good thing. We don't want the FCC to really pay us much attention. Yes, they still get involved in enforcement actions and setting the regulations and rules, but for just about everything else, the day-to-day management is, for the most part, left up to us. So, the ARRL and other organizations get together and manage the Ham Radio Spectrum by dividing it up into segments so that everyone, regardless of the activity, can find someplace in the radio spectrum to engage in that activity.

For instance, the following link takes you to the ARRL's formatted band plans. You can copy the PDF files, keep them on your phones, on your computers, or print them out and put them around your shack or in your vehicle.

<http://www.arrl.org/graphical-frequency-allocations>

You can find more details on the band plan here:

<http://www.arrl.org/band-plan>

The band plan shows where you can do Voice, CW, Digital, Repeater, and other modes. The "rule of thumb", as they say, is to operate only in the segments of the band listed for your current operating mode. In other words, don't do CW in the Phone segment of the band... don't do Digital in the CW segment of the band... don't do Simplex in the Repeater segment of the band.

Ok, so there is more than just the ARRL's Band Plan, we also have the Utah Band Plan. Our authority, here in Utah, is the Utah VHF Society (UtahVHFS.org). They have made a more granular BandPlan for VHF/UHF Frequencies.

<http://utahvhfs.org/bandplan1.html>

Why? Well, for the same reason that the ARRL and the Government all have their versions of band plans: Everyone wants a piece of the pie.

<https://www.ntia.doc.gov/files/ntia/publications/2003-allochrt.pdf>

<https://transition.fcc.gov/oet/spectrum/table/fcctable.pdf>

The Utah VHF Society's version describes the VHF/UHF bands and how we should expect them to be used here in Utah. So, when you ask yourself, "where can I go for simplex operation in the 70cm band", you can easily find the few frequencies allocated for that usage: 445.000-447.000.

This helps give everyone a place to do the things they like to do.

These band plans are for our use and knowledge, to help keep the bands working smoothly for everyone! Keep that in mind!

And, as with everything, we have to maintain some vigilance. The FCC is in the process of looking at taking the 3 GHz band away from Ham Radio Operators and auctioning it off for Commercial Use. Oh, the HORROR, the OUTRAGE! Well, yes, but let's do it in the appropriate and proper way:

1) If you have the capability, use the band.

How? 2.4, 3, and 5 GHz bands are used by people into Mesh. I'll be writing about Mesh a bit later, and I'm hoping we'll have a presentation on Mesh some time! But there is plenty of information on Mesh online, and the Davis Club is filled with people who are experienced with it. You don't have to go far to get involved in using Mesh.

Using the band is the #1 way to show the FCC they shouldn't take the frequency away.

2) Read more about the issue here:

<http://www.arrl.org/news/fcc-formally-adopts-proposals-to-remove-amateur-3-ghz-band-invites-comments>

If you decide to get involved and make comments to the FCC or write your CongressCritic (™), please do so! Be nice, respectful, and understanding, but feel free to be assertive in your reasoning for keeping the 3 GHz band in the hands of Ham Radio Operators.

Thanks for your use of the Frequencies!

We are glad to see how much you are all using the repeater and being on the radio!

--Dave
KD7(GR)

CLUB NEWS

Congratulations to Adele Kammeyer - KJ7MKJ who recently licensed at our most recent VE Test Session.

With the passing of her late husband, Steve Kammeyer - K7EMD (sk), our OARC activity director (2018), Adele sold much of Steve's Amateur Radio Estate, then chose to honor Steve's tradition and memory by becoming an Amateur Radio Operator herself.

I have been told that she plans to acquire Steve's call sign K7EMD as her vanity call sign.



Adele Kammeyer KJ7MKJ

CLUB NEWS

OARC QSL Manager volunteer found !

OK! We have a winner.

Pete Heisig WB6WGS has volunteered.

Thanks Pete.



Confirming contact with:			Date (dd/mm/yyyy)	
Band	Mode	RST	UTC	QSL PSE TNX

Verified: _____

Comments:

W7G

Ogden Amateur Radio Club
W7SU - Since 1937
P.O. Box 3353
Ogden, UT 84409
U.S.A.
www.OgdenARC.org

The Golden Spike was 5 5/8 inches long, weighed 14.03 ounces and was made of 17.6 carat gold. It was engraved on all four sides and the top. Two sides bore the names of railroad officers and directors. Another side was engraved, "The Pacific Railroad ground broke Jany 8th 1869." The fourth side was engraved, "May God continue the unity of our country as the railroad unites the two great oceans of the world. Presented David Hewes San Francisco." The top of the spike was simply engraved, "The Last Spike."

CLUB NEWS

HAM and EGGS Net

Tuesday Evenings at 7:00 PM Mountain Time

Mt Ogden 70 cm repeater 448.600 Mhz (- offset, 123.0 PL Tone)

New, Intermediate & Old Timers. Elmering, Education, General Ham Discussion and Rag Chew.

New hams encouraged to check in. Get connected, learn new things and ask questions.

Questions: Larry Griffin AD7GL, ad7gl@arrl.net

Stan Sjol W0KP, stansjol@xmission.com

CLUB NEWS

CW Net

Thursday Evenings at 8:00 PM Mountain Time

Mt Ogden 70 cm repeater 448.600 MHz (- offset, 123.0 PL tone)

Anyone interested in learning how to operate CW (morse code) is welcome to join in.

Any skill level is welcome, from no experience at all to "want-a-be".

Here is a start: S O S = ... --- ...

Questions and Net Control: Bryce Draper (KI7YZU) brycejill@hotmail.com

CLUB NEWS

10 Meter Net

Thursday Evenings at 0200 UTC (7:00 PM MT)

10 Meters HF - 28.385 MHz SSB (USB)

Purpose is to promote activity on the 10 meter band (especially during low sunspot activity).

To give technician class operators an opportunity to operate phone, and to provide a venue for conversation and experimentation with antenna and ground wave propagation.

Questions and Net Control: KA6J Jim, ka6j@comcast.net

CLUB NEWS

Ham Shack Photos

Last month the unidentified Ham Shack Photo was ...

Larry Griffin AD7GL



The secret to identification was to enlarge the photo to reveal the certificates hanging on the wall.

Nice station! Thanks Larry.

CLUB NEWS

Ham Shack Photos

The next in the series of unidentified ham shacks is shown below.

Do you know whose ham shack this is?



CLUB NEWS

STILL WANTED

Ham Shack Photos

We want you to submit pictures of your ham shack to us for future publication in the club newsletter. Submit home ham shack, mobile ham shack, handheld ham shack. Antennas too.

I will keep the submissions anonymous if you prefer.

My thinking is that I would publish one-set of ham shack pictures each month with the idea that all viewers could privately try to guess whose ham shack was featured that month.

I think it will be interesting to see the wide variety of equipment that each of us has chosen to populate our hobby work space with. This could be invaluable to each of us as we make future decisions about equipment upgrades.

Thank you in advance. 73, Val K7HCP

Submit to

k7hcp@arrl.net

Or

801.389.0690

So How About it?

Send me your Ham Shack Photos soon.

CLUB NEWS

OARC Logo offerings

Here is the link to the logo for shirts and other items. He will update photos from time to time.

The logo has minor changes and he is offering a single color logo (black) that will go on just about any color shirt.

<https://squareup.com/store/OARC>



CLUB NEWS

More Fun with Ham Radio Look-a-Like License Plates

I saw this one 2 March 2020..



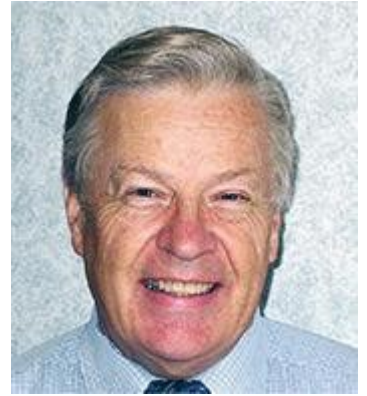
If you can imagine the one to be an I, then this one works as K710G

Submitted by Kent Gardner WA7AHY

CLUB NEWS

OARC past member Lou Johnson K7DJI (sk)

Lou Johnson has passed away. His funeral was last Friday in Zionsville IN, and there will be a to-be-announced memorial service in Ogden this coming Saturday. He will be buried in Zionsville. He passed away Feb 24, after a battle with Lewy Body Dementia. He struggled so much this past year and declined rapidly. He finished the course and endured valiantly.



Obit link follows: (credit: Dave Sanders K7RGY)

<http://www.silentkeyhq.com/main.php?p=bin/NSKALookup.php&dlnk=&call=K7DJI&uid=0661583278103462>

HOBBY NEWS

ARRL

Rocky Mountain Division

QST



Utah Valley Hamfest 2020 May 8-9 (Fri & Sat) Location Sorensen Center Utah Valley University. This is the Utah ARRL State Convention for 2020. For registration and details please go to <https://utahvalleyhamfest.com/>

73 Mel Parkes, NM7P ARRL Utah Section Manager

HOBBY NEWS

ARRL

Rocky Mountain Division

QST



Please note the Utah State legislature has introduced an amendment to the Distracted Driving Law that would prohibit the use of all handheld wireless communications devices. We are working to oppose this proposed bill and Jay Brummett, W7WJB our ARRL State Legislative Liaison is aggressively working to defeat this proposal or ensure adequate wording is added to exempt Amateur Radio operators. We will keep you posted as to the progress of this bill.

73 Mel Parkes, NM7P ARRL Utah Section Manager

(NOTE: See update on following page.)

HOBBY NEWS

** CLUB COMMUNICATION **

Club: Utah VHF Society

To: All Active Club Members

From: Melvin T Parkes (NM7P)

Date: Mon, 10 Feb 2020 16:02:04 MST

Subj: [UtahVHFS] Important Club Communication: UPDATE on HB 101 – Distracted Driving Amendments



2/10/2020 10:00MST UPDATE on HB 101 – Distracted Driving Amendments

Great News! Representative Carol Spackman-Moss to amend HB101 to exclude 2-way Radio

Many Utah HAM radio operators have been closely following with concern HB 101 a bill targeting Utah's Distracted Drivers. The ARRL and two-way radio community are deeply about the problems caused by distracted drivers; however, the initial wording of H.B. 101 would have "outlawed" the use of hand-held held two-way radio microphones. The ARRL proposed an amendment to HB 101 to exclude two-way radio operations. Many of you have been actively contacting your legislators in support of this amendment.

As of 9:30 this morning the ARRL is reliably informed that the bill's sponsor, Representative Carol Spackman-Moss has heard our concerns, chosen to work with us, and will be amending her bill to accept the ARRL's suggested amendment, which exempts wireless devices operating under FCC parts 97, 95, and 90, prior to the bill reaching the House floor.

The ARRL wants to thank and commend Representative Carol Spackman-Moss for her prompt attention to and accommodation our concerns. We all need to actively encourage this type of positive response on the part of all legislators.

Those that may have already contacted their legislator are encouraged to follow-up to thank their representative for their attention and support, and to let them know that we all can" now support HB 101 as amended to exempt two-way radio".

The ARRL would also like to thanks its members and affiliated clubs, UT VHF Society members, and the entire Utah HAM radio and two-way radio community that have contacted legislators and otherwise help out on this issue.

For more information contact:

Mel Parkes, NM7P -- Utah Section Manager, ARRL (nm7p@msn.com)

Jay Brummett, W7WJB – SGL –UT Section, ARRL (w7wjb@arrl.net)



FCC Turns Down Amateur Licensee's Appeal

In a *Memorandum Opinion and Order* ([MO&O](#)) released on February 20, the FCC turned down an appeal by William F. Crowell, W6WBJ, of Diamond Springs, California, of an Administrative Law Judge's (ALJ) dismissal of Crowell's amateur radio license renewal application. Chief ALJ Richard L. Sippel ruled in 2018 that Crowell "failed to prosecute his application by refusing to attend a hearing scheduled by the judge," and that this warranted dismissal of Crowell's 2007 renewal application. The FCC Wireless Telecommunications Bureau had designated Crowell's renewal application for hearing based on allegations that he had violated the Communications Act and FCC rules by causing intentional interference and by transmitting one-way communications, indecent language, and music on amateur frequencies. The hearing was set to be held in Washington, DC, and Crowell filed a notice of appearance certifying that he would appear and present his case.

The case was interrupted by what the FCC in the *MO&O* called, "a hiatus of several years, during which Crowell's petition to disqualify the Judge was pending."

In August 2016, the FCC imposed a \$25,000 fine on Crowell for intentional interference and transmitting prohibited communications. The FCC said in a *Forfeiture Order* ([FO](#)) that the penalty "is based on the full base forfeiture amount as well as an upward adjustment reflecting Mr. Crowell's decision to continue his misconduct after being warned that his actions violated the Communications Act and the Commission's rules." The FCC noted that Crowell did not deny making the alleged transmissions but argued in large part that they were protected by the First Amendment of the Constitution," the *Forfeiture Order* said. The February 20 *MO&O* does not reference the *Forfeiture Order* or its disposition.

When the renewal application litigation resumed in 2017, Crowell asked that the hearing be moved to the Sacramento, California, area, arguing that he could not afford to travel to Washington. Sippel denied the motion.

"In the *Dismissal Order*, the Judge responded to Crowell's refusal to attend a hearing in Washington, D.C., by granting the Enforcement Bureau's motion to dismiss Crowell's application," the FCC said in its *MO&O*. The ALJ held that Crowell's refusal to attend a hearing in Washington, DC, "constituted a failure to prosecute and thereby effectively violated Section 1.221(c) of the rules, which requires dismissal if an applicant fails to commit to appear on the date fixed for hearing." The Judge agreed with the Enforcement Bureau that many of the arguments Crowell raised on appeal "are not properly before us in reviewing the *Dismissal Order* and should be disregarded."



ARRL Announces Interruptions to Online Services

The ARRL website and other online services will be offline on Friday, February 28, for up to 8 hours in order to conduct necessary maintenance. The outage will begin at 0500 UTC and should end by 1300 UTC. It will affect the main ARRL website, the ARRL Store, and the ARRL contesting-related pages, including the log submission page. Logbook of The World (LoTW), email, and all ARRL Headquarters systems will not be affected.

As part of ARRL Headquarters' transition to new internet service providers, an interruption of internet access at ARRL Headquarters is set for Wednesday, March 4, starting at 2300 UTC. The interruption will last no longer than 4 hours. During the work period, these services will be unavailable: Logbook of The World (LoTW), Online DXCC, International Grid Chase Archive, National Parks on the Air Archive, Centennial QSO Party Archive, W1AW Echolink Conference Server, and VPN access to Headquarters. Email to Headquarters will remain online, and the ARRL website (www.arrl.org) will remain operational throughout the maintenance period, along with the contest and advertising pages. We apologize for any inconvenience.



FCC Formally Adopts Proposals to Remove Amateur 3-GHz Band, Invites Comments

12/17/2019

At its December 12 meeting, the FCC formally adopted a *Notice of Proposed Rulemaking* ([NPRM](#)) in WT Docket 19-348 and invited comments on its plan to remove “existing non-federal secondary radiolocation and amateur allocations” in the 3.3 – 3.55 GHz band and relocate incumbent non-federal operations. The FCC said it’s seeking comment on appropriate “transition mechanisms” to make that happen. ARRL has indicated that it will file comments in opposition to the proposal. The amateur 9-centimeter allocation is 3.3 – 3.5 GHz. The *NPRM* comes in response to the MOBILE NOW [Making Opportunities for Broadband Investment and Limiting Excessive and Needless Obstacles to Wireless] Act, approved by the 115th Congress to make available new spectrum for mobile and fixed wireless broadband use.

“By proposing to delete the existing non-federal secondary allocations from the 3.3 – 3.55 GHz band, we are taking an important initial step towards satisfying Congress’s directives and making as much as 250 megahertz of spectrum potentially available for advanced wireless services, including 5G,” the FCC said in the Introduction to its *NPRM*. Currently, the entire 3.1 – 3.55 GHz band is allocated for both federal and non-federal radiolocation services, with non-federal users operating on a secondary basis to federal radiolocation services, which have a primary allocation, the *NPRM* explains.

The FCC said it is seeking comment on relocating non-federal licensees to another band. With respect to amateur operations, the FCC invited comments on whether sufficient amateur spectrum exists in other bands that can support the operations currently conducted at 3.3 – 3.5 GHz. The 3.40 – 3.41 GHz segment is earmarked for amateur satellite communication. “We seek comment on the extent to which the band is used for this purpose, whether existing satellites can operate on other amateur satellite bands, and on an appropriate timeframe for terminating these operations in this band,” the FCC said. If non-federal licensees are relocated to 3.1 – 3.3 GHz band, the FCC proposes that they continue to operate on a secondary basis to federal operations, consistent with current band allocations.

Some comments began to arrive before the FCC formally adopted the *NPRM*, as it points out in a footnote. Kevin Milner, KD0MA, the secretary/treasurer of the Ski Country Amateur Radio Club in Colorado, has argued that the club’s equipment cannot be re-channeled below 3.4 GHz, and the club is seeking relocation costs. Devin Ulibarri, W7ND, told the FCC that amateur networks in the current band cannot move easily into other amateur allocations because there is no readily available commercial equipment to support the bandwidth, the FCC recounted.

In the event the proposed amendments are adopted, the FCC “seeks comment on relocation options and on transition and protection mechanisms for incumbent non-federal operations.”

Also at its December 12 meeting, the FCC considered [another NPRM](#) in WT Docket 19-138 that would “take a fresh and comprehensive look” at the rules for the 5.9 GHz band and propose, among other things, to make the lower 45 MHz of the band available for unlicensed operations and to permit “cellular vehicle-to-everything” (C-V2X) operations in the upper 20 MHz of the band. The FCC is *not* proposing to delete or otherwise amend the amateur allocation, which would continue as a secondary allocation.

The Amateur Radio Emergency Data Network ([AREDN](#)) has [offered its voice](#) in challenging the FCC proposals on the two bands, saying their adoption would “eliminate our use of the most-effective resource hams have to build its networks.”

“The AREDN Project is able to leverage low-cost commercial devices solely because they are designed to operate on adjacent allocations,” AREDN said on its website. “Moving to other allocations would be difficult if not impossible without a complete redesign, manufacture, purchase, and installation of new custom amateur hardware and software..., raising the price out of reach for the typical ham.”

FEATURE ARTICLE

by Kent Gardner WA7AHY

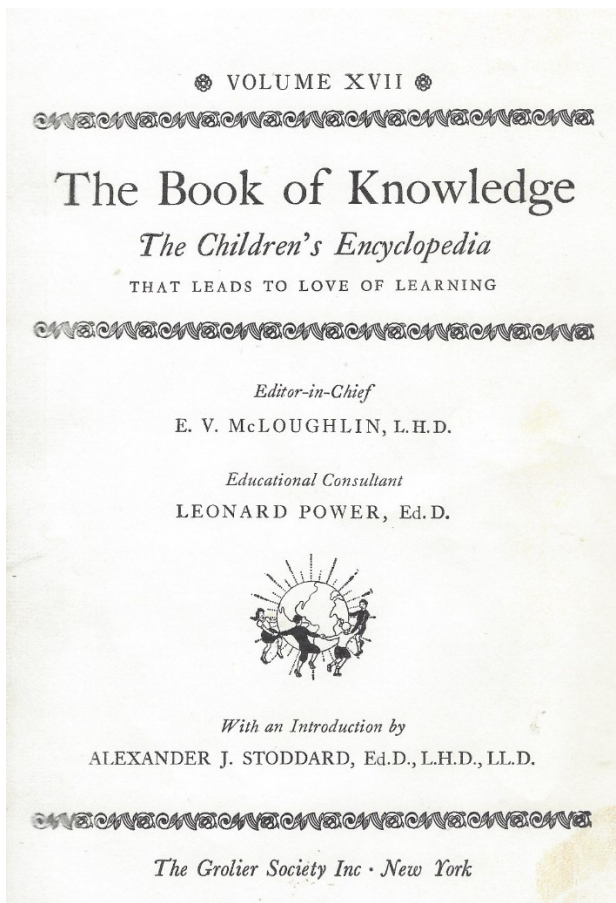


Books Without Covers

You never know what you might find while when you get curious about books on a shelf.

While my wife, Lauralee, and her cousin were visiting their aunt in Lehi, Utah the other day, I found myself looking around the rest home foyer while they carried on their conversations about the good ol' days over in Bear Lake. I was close enough to keep up with their reunion type conversations, but found myself looking at some books on a shelf. There were four hard bound books that looked similar to Law Library books, but on opening one of them, it looked like it was written in German. My wife lived in Germany when she was young (her dad was in the Air Force), but when I showed it to her she didn't recognize it as being German. I looked at the title page and found out it was Finnish. It appeared that the books were probably bought at a thrift shop and were just eyewash to decorate the foyer of the rest home.

Just below was a three-foot shelf full of smaller books. They all had the covers removed. Again, I thought, that they were more eyewash. I absent-mindedly pulled one of the books from the middle of the lineup. On the inside leaf, it showed the title page.:



Editions were dated from 1926 to 1956

The book happened to fall open to an article about *Tuning in on the Universe*. I asked the front desk if they would copy the five pages for me to take home. They did.

The article talked about the founder of Radio Astronomy, Karl Jansky. It also mentioned Grote Weber. Check them out via Google for some good reading.

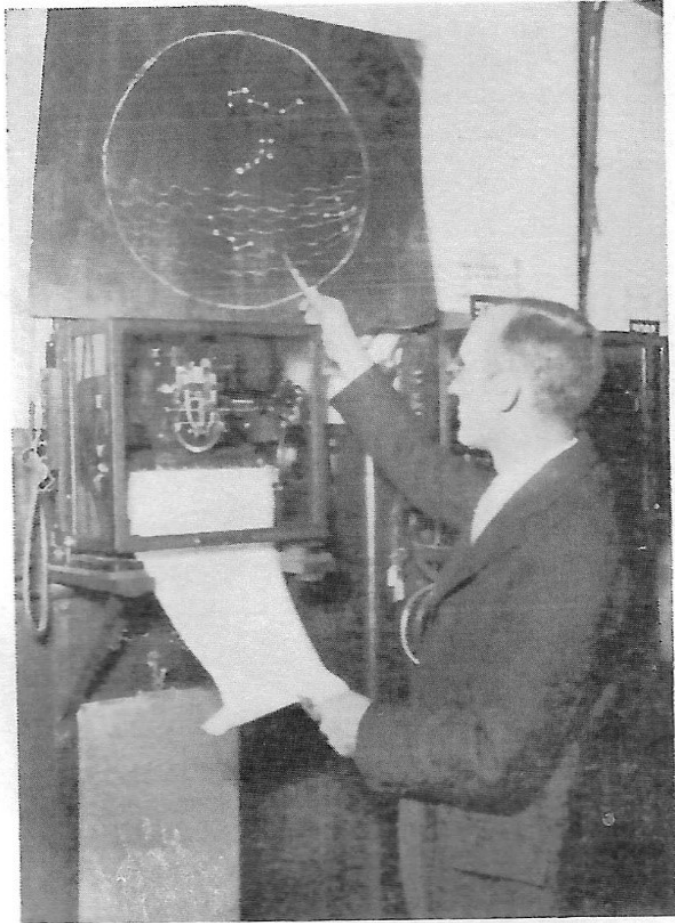
Karl, was working for the Bell Labs (1931-32) and was assigned the job of identifying where the static was coming from that made transatlantic communications very difficult at times.

(Editor's note. Dots indicate text of the article that were not used. I also made a few minor changes for clarity).

-----he was using a directional radio receiver working the 14-15 meter band.....there was, of course, still a certain residual amount of thunderstorm static to be observed, and the direction from which it came could be determined.

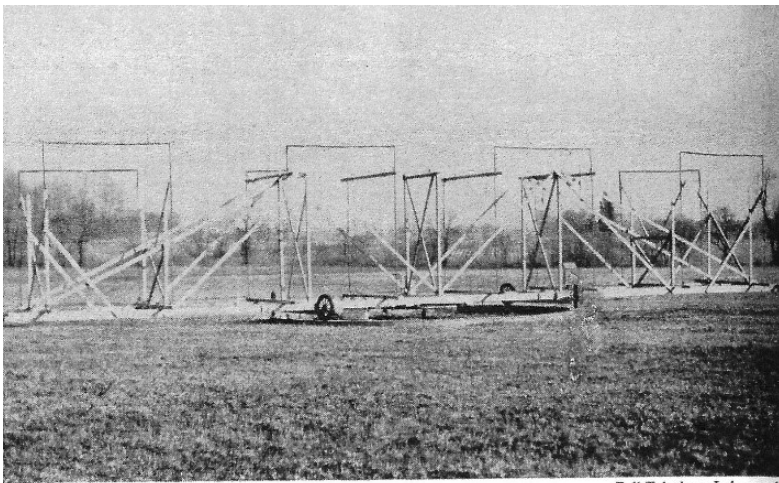
But, in addition to the static of terrestrial origin, Jansky noticed something else. He observed that when his directional aerial was pointing in a certain direction there was a persistent hiss in the telephones of his short-wave receiver experiment. He also noticed that the source of this mysterious radio noise seemed to move steadily during the day, from East to West, after which it disappeared. When he started his experiments the next day, the source of radio noise seemed to have come around the position it had occupied the previous morning at about the same time. Perhaps, thought Jansky at first, the noise came from the sun, which as we know, comes back nearly to the same position with respect to the earth after 24 hours.....but (his observation) was less by four minutes. This observation indicated at once that the radio noise was not coming from the sun at all, but from a fixed direction in space. It did not take Jansky long after this to satisfy himself that this particular direction was in the direction of the Milky Way..... Jansky termed these short-wave radiations "cosmic noise".

Continued ...



Bell Telephone Laboratories
On a chart of the Milky Way, Karl Jansky points
to a position from which he detected radio noise.

6257



Bell Telephone Laboratorie

Short-wave antenna for measuring cosmic noise; the apparatus rotates on wheels on a circular track.

What fun we can have when we are curious!

TNX Kent, WA7AHY

GUEST ARTICLE

by Dan KB6NU



How the National Bureau of Standards helped make “radio”

This was originally published as “NIST’s Role in the Early Decades of Radio (1911-1933)” on the National Institute of Science and Technology’s blog, *Taking Measure*.....Dan

Even if you weren’t able to watch the recent Super Bowl on TV, you could still listen to the play-by-play commentary on the radio. But radio does more than just broadcasting sporting events or playing music. It plays a major role in emergency response, navigation and science.

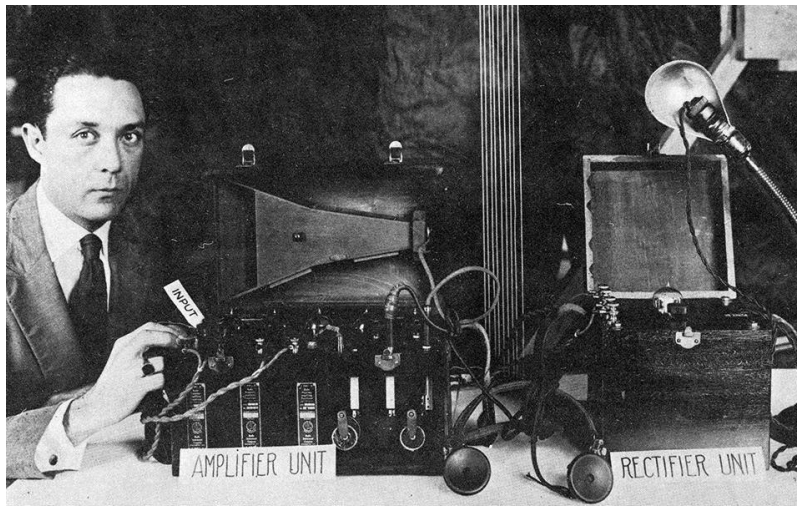
The word “radio,” however, didn’t become part of our regular vocabulary until 1911, and it happened thanks in part to J. Howard Dellinger, a radio scientist at the National Bureau of Standards (NBS), the agency that became the National Institute of Standards and Technology (NIST). This came about when the second International Radiotelegraph Conference was being planned in London, and a professor sent Dellinger a paper that he was going to present to the conference for review.

At the time, “wireless” was used as the term for radio communication, especially by the British. However, NIST was charged with revising standards in preparation for the conference, and Dellinger suggested that the professor use “radio,” which was already becoming a popular word in the U.S., instead of “wireless.” The professor agreed, and the word “radio” went on to become the universally accepted term.

Dellinger not only played a role in popularizing the word “radio,” but he also played a role in the first radio work done at NIST. A commercial company asked NIST to calibrate a wavemeter, a device developed by one of its engineers that measures electromagnetic waves like those of radio. Dellinger was known as the wireless expert and took on the project of calibrating the first radio instrument at NIST.

A New Type of Radio Receiver

But for radio to become mainstream, it first had to be commercialized, which began with its introduction into households. However, the challenge was building a radio set that used the electrical current, called alternating current (AC), which powered lights, fans and kitchen appliances when plugged into wall sockets. The predecessor to this technology was developed and patented by two researchers, Percival D. Lowell and Francis W. Dunmore, at NBS in 1922. They called their invention the “mousetrap.”



Percival Lowell with his patented radio set powered by alternating current. Credit:

The “mousetrap” was a receiver for a radio amplifier that could run on AC. This was considered a breakthrough because at that time radios were only able to be powered by direct current (DC) provided by batteries. These batteries were bulky and heavy, had to be charged from time to time and were considered dangerous because of the acid used in them. The researchers’ prototype meant the radio could be used in homes without causing damage and with the same performance quality.

Lowell and Dunmore filed two more patents together for other innovations, and for the “mousetrap” they sold the rights to the Dubilier Condenser Corporation. Little did they know that, because there was no uniform policy on patents issued to government employees, their actions would result in more than a decade of litigation over who legally had the rights to the patent.

While they were tied up in court, the Radio Corporation of America (RCA) developed its own model of the AC radio in 1926. Its model later became the first AC-powered radio sold to consumers.

Flying by Radio

During the early years of flight navigation, NIST was doing research to assist pilots while they were flying and landing. Pilots needed three things to get their bearings when flying “blind,” meaning it’s foggy, too dark or too cloudy to see. They needed to know the longitudinal position, altitude and speed of the aircraft, which were all achieved by various beacons installed in the plane. The remaining issue was that there were two frequencies the pilot constantly had to switch between the frequency that the Department of Commerce used to send weather information to planes and ships, which sometimes caused interference for pilots, and the frequency the radio beacon operated on, which gave altitude and other information.

Dunmore created a prototype, but Harry Diamond, a radio engineer who joined NIST in 1927, completed the device, called the radio guidance system. Diamond solved the problem by developing a separate device that allowed for voice communication to the pilot without receiving any outside interference from ships’ radios.

A Curtiss Fledgling, a trainer aircraft developed for the U.S. Navy, was equipped with the device, and flight tests were performed between NIST’s experimental air station at College Park, Maryland, and Newark Airport in New Jersey in foggy weather. After a series of successful tests were performed, the device was turned over to be used by the Department of Commerce in 1933.

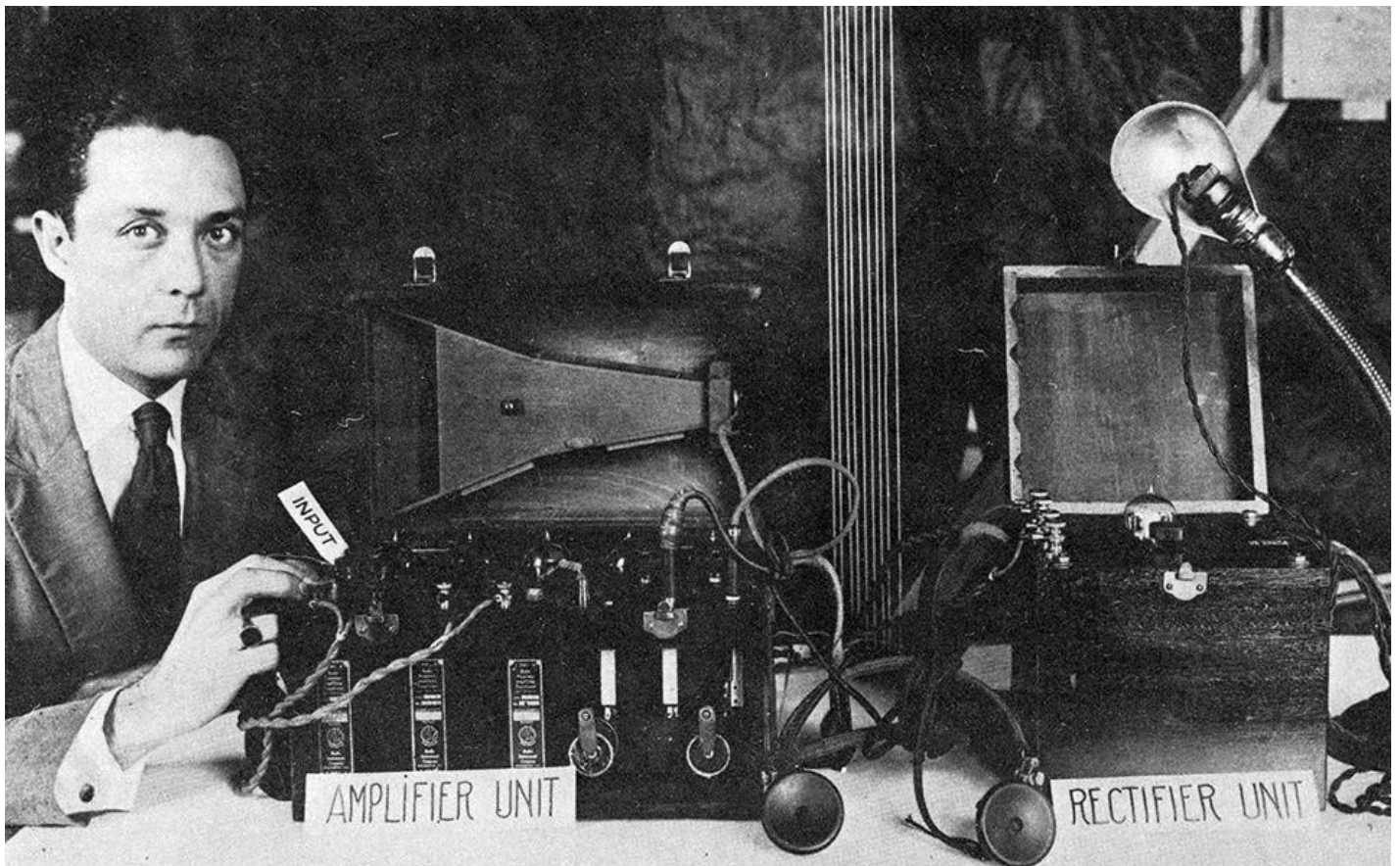
Praise From a Famous Inventor

While mostly intended for serious users, some of NIST's journals and publications were popular with the public. One such book, titled *The Principles Underlying Radio Communication*, covered topics such as elementary electricity, radio circuits and electromagnetic waves and was also published as a textbook for soldiers in the U.S. Army. The famous inventor Thomas Edison received a copy from NIST and wrote a letter thanking the first director, Samuel W. Stratton, for publishing it, saying it was "the greatest book on this subject that I have ever read."

As these and other examples show, NIST had a significant influence on radio research between 1911 and 1933. However, NIST's radio work didn't end with the first blind landing. NIST would continue to contribute to the field leading up to and during World War II, and research continues to this day in areas such as 5G, public safety communications and spectrum sharing.

ABOUT THE AUTHOR

Alex Boss is a general assignment writer in the NIST Public Affairs Office and covers standard reference materials (SRM). She has a B.S. in biology from Rhodes College and an M.A. in health .





Club Swapmeet



“SALE” or “WANTED” ITEMS NEEDED

OARC's **O-bay (On-Line Swap-Meet)** items needed for the web site...

Visit OgdenARC.org then click O-Bay Swap

FEATURED ITEMS

SWAP ITEM # ???

NEW ITEMS WANTED

CLUB REPEATER NEWS



Scott Willis KD7EKO



Mike Fullmer KZ7O

Scott Willis KD7EKO and Mike Fullmer KZ7O are the OARC repeater engineers that keep our club repeaters at Mt Ogden and Little Mountain operational.

Club Badges

OARC Club badges are available for all licensed club members.

The cost is \$10.00 each. The badge comes with 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 with the club logo. See example below.



Place your order along with \$10.00 in advance for each badge ordered and specify Call Sign and First Name. Contact webmaster or any club officer via email or contact the club treasurer at the next club meeting.

For additional information see club website left side menu and click “Join” to fill out a club application form to order a club badge.

Club Badges



UNCLAIMED OARC CLUB BADGES

New members have ordered pre-paid club badges that have not been claimed. You can claim your badge at any club function, meeting, activity or event or contact the club badge czar / club treasurer Jerry KG7IGW or J. Siddle KG7CJN

If you are reading this and you are one of the following hams, please collect your badge. Even if you are not reading this, come collect your badge.

AC7GV - JOHN
K7PRH - REED
K7YZU - BRYCE
KA7TYX - MAX
KD7RPT – SPARKY
KF6CCK – DAVID
KF7CFK - CHUCK
KF7HNU – RALPH
KF7QPR - JOHN
KG7KFD – TONY
KT7JIM – JIM
W0OSI - RON

OARC YAHOO GROUP




Did you know that OARC has a Yahoo Group?

We occasionally communicate with our OARC members via the Yahoo Group. Receive notices regarding upcoming club meetings and future e-newsletter release notices and much more like CHAT items of interest.

You can also send/receive notices to/from other group members yourself.

It's easy to sign up...



Just click on the  icon at the top of the club website home page and then follow the Yahoo Group instructions to create yourself a user ID and password.

OARC You Tube Channel



Did you know that OARC has a You Tube Channel ?

A lot of our meeting presentations are recorded and posted to our OARC You Tube channel for you to view at a later date.

It's easy to view missed



meetings...

Just click on the icon on the right hand panel of the club website home page to view recorded meetings preserved for your viewing pleasure.

OARC MEMBERSHIP DRIVE

SUPPORT YOUR RADIO CLUB

Don't forget to signup/renew your OARC membership now (\$15) which runs August to August. Consider signing up your spouse as well.

Ham + Spouse = \$15 + \$10 = \$25

THANK YOU FOR YOUR SUPPORT

Join OARC

Renew your membership now!

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

Joining is easy. Come to a club meeting or fill out an application form from the club website (click "Join" from the left side main menu). Instructions for mailing on the form.

DUES: Dues are \$15.00 per person and runs August - August. (Ham + spouse = \$25.) More than one ham in the family? Consider the OARC Family plan for \$25.

NOTE: New Hams >>> Membership in OARC is complimentary for remainder of 1st year licensed.

ANNOUNCEMENTS

Next Club Meeting:

3rd Saturday of each Month

The Ogden Amateur Radio Club meetings are usually held on the **3rd Saturday** of each month.

Meeting/Activity:

See notices above

Talk-in: **-146.82 (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 Feb, Jun & Oct

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

Time: 06:00 PM *Walk-ins allowed*

Location: Permanent location

**Weber County Sheriff Office
Training Room
712 W 12th Street Ogden Utah**

Contact: VE Liaison:

Rick Morrison W7RIK (Liaison)

morrisonri@msn.com (801-791-9364)

Jason Miles KE7IET (IT)

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.

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			
(*) Yaesu Fusion digital/FM compatible			
FREQ	CLUB	TONE	LOCATION
146.900-	OARC (*)	125 DCS	Mt Ogden (w/WiresX)
448.600-	OARC (*)	123.0	Mt Ogden
146.820-	OARC (*) "Talk-in"	123.0	Little Mtn
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-	GSARC	123.0	Brigham City
145.430-	GSARC	123.0	Brigham City
147.220+	GSARC	123.0	Brigham City
448.300-	GSARC	123.0	Brigham City
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
147.100+	Morgan	123.0	Morgan Co
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 Co	100.0	Lewis Peak

AREA CLUB MEETINGS & WEB SITES

CLUB	WEB SITE	DATE/TIME	LOCATION
OgdenARC	ogdenarc.org	3 rd Saturday 09:00 am	Check OARC web site ...
WC Sheriff Comm-O		1 st Saturday 10:00 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
UVarc	https://uvarc.club	1 st Thursday 6:30 pm	Orem City Council Chamber Room 56 North State St. Orem Utah
GSarc	Ubetarc.org	Check Website	Check Website
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)
WDArc	westdesertarc.org/	1 st Tuesday 7:00 pm	Tooele County Courthouse Tooele Utah
WsuArc	https://groups.google.com/forum/#!forum/wsuarc	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	GS ARC	145.430 - 123.0 (training net)
Sunday @ 8:30 PM	SATERN Net	145.900 - 123.0
Sunday @ 9:00 PM	Morgan Co Net	147.100 +123.0
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 @ 7:00 PM	OARC—Ham & Eggs Net	448.600 -123.0
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	GS 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: Dave Mamanakis KD7GR

Vice Pres: Mike Taylor KE7NQH

Secretary: Barbara Siddle WB7FWW

Treasurer: J. Siddle KG7CJN

Program Director:
Gil Leonard NG7IL

Activity Director:
Bob Smith KG7EIZ

"WATTS NEWS" e-Magazine

NL Editor: Val Campbell K7HCP

"OARC" web site

Webmaster: Val Campbell K7HCP

OTHER CLUB APPOINTMENTS

VE Liaison: Richard Morrison W7RIK
Jason Miles KE7IET (IT)

Repeater Engineers: Mike Fullmer KZ7O
Scott Willis KD7EKO

Photographer: Tim Samuelson
KE7DOA

Asst Photographer: Rick Hansen N7EGA

QSL Manager: Pete Heisig WB6WGS

Historian/Librarian: Kent Gardner
WA7AHY

Equipment Manager: Val Campbell K7HCP

Club Call Sign Trustee: Larry Griffin AD7GL

Club Elmer: Stan Sjol W0KP

Advisors: Mike Fullmer KZ7O
Kent Gardner WA7AHY
Kim Owen KO7U
Larry Griffin AD7GL
Gil Leonard NG7IL
Jason Miles K7IET

73 es cul de W7SU

www.OgdenArc.org