



WATTS NEWS



The Best of Amateur Radio

OARC e-Magazine

www.OgdenArc.org

JUNE 2020

Next Club Meeting/Activity

June Meeting & Activity



Dave Mamanakis KD7GR

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PREVIOUS CLUB MEETING/ACTIVITY

MAY Meeting/Activity

Golden Spike Special Event—W7G

**All operators quarantined
and operating from home.**

NEXT CLUB MEETING/ACTIVITY

JUNE Meeting/Activity

ARRL Field Day Event

Saturday 27 & Sunday 28 June 2020

PREVIOUS MEETINGS PICS

Photos by ... photographers have been quarantined

“Previous Meeting - pictures”

Photos located on the club web site home page.



OARC COMING EVENTS



Next Activity

ARRL Field Day Event

See the following page for details

Next VE Test Session

1st Wednesday 07 October 2020 @ 6:00 PM

CLUB NEWS

ARRL Field Day Event

Saturday 27 & Sunday 28 June 2020

Time: **12:00 pm Saturday to 12:00 pm Sunday**

Setup: 9:00 am Saturday; Takedown: 12:00 pm Sunday

Location: TBA ... check the website for the latest updates

Activity: **ARRL Field Day** - sponsored by Ogden ARC

Dinner main course and drinks provided ... 5:00 pm Saturday evening



... Please bring a side dish to share
(food dish, salad, fruit, desert), no chips please

Don't forget to bring your own dinner-ware (paper-ware provided)

[You do not need to be a licensed ham to attend. Everyone is welcome.]

Dave's Rag Chew



Dave Mamanakis KD7GR

3 Parts:

A message about Field Day; A message about the 10m Net; Dave's Rag Chew

A message about Field Day

A new month is beginning! June, the Month of Field Day!

But what is Field Day going to look like this month? Well, it will be a little different. We would normally have our Field Day over at Marriot Park in Marriot-Slaterville, but, due to COVID-19, that has been taken off the table.

We may, or may not, be going "green" in June. We've only heard rumors. So we'll be having Field Day elsewhere. Details will be coming out, so watch the WebSite and Tune in to the Ham-n-Eggs net! Don't feel pressured to join us at Field Day, the rules have been changed for this year to allow our groups to join in at their QTH, so you don't HAVE to come out to Field Day to join in, contact, and help your club make contacts!

But we believe, as does the Health Department, that gathering in smaller groups, practicing social distancing, keeping equipment clean and sanitized, and practicing some social distancing would make Field Day possible for those who would like to join in person! We're Ham Radio Operators, we'll make things work!

A message about the 10m Net

Jim Haynes (KA6J) has been running our 10m Net on Thursday Evenings. I have participated in the net a couple times and enjoyed using 10m, a great opportunity to operate outside of the "normal" UHF/VHF frequencies.

Well, the call of Texas has gotten to him and we will soon need to (hopefully) use 10m to communicate with him in the Lone Star State!

Thank you, Jim, for doing the Net! We really appreciate our Club works! "See a Need, Fill a Need"!

On that note, Gene Morgan (WB7RLX) has volunteered to take Jim's place! So the 10m net will continue on! We'll even keep Jim on the roll, just in case propagation works in his favor on a Thursday evening!

Seriously! You guys are awesome! I love this club and how it functions with people like Jim and Gene, Bryce (KI7YZU), Stan (W0KP) and Larry (AD7GL), who keep our nets running!

AND, if YOU'D like to get involved in our nets, JOIN US! All the information is on the Area Nets page off of our Club's Web Page! (Thanks Val!) If YOU'D like to RUN one of the nets, PLEASE contact one of these individuals and they can help you do it! It is a good experience to have and, in Ham Radio, a useful skill!

Thanks, again, to Jim for your work in running the 10m net! And Good Luck in Texas!

.. continued

Dave's Rag Chew

My Friends!

There are 2 kinds of "Digital Modes" in Ham Radio, Voice Digital and Text Digital. It is fitting that digital modes have come about for Ham Radio! Radio has long been the frontrunner for communications, and is the foundation from which WiFi, TV, and other technologies were born. We could call CW the "Original Digital Mode" as it uses "dits" and "dahs" (ones and zeros) ... so digital modes have been with us from the beginning, and have morphed and grown since then!

From there, we have improved upon the idea using tones to transmit written words. AMTOR, Hellenshiber, MT63, FSK441, JT6M, JT65, FT8, Olivia, Packet AX25, AMPRNet, PACTOR, PSK31, PSK63, RTTY, DSS, WSPR, and even HSMM and APRS...

There are other modes as well, and it seems new ones coming out all the time!

So, if you like to sit down and type, instead of talk, over the radio, these Digital Modes could be for you! I frequently use Olivia... I just like the way it sounds!

To operate in some of these digital modes, you will need a computer, radio, some software, and a TNC of some kind. One of the most common TNCs is a Signalink USB from Tigertronics, but others exist from Yaesu and West Mountain Radio, and others. Do some research on the features and price point before you make a decision.

For some digital modes, you may also need different hardware, like HSMM or Mesh Net, and APRS. HSMM requires the use of routers or special hardware. They share common frequencies with Ham Radio and can be used to set up Ham Radio Networks that work exactly like the Internet (but you must be a licensed Ham to use these networks, Technician Class at a minimum). APRS requires GPS for some of its functionality. But APRS can be used for sending data, which can include GPS coordinates, weather station telemetry, text messages, announcements, queries, and more.

I mentioned a computer and software... the computer houses the software, interfaces with your radio via the TNC. Some of the newer radios, like the Club's Icom IC-7300, have the TNC built in. All you need is the Radio, Computer and Software (and the USB cable to connect the Radio to the Computer) and Digital modes are off and running!

As with the TNC's, there are various bits of software out in the wild, namely FLDigi, Ham Radio Deluxe, Digipan, MixW, and others. There are lots of people with reviews and instructions on these softwares, take some time and look into their Pros and Cons! (some are paid and some are free, etc)

That about does it for the hard part ... the easy part is the Voice Digital modes: D-Star, DMR, System Fusion (C4FM, Wires-X), and even things like IRLP and EchoLink, among others.

It used to be that if you wanted to use one of these voice modes, you would need a radio that supports it: D-Star (Icom), DMR (TYT, etc), System Fusion (Yaesu), and that could cost you LOTS of money.

Then some enterprising individual developed the MMDVM device. It interfaces with a Raspberry Pi and allows you to communicate across these digital modes with a simple Baofeng, if you would like. Total setup and cost for this device is between \$50 and \$150, depending on the hardware you buy... you can buy them "ready to go" or "build it yourself".

The Club has digital capability on 3 of our 4 repeaters (Yaesu System Fusion) on 146.82, 146.900, and 448.600. We also support Wires-X on 146.900.

All the information and instructions are on the Repeater page at the Club Website!

Last month I talked about "Mic Fright", and maybe using some of the Text Based Digital Modes might be an option for you to get on the air?

Either way, Have Fun with it! It opens up a lot of possibilities! Lots of our Club Members are using FT8, which can reach around the world!

There is lots of experience and help to be had from the club in setting up and using these Digital Modes, so join us on the Ham-N-Eggs net if you need help!

-73-

Dave (KD7GR)

CLUB NEWS

HAM and EGGS Net

Tuesday Evenings at 6:30 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

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: Gene WB7RLX, ee_morgan@outlook.com

CLUB NEWS

NOTICE

The OARC - CW Net

Has been suspended

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

The Golden Spike Special Event W7G is finally over for this year.

The Golden Spike Park was closed this year due to Covid-19 so OARC operators operated from their homes that weekend where we logged 372 QSO's. Nine (9) were CW, 99 were SSB and 264 were FT8 contacts. We received QLS cards from 42 of the contacts that requested our W7G QSL card in return.

This was the first year that we tried FT8 mode which was a rewarding success. Twenty Six (26) of the QSL requests were from FT8 contacts.

Click on the W7G photo on the OARC website home page to view the W7G.org web page. There you see the QSL cards that we received from several operators that we communicated with that weekend.

We received emails from a few of our potential contacts.

Enjoyed speaking with Mike on 14.277 today during your QSO party commemorating the Promontory point meeting of the railroads.

My wife and I were at that national historic site in June 2018 while on our way to a family reunion in Cheyenne.

I took the attached picture with my cellphone.

Greg Preuss N6WCN

Morning,

Just curious if you are spotting your Special Event Station freq? Cannot copy on 14.255.

I'll be i & out all day & was hoping to find you on the DX cluster for a hit & run. Was at the spike 12 years ago last week. Would love to make the contact.

73 & enjoy de W4PD

Paul

Greetings,

Are you going to operate the W7G Station on 5-10? I have run into a bunch of interference from the AR QSO, and they have taken over the 7.235 frequency several times today. I have not heard CW on 7.04, either. I am a big train enthusiast, and I would so like to make a contact and get a QSL from this event.

Thank you,

Dustin Rhodes KM4UNY



W7G - Ogden Amateur Radio Club
 W7SU – Since 1921
 P.O. Box 3353, Ogden UT 84409 U.S.A.

www.OgdenARC.org
www.W7G.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 Jan 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".

Confirming contact with:			Day Month Year	
BAND	MODE	RST	UTC	QSL
				S R

W7G 2020 Contact Log Summary (click on QSO to view each log)

CALL	NAME	# QSO's	Mode	Band
KD7GR	Dave	0	SSB	6/10
KG7IGW	Jerry	1	SSB	40
W7RIK	Rick	3	SSB	40
AD7GL	Larry	3	SSB	40
NG7IL	Gil	9	CW	20
KB7LAK	Justin	11	SSB	40
KZ7O	Mike F	28	SSB	20/40
KJ7HEX	Mike W	53	SSB	20
K7HCP	Val	264	FT8	20/30/40/80

CLUB NEWS

NEWS YOU CAN USE

DID YOU KNOW ?

The Ogden Amateur Radio Club website has a couple of website visit counters to track the number of visits to our website from around the world. There is a visit counter at the bottom of the home page and one at the bottom of the W7G page. Check it out. Yes, your visit here today was one of the visits counted.

I also log the time, date and IP address of each visitor. The visit counter for W7G started at zero on 01 October 2018 and is currently at 12,579 visits. The visit counter for OgdenARC.org started at zero on in April 2005 and is currently at 198,805.

By internet standards we do not have a lot of visits to our website but it still amazes me the amount of traffic we do get. During May, the month of our Golden Spike Special Event, the number of visits to the W7G page jumps up considerably. This probably make a lot of sense. For example, we average about 700 visits to this page monthly. During May we logged over 1300 visits.

Where do they all come from? A lot of those visits were hams interested in our special event, looking up QSL address information and such. But along with those visits we also had MANY visits from internet 'Web Bots' from Amazon, Google, MicroSoft and Yahoo several times each night. The bots are checking us out, looking for information to catalog in their search engine algorithms. For example, it is no wonder why when you Google "w7g special event" you get 349,000 hits from just that one search engine.

73, Val Campbell K7HCP

CLUB NEWS

**Congratulations to those who successfully tested
at the June 2020 Weber County VE Test Session.**

NAME	CLASS	CALL
Smith, Robert L	Extra	KG7EIZ
Fallows, Rick	General	KF7VAW
Harper, Jared T	General	KB7YAL
Lucero, Ron V	General	KJ7MKQ
Sutton, Kathryn K	General	K8RYN
Thompson, Janet L	General	KF7NWL
Wilson, Gary H	General	KJ7MKN
Abbott, Wesley D	Tech	KJ7OLV
Allred, Dane J	Tech	KJ7OLM
Hinojosa, Jayden M	Tech	KJ7OLP
Hizer III, John E	Tech	KJ7OLS
Kelso, Braxton M	Tech	KJ7OLQ
Lambert, Chris J	Tech	KJ7OLU
Luper, Mike A	Tech	KJ7OLR
Miles, Rachel E	Tech	KJ7OLT
Nielson, David E	Tech	KJ7OLO
Reebe, Blair L	Tech	KJ7OLN

CLUB NEWS

Congratulations to **Rachel E. Miles** (call sign not yet assigned) who recently received her technician class amateur radio operators license at the June 2020 Weber County—OARC VE Test session.



Rachel E. Miles - **KJ7OLT**
(daughter of Jason Miles KE7IET)

CLUB NEWS

Sign of the times...

VE Test Session ... February 2020 (pre covid-19)



CLUB NEWS

Sign of the times...

VE Test Session ... June 2020 (social distancing practiced)



CLUB NEWS

Veteran's Home Thank You.

My monthly visits to the Veteran's home have been replaced with non-visits because of the COVID-19 pandemic. I haven't been able to go inside for several months. There are six of the veterans who are either ham radio operators with call signs or are interested in radio/electronics. I have replaced my visits with a monthly newsletter that I mail them every month. A sample of my effort follows:

Ham Radio Newsletter
George E. Wahlen Veteran's Home
Volume 4 for the year 2020
April Issue
By
Kent Gardner
Radio Station WA7AHY

April's article came from the March 2016 issue of *WATTS NEWS*. It is about the difference between a cell and a battery.

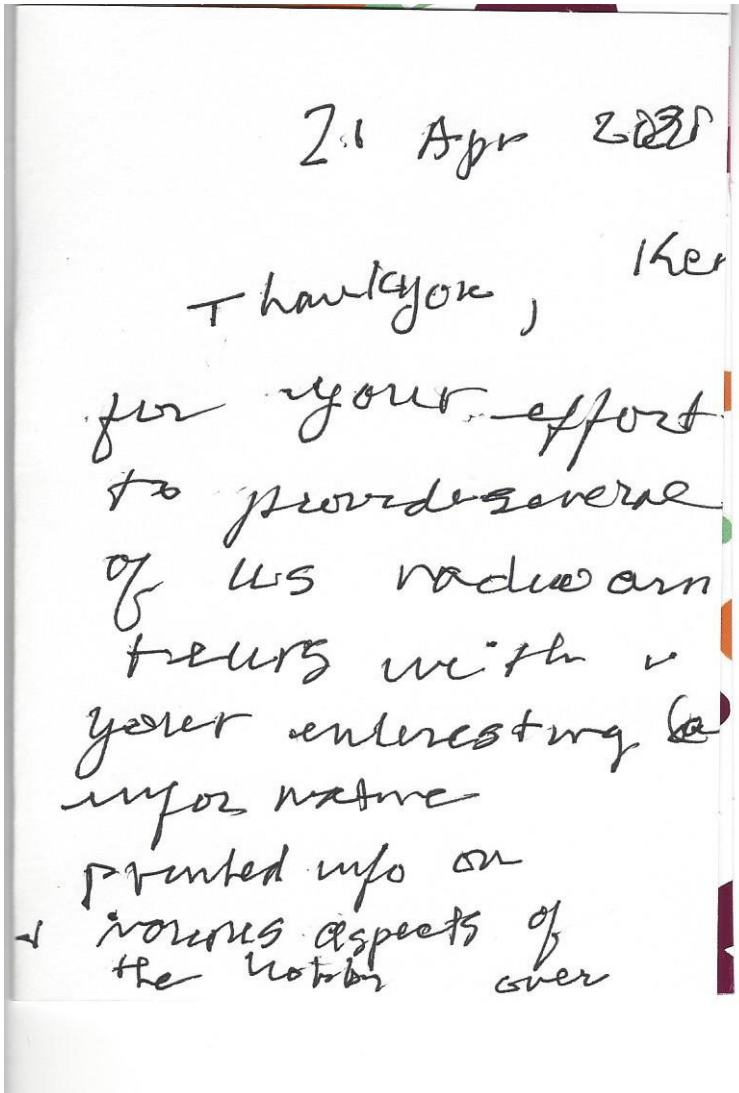
I was thrilled to receive a nice thank you note from two of the "guys". Both were licensed. While their age has slowed them down and the writer's cursive is written with difficulty, it was heart-felt and moisture began to form in my eyes. I can give you their first names (Rad and Jed) but HIPAA restricts me giving their last names, call signs and other information.

The text goes as follows:

21 Apr 2020 (note the military way of writing the date)

Thank you, Kent for your effort to provide several of us radio amateurs with your interesting and informative printed info on various aspects of the hobby. (over)

Sincerely, Rad and Jed.

A photograph of a handwritten note on lined paper. The text is written in cursive and matches the typed text above. The date is written as '21 Apr 2020'. The note is signed 'Rad and Jed' at the end.

21 Apr 2020
Thank you, Kent
for your effort
to provide several
of us radio am-
ateurs with a
year interesting &
informative
printed info on
various aspects of
the hobby over

Amateur radio has it's rewards, and working with our veterans is one of them.

TNX

Kent Gardner, WA7AHY

CLUB NEWS

Ham Shack Photos

Last month the unidentified Ham Shack Photo was ...

James Clarke K7JSC



Nice Shack James.

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

Repeat Article



WHAT DO YOU THINK?

A while back Gil NG7IL designed an alternative club logo (shown below) for consideration to replace our current club logo (shown to the left).

We have yet to consider this action as a club so I suggest that the board and members give this some thought.

WHAT DO YOU THINK?



HOBBY NEWS

NOTICE

ARRL Rocky Mountain Division Convention

Has been postponed

HamCon Colorado 2020

Postponed until 2021

Website <http://www.hamconcolorado.com/>

HOBBY NEWS

Another look-a-like License Plate



Is the owner of this plate named Kolby?

It looks like KøLB to me.

TNX

Kent, WA7AHY

HOBBY NEWS

The 15th annual 7QP was, by any measure, a great success!

A big “Thank You” to all those who participated in 7QP and submitted a log from the great state of Utah. I counted 32 logs from Utah and we were able to represent 23 of our 39 counties.

For those who received a certificate of recognition. Congratulations!

N7RXL and I managed a first place in Duchesne, Carbon, Emery and Grand counties and a first in the (somewhat limited participation) mobile class we entered.

For a complete write up on the event please check K4XU’s report:

http://ws7n.net/7QP/new/2020_7QP_Report.pdf

See you next year for more fun.

73

Darryl Hazelgren K7UT

7QP Captain for Utah

HOBBY NEWS

WSJT-X Version 2.2.0 is Now in General Release

WSJT-X version 2.2.0 is now in general availability release, after a short period in beta (or release candidate) status. *WSJT-X* version 2.2 offers 10 different protocols or modes -- FT4, FT8, JT4, JT9, JT65, QRA64, ISCAT, MSK144, WSPR, and Echo. The first six are designed for reliable contacts under weak-signal conditions, and they use nearly identical message structure and source encoding. JT65 and QRA64 were designed for EME ("moonbounce") on VHF/UHF bands, but have also proven very effective for worldwide very low-power communication on HF bands.

"FT8 is operationally similar but four times faster (15-second T/R [transmit-receive] sequences) and less sensitive by a few decibels," developer Joe Taylor, K1JT, explains in the version 2.2.0 [User Guide](#). "FT4 is faster still (7.5-second T/R sequences) and especially well suited for contesting."

Taylor noted that even with their shorter transmit-receive sequences, FT4 and FT8 are considered "slow modes," because their message frames are sent only once per transmission. "All fast modes in *WSJT-X* send their message frames repeatedly, as many times as will fit into the [transmit] sequence length," he explained.

Compared with FT8, FT4 is 3.5 dB less sensitive and requires 1.6 times the bandwidth, but it offers the potential for twice the contact rate.

New in *WSJT-X* version 2.2.0: FT8 decoding is now spread over three intervals, the first starting at 11.8 seconds into a receive sequence and typically yielding around 85% of the possible decodes. This means users see most decodes much sooner than with previous versions. A second processing step starts at 13.5 seconds, and a third at 14.7 seconds.

"Overall decoding yield on crowded bands is improved by 10% or more," Taylor said.

Other changes: Signal-to-noise (SNR) estimates no longer saturate at +20 dB, and large signals in the passband no longer cause the SNR of weaker signals to be biased low. Times written to the ALL.TXT cumulative journal file are now correct, even when decoding occurs after the T/R sequence boundary.

FEATURE ARTICLE

by Eugene Morgan WB7RLX

Best Practices When Installing an Antenna System

By Eugene Morgan, WB7RLX



One of the most common questions I hear from amateurs is about the performance or lack of performance of their antenna or complaints that their antenna has mysteriously stopped working or seems to work intermittently. In this article I will offer some recommendations about how to install an antenna system that will endure the test of time and the challenges of our Utah weather and hopefully result in a log book full of contacts or in the case of VHF/UHF many long QSO's. Before we start let's talk a little bit about your antenna situation.

"All antenna systems are a compromise driven by our individual constraints"

Few of us are lucky enough for our imagination to be our only constraint when it comes to selecting and installing an antenna system. Most of us are constrained by our pocket book, our property situation, our partner desires or requirements, our health and physical limitations, our knowledge, or worse of all HOA covenants. Any antenna system we build and install is always a compromise driven by our individual constraints. A free space antenna is a myth and only possible within the domain of mathematical theory or one's dreams. Also, there is no one size fits all solution when it comes to an antenna system. Given this fact it is critical that we optimize the antenna system we install regardless of the antenna we select. It may not be the biggest, the tallest, or the highest, but if it has been installed properly you will get the most out of it for years. What that means is that you optimize the whole antenna system where ever possible.

Note that I purposely used the phrase “*antenna system*”. It’s important that one understands that the antenna system includes everything in the hardwired RF path between the radio and the antenna. This includes patch cables, antenna switches, antenna tuner, any connectors that connect the inside of the shack to the outside of the shack, the transmission line, matching devices and finally the antenna itself.

Any antenna system is only as good as its weakest link. A failure of, or compromised performance of any one component will affect the whole system and impact your ability to transmit and receive. The components mentioned in the previous paragraph are all a part of the “Antenna System” and where possible each component should be optimized in their respective way. Sometimes these optimization are a small extra step and sometimes they can be a much larger undertaking. Regardless, these little extras can sometimes make a big difference in your stations on air presents, especially over the long term.

Installing a New Antenna

Your new antenna has just arrived and you are all excited to get it on the air and try it out. So you open the box, glance at the instructions and with screw-driver and wrench in hand you put it together, mount it, connect the cable, maybe check the SWR and put out your first CQ or call for an antenna check. Stop, hold the phone, or rather the mic, step away from that CW key. That’s not the right way to do it...

In talking to many amateurs this is exactly the process they follow and this is exactly where we need to start in optimizing the antenna system, at the beginning before the antenna actually shows up on your door step. Let’s turn the clock back, rewind and start at the very beginning of the process. Let’s go back to that point where you have made your decision and you are ready to order your shiny new and sometimes very expensive antenna. Or it may be you decided to put up a simple dipole or some version of a dipole. Regardless, the steps and goals are the same:

- Prevent corrosion

- Make sure the antenna’s physical and electrical properties will not change regardless of weather or how long it’s been up.

- Maximize the energy going to and coming from the antenna.

- Did I mention Prevent corrosion!

Here is a list of my recommendations based over years of fiddling around with antenna:

Step 1: Acquire one or more roles of silicone self-fusing electrical tape, not to be confused with black vinyl electrical tape, although you need a roll or two of that as well. The self-fusing electrical tape is noticeably thicker and is soft like rubber. There are several brands, get the one that won't breakdown in sunlight. You will use this on all exposed coaxial fittings, especially where the transmission line connects to the antenna and to the shack. This stuff doesn't fuse well when it's cold. So if your doing this in winter break out your wife's hair dryer.

Step 2: Acquire a tube of dielectric grease. I use Permatex 22058 Dielectric Tune-Up Grease. You use this inside your PL259 fittings when connecting the transmission line to the antenna. It's critical that you eliminate all air inside the connection between the PL-259 and the SO-239 which is usually the point of connection between the coax and the antenna. Where there is air there is moisture, where there is moisture there will be corrosion. The dielectric grease will fill the airspaces at the junction of the PL-259 and the SO-239. This will prevent rust and corrosion from forming inside the connector.



Figure 1: A PL259 on the left and SO239 on the Right

Step 3: If you are assembling an antenna with aluminum tubing that slides together you will also want to purchase a can of *Jet-Lube SS-30 Pure Copper Anti-Seize*. You use this on the end of the elements where they slide together. This will keep the water from corroding the elements connection points and will make it easier to disassemble the antenna in the future. This will insure a solid metal to metal connection that won't corrode. I will also overlay the joint with a layer or two of self-fusing tape, especially on verticals.

Step 4: Acquire a tube of Loctite thread locker. Use this on all bolts and screws to prevent them from coming lose over time. Antennas experience a lot of movement and vibration as well as temperature variations. All of this movement and expansion and contraction will cause nuts and screws to loosen over time. If that six element beam is sitting 120' in the air and a single bolt comes loose it can be a bit of a project to fix it, that also goes for the 3 element version at 40 feet. In extreme cases if left unattended it can weaken the antenna to the point of failure.

On a personal note I prefer to use aluminum rivets in place of bolts and screws for assembling aluminum tubing in antennas where aluminum tubing is used. I've never heard of one coming loose that was secured by rivets and if you're not sure you can pop in a couple of extra rivets to make sure the holes don't elongate or come loose over time. For aluminum tubing less than 2" in diameter I use rivets that have an 1/8 hole size and are 1/4 long. For larger tubing, 2" and up, I use 3/16 rivets. I've never had an element come loose. In fairness I should mention the down side. If you ever have to disassemble the antenna you will need to drill the rivets out. Although to be honest I've never found that to be an issue.

Step Five: Anti-oxidant Compound: Some antenna are connected to the transmission line without using the conventional SO239 connector. They are instead connect directly to a modified feed line that has had lugs or terminals soldered directly to the center conductor and shield. The Butternut vertical antenna is just such an antenna. Many Yagi antenna usually have wires with soldered lugs connecting the matching section to the driven element. And if you are using a vertical there is the connection point between the radials and the antenna. These connection points are usually not protected from the weather so being proactive in preventing corrosion is critical.

I recommend the use of an anti-oxidant compound on the exposed terminals. Using the compound will help to stop the corrosion that always forms at the exposed connection points. If you take apart a connection that has been not been properly treated you will notice a white powder has formed at the connection point. That is corrosion, the same kind of corrosion you sometimes see on battery terminals in your brothers Trans-Camaro. It is also recommended that where feasible these connection points be inspected yearly for corrosion and a reapplication of anti-oxidant compound.

Now that you have required these necessary items it's time to move forward and build that antenna.

Building Antenna Systems – Some Best Practices: Use the best coaxial you can afford. If it's HF (30 MHz and below) most of the RG8 on the market today will work fine. If the cable is used or its history is unknown make sure it's healthy cable. Look over every inch of it. Is the jacket cracked from sun rot or cut or chafed? Has it been kinked? When you peel back the jacket is the copper jacket bright and shinny? If the jacket is silver is there any discoloration from corrosion? Discoloration of the copper or silver shielding indicates that water has wicked into the cable, if this is the case it's time to retire the cable. Has the PL259's been properly installed? If you're not sure, cut them off and put a new set on yourself. The ARRL Antenna handbook has a whole section on soldering on PL-259 connectors. If you don't feel comfortable doing it yourself ask one of your ham buddies, most of us are happy to help.

Given how inexpensive Antenna analyzers have become more hams now own one. It only takes a minute to check a length of coax with an analyzer. If you don't have one ask one of your ham friends. We are always looking for an excuse to break out our analyzers.

If you're installing a VHF/UHF antenna the cable you use is a critical consideration, especially if the cable run is more than 30' or so. Line loss from using cheap cable or the wrong cable can play havoc with your ability to hear or to be heard. I strongly recommend that you not use RG8X or RG58 for runs longer than 25' or more. For runs over 30' the line loss can be a problem. Instead use RG8 or RG213. Paying a little extra for good cable is worth it in the long run, especially when it comes VHF/UHF frequencies.

Final Checks: When you assemble the antenna did you double measure? Did you read **all** of the instructions? Did you put some sort of a corrosion blocker on the elements where they slide together? When you connected the cable to the antenna or balun did you fill the connector with dielectric grease before screwing it onto the SO239? Once you attached the cable did you clean off the excess grease from the connection and then wrap the connection with self-sealing tape? Did you use thread locker on all the nuts, bolts, and screws? Did you apply anti-corrosion compound on all exposed connection points?

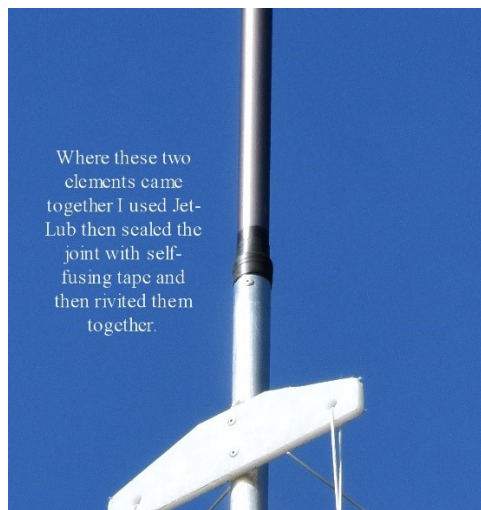


Figure 3: Joining antenna elements together

If you followed these recommendations your system should work as promised for a very long time. I have taken down antenna systems that have been up for over ten years and the connections looked as good as the day I installed the antenna.

Now that you have installed the system and optimized the installation it's now time to put your station on the air. Nearly always the first measure we take of our antenna is an SWR reading. We should take a moment and talk about that. Let me peak your interest and tell you there are a lot of misconceptions about SWR. Let me also hint at something which is one of the biggest misconceptions about SWR. Regardless of SWR, **ALL** the power that you send to the antenna, including the reflected power, is radiated except the power that is lost through heat and attenuation in the transmission line. Hopefully that has peaked your interest.

SWR?: Most hams place a lot of importance on having a low SWR, typically something under 1.5:1. They seem to equate it to antenna performance. Be careful, SWR is not a key indicator of antenna performance. For many antenna's, the G5RV for example, if you look at the SWR on the feed line between the output jack on the antenna tuner and the antenna feed point you will see the SWR can be very high, yet these antenna work well. The same can be said for long wire antenna as well as a host of end feed and OCF antenna, they all seem to work in spite of high SWR readings on the transmission line beyond the antenna tuner. Good performance with these high impedance antenna is possible due the ability of our antenna tuners to provide a conjugate match to the antenna system. You will also note that dummy loads have a very low SWR but make poor antenna.

There have been many books and articles written on the subject of SWR (aka VSWR), perhaps the best one, IMHO, is "*Reflections III Transmission Lines & Antennas*" by Walter Maxwell W2DU. I'm not going to attempt to take on the subject here. Instead I'm going to recommend you watch the following short YouTube video titled: "*SWR Explained*" <https://www.youtube.com/watch?v=w1eE13UXAKs>. Another much better but much longer video on SWR and related items is called "*Standing Up for Standing Waves*", <https://www.youtube.com/watch?v=oejsHzurzv4>. After watching either of these videos you will have a much better understanding of SWR and hopefully you will be able to put the subject of SWR into its proper perspective. You will also have a better understanding of why using a low loss transmission line is so important. If you want a much deeper and more technical and expansive explanation I recommend you read Walter Maxwell's book. It's one of the best and most understandable books on the topic of SWR. It clears up a lot of misconceptions regarding SWR.

Summary: Our antenna systems are always a compromise of constraints and as such it's important that we optimize our installations especially if the optimization is easy and inexpensive. Taking steps to prevent corrosion is one of the little things we can do. Using good coaxial cable is another. Of course there are those optimization that take a lot more work and sometimes money. In those situations one has to ask, is the effort worth the reward? Will adding two more radials really make a difference in S-Meter reading on the far end of your signal? Will an extra 3' of elevation on that beam really make a difference in S-meter readings three states away? Sometimes the answer is easy, sometimes not so much.

I hope the information I have provided will be helpful as you contemplate your next antenna installation. Or if you are having issues with your current system perhaps this article will provide you with some specific areas to investigate. If you hear me on the air know that I'm always happy to talk about antenna, they are one of my favorite subjects.

73,

Gene (WB7RLX)

FEATURE ARTICLE

by Kent Gardner WA7AHY



Lightbulbs for Dummies

Using light bulbs in ham radio is not so far-fetched as you may think. Those of you who are members of the American Radio Relay League (ARRL) immediately noticed the cover of the May 2020 issue of QST. What were they thinking of?

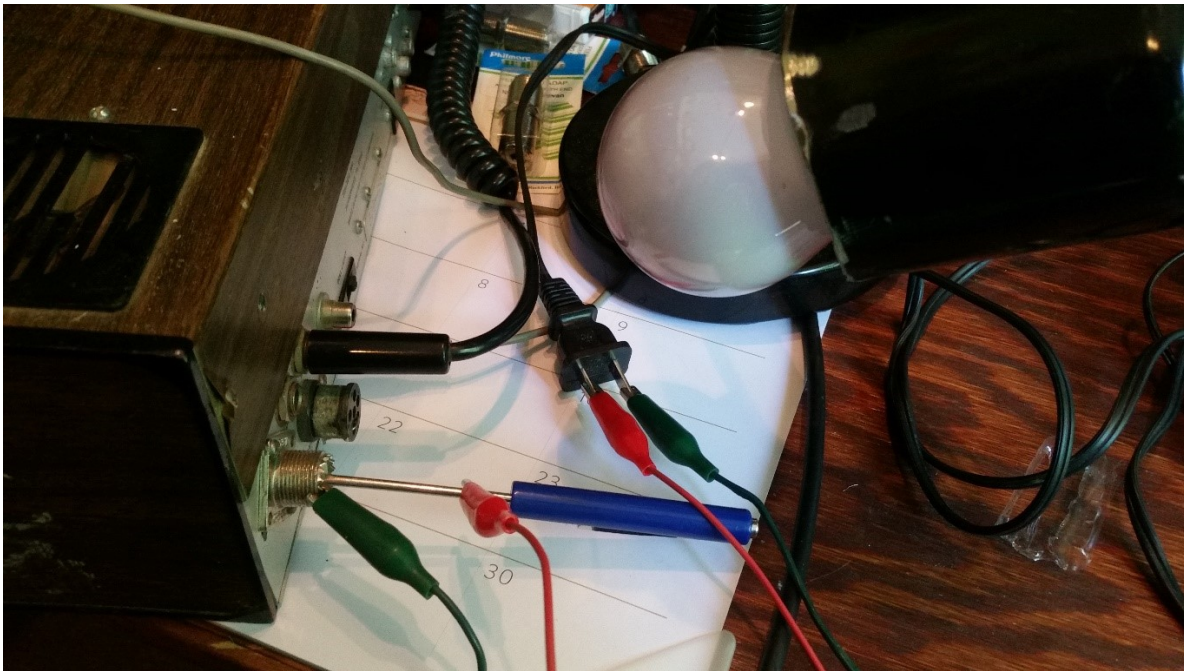


Reprinted with permission; May 2020 QST; copyright ARRL. Mailing label is blanked out for privacy.

The QST cover raised my interest immediately. I know they used loading coils and other safety measures to make them work. Most older operators have known about using light bulbs as dummy loads for a long time, knowing that they did radiate, sometimes badly.

Incandescent light bulbs turned on for light and heat in a tent during a cold all-nighter during field day is a comforting thought. Pilot lights in radios help us see what frequency we are tuning to and tell us if the radio is even on. Tuning aids made-up-of small neon lamps can be moved along antennas to tell us where the current cross-over points are.

Something as simple as clip leads connected to a desk lamp would tell us if the transmitter was putting out. The bulb should be rated at more watts than the power coming from the unit. I have used light bulbs for dummy loads for many years.



An enterprising ham thought that it might be better if the light bulb was put in a shielded container.



I even have one of these dummy loads, as shown above, as a keepsake.

The tubular metal container has hard pounded rivets everywhere. Instead of clip leads, this unit has an SO-239 to keep the RF from the transmitter inside coaxial cable to reduce radiation. Metal screens add to the RF tightness.

Val, K7HCP, has a light bulb dummy load setup that he brought to ham club meeting one day for one of his “HF-101” presentations in 2008.



Val still has that very 150-watt light bulb from 1969 sitting on top of his current transceiver to this day. Notice the old-style light socket he uses. He does use a tuner.

I think it was at that meeting that club member, Mike Fullmer, KZ7O, raised some concerns about using light bulbs as dummy loads.

I told Mike that I would appreciate a few notes from him about the pros and cons of light bulbs as dummy loads and not necessarily about antennas like in QST.

Are they okay to use with tube type transmitters, such a Heathkit, Globe, Knight Kit and similar units?

What about solid state transmitters.....could the changing loads of the filaments heating up, burn out the transistor finals?

They are probably not using “good engineering practices”, but would suffice for a beginning operator who doesn’t have a lot of money?

On the positive side, they do illustrate that transmitters put out power as recognized by the bulb lighting up.

Do we know what impedance a light bulb filament shows to the transmitter?

Mike’s reply:

Using light bulbs was used with tube transmitters because they had a tuning section on the output, that could tune a wide impedance. Solid State transmitters do not have this. But if someone put a tuner on the output of their solid-state transmitter and adjusted it for a 50-ohm match to the transmitter then it would be a similar concept. However, as you mentioned, the impedance did vary as the lamp got hot or cool. For a steady state signal, like CW, the lamp would get warm rather quickly and then stabilize.

The QST article did not mention the required antenna tuner for these lamp antennas. Most remote wide band antenna's do require it.

I had a LED version of this once. I had a truck with a fiberglass shell. The external rear light, on the shell, was LED.

I would put my HF rig in the truck when camping or other times. One day, while I was talking on the HF rig, my wife came to me and said the rear shell light was blinking. This was strange. After some experimenting, I determined that when I transmitted, the LED light would come on. It would blink on and off with SSB, as I talked. It was a modulation indicator. The wire going to the light would pick up the RF and turn the LEDs on. Well I really did not want the LED light to blink at night, so I put a toroid around the power lines feeding the light and it took care of the problem.

I know people who would put the old NE2 lights on their mobile antenna's and they would blink on and off the same way. I did this once and it did work.

Realize that the lamp filament is mostly resistive. There is a small inductance, but it mainly resistive and so it just acts like a dummy load on the end of the vertical pole. The vertical pole radiates, so the lamp at the end just terminates the antenna to the air. There are some wire antenna's you can make for HF that you can put a resistor on the end to add direction to the signal.

I thought it would be a fun thing to play with. Notice it fit in for the May QST article really well.

End of Mike's reply.

So, we have learned that light bulbs (my mother called them globes) can be used for antennas as in QST and as dummy loads and modulation indicators. Make sure you have a tuner/ loading coil with the setup. The bulbs with longer tungsten filaments are better. Thinking back, I remember that when using a light bulb as a dummy load, you could tune for maximum brightness on the bulb, but when you connected the rig to the antenna, you would have to make slight adjustments to fully match to the antenna.

By Kent Gardner, WA7AHY

Photographs by Kent Gardner and Val Campbell

Technical contributors,

Mike Fullmer, KZ7O

Val Campbell, K7HCP

GUEST ARTICLE

by Dan KB6NU



Let's get creative this year on Field Day

By Dan Romanchik, KB6NU

Since many of us are still hunkering down, and that doesn't look like it's going to change much by the end of June, Field Day is going to be a lot different this year. Our club has cancelled our club event, and I'm really going to miss helping newcomers operate the GOTA station, the food, and all the camaraderie. That doesn't mean that Field Day can't still be fun, though. Let's get creative!

First, note that the ARRL has modified the Field Day rules for this year. The biggest change is that Class D stations, that is home stations using commercial power, can now work other Class D stations for points. Previously, this wasn't allowed.

The second change is that the ARRL will publish aggregate club scores this year. In previous years, this was only done for Class A and Class F entries. Remember, though, Field Day isn't a contest (yeah, right!).

Personally, I plan to operate 1B-Battery. I'm going to set up my KX3 on the front deck and power it with a LiFePo battery charged by a recently-acquired solar panel to get the 100 point bonus for alternate power. For an antenna, I plan to set up my 20m/40m fan inverted-V "GOTA antenna" in the front yard.

I'm going to shoot for other bonus points, too:

- copy the bulletin—no brainer.

- promote my location on social media—I am going to get on NextDoor and invite neighbors over to watch from an acceptable "social distance."

- put some literature down at the bottom of the hill near the street and claim a public information table.

- send a press release to the local online paper and claim a media publicity credit.

- perhaps get someone under 20 to come and operate while I coach from an acceptable "social distance."

If Class B isn't your cup of tea, check out the presentation, "Field Day and Social Distancing," (https://docs.google.com/presentation/d/e/2PACX-1vSWypTtJ_R0s-UmysOEhQWwJwBIMrOavXqfs5AvigQzad8Z1c3JFn9TMI5ewxc8VVIIIX-2g6bOTpUFD/pub?start=false&loop=false&delayms=3000&slide=id.g774df1657a_0_39) by Anthony, K8ZT. It has a lot of great ideas, including ideas on how to operate mobile (Class C).

Field Day doesn't have to be a downer this year. Get creative and have some fun.

=====

Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (KB6NU.Com/study-guides/), and often appears on the ICQPodcast (icqpodcast.com). When he's not thinking up new ways to enjoy Field Day, he likes to build stuff and operate CW on the HF bands.



FCC Providing Flexibility to Volunteer Examiners in Developing Remote Testing Methods

05/03/2020

The FCC has clarified that nothing in its rules prohibits remote amateur radio testing, and no prior approval is needed to conduct remote exam sessions.

“The Commission provides flexibility to volunteer examiners and coordinators who wish to develop remote testing methods or to increase remote testing programs already in place,” the FCC said in an April 30 [news release](#). “We recognize that some volunteer examiner coordinators may not have the immediate capacity for widespread remote testing. We expect those volunteer examiner coordinators with limited remote testing capacity to work closely with those requesting such testing to prioritize any available remote testing slots.”

ARRL Volunteer Examiner Coordinator Manager Maria Somma, AB1FM, said she’s gratified to see that the FCC appreciates the need for remote testing. “Many of our VEs and VE Teams have been employing remotely proctored exam sessions with both video and in-person components, and following social-distancing protocols, where necessary” she said. “Some ARRL VE teams have [shown great promise](#) in administering exams remotely.” Somma also said that as states begin to lift restrictions, the possibility exists to restart in-person amateur radio exam opportunities.

“We urge our VE teams to keep up to date so they can make informed decisions based on local community guidelines, as each community is unique,” she said. “Our volunteers should use their best judgement when deciding whether or not to begin conducting in-person exam sessions. It is important to us that you feel confident when choosing your course of action, because the health and safety of our VEs and the examinees is the top priority. VE teams that choose to conduct in-person sessions should re-start consistent with local restrictions and guidelines.”

To find amateur radio license exam sessions in your area, [visit](#) the ARRL website. Candidates should verify with their VE teams that the exam session *is* being held and if any special procedures are required to attend.



FCC Adopts a New Official Seal in Anticipation of Relocation

05/01/2020

In anticipation of its upcoming move, the FCC has adopted a new FCC seal. The redesigned seal is the product of an agency-wide contest that solicited proposals from employees and contractors. The winning design, submitted by Umasankar Arumugam, was selected by a vote of the agency's employees and contractors.

The revised design incorporates several elements: communications technologies currently transforming our world; four stars on the outer seal border, drawing from the legacy of the predecessor Federal Radio Commission seal; 18 stars on the shield, recognizing the current number of bureaus and offices; and the eagle and shield, identifying the FCC as a federal government agency.

Over the next few months, the FCC will incorporate the new seal on official stationery, business cards, publications, and other materials, including on its website and throughout its new Headquarters. Official use of the new seal will begin following completion of the agency's move from the Portals to its new Headquarters. The date of the move is to be determined and has been delayed due to COVID-19. — *FCC news release*



The new official FCC seal.



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 # 207

FOR FREE:

MFJ Deluxe Electronic Keyer, Model MFJ-8043 IC (used).

Still works, but needs a 9 volt battery.

Free, that \$0 to the first person who comes and picks it up and who really wants to learn Morse code.



ASKING PRICE: \$0 FREE

CONTACT: Gene, WB7RLX 801 540-4907

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.

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

Join or Renew your membership now!

Joining & Renewal is easy. On the club website home page click Join/Renew tab and fill out the membership form. You can pay using your PayPal or mail a Check or Money Order to the club PO Box listed. Or print a hardcopy of the membership form, fill it out and mail it to the PO Box along with your payment. Better yet, Come to a club meeting and bring the completed membership form with you.

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.

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.

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 prepaid in advance for each badge ordered and specify Call Sign and First Name.

Visit the club website home page Join/Renew tab and fill out a membership application form to order your badge.

Or come to our next club meeting or event and make contact with our club treasurer via club website email to order your 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 J. Siddle KG7CJN via club website email. 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

K7YZU - BRYCE

KA7TYX - MAX

KD7RPT – SPARKY

KF6CCK – DAVID

KF7HNU – RALPH

KT7JIM – JIM

K8RYN - KATHY

NOINC - LONNIE

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 email 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 bottom 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 bottom of the club website home page to view recorded meetings preserved for your viewing pleasure.

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