

### 2016 Leadership

#### Elected Positions

##### **President**

Ray Spreier, KG7AV  
[hidarg-pres@hidarg.org](mailto:hidarg-pres@hidarg.org)

##### **Vice President**

Darrell Fevegeon, KD6WWK  
[hidarg-vpres@hidarg.org](mailto:hidarg-vpres@hidarg.org)

##### **Secretary**

Max Vaughan, KF7MAX  
[hidarg-sec@hidarg.org](mailto:hidarg-sec@hidarg.org)

##### **Treasurer**

John Cherry, KE7GYB  
[hidarg-tres@hidarg.org](mailto:hidarg-tres@hidarg.org)

##### **Director At Large**

Brian Case, KF7WPK  
[hidarg-mal@hidarg.org](mailto:hidarg-mal@hidarg.org)

#### Appointed Positions

##### **ARES Coordinator**

Andy Johnson, KE7TMU

##### **St. Charles R7HPP Liaison**

Pending

##### **Technical Director**

Bill Johnson, N7RGB

##### **W7JVO Repeater Trustee**

Joe Barry, K7SQ

##### **Licensing / VE Coordinator**

Joe Barry, K7SQ

##### **PIO / Media Contact**

Don Shurtleff, WB0DVS

##### **Scouting / JOTA Liaison**

Mike Williams, KB7KLT

##### **Newsletter Editor**

Max Vaughan, KF7MAX

##### **Webmaster**

Bryan Ivie, N7VME

#### Meetings

##### **Weekly Lunch Gathering**

Wednesdays at 11:30am  
 Jake's Diner in Bend

##### **Monthly Business Meeting**

1<sup>st</sup> Thursday of every Month  
 At 7:00pm  
 Mid Oregon Credit Union

##### **HIDARG - W7JVO**

PO Box 723  
 Bend, Oregon 97709  
 USA  
[www.hidarg.org](http://www.hidarg.org)

## Is CW Obsolete!

The U.S. military no longer requires its radio operators to know the radiotelegraph code. Amateur radio licenses no longer require code proficiency either. There are a number of digital communication protocols that do not involve code. Since there is SSB voice, so why would one want to go to the trouble of learning code?

Back in the 14<sup>th</sup> century BC, the primary method of recording events and history was through the use of hieroglyphics. Pictures were used to stimulate memorized verbal accounts of historic events. Then letters came along to represent phonetic sounds of speech.

The phonetic sounds used to form a language can be reduced to about 30 symbols. Thus when you say the word “dog” you make the D sound the O sound and the G sound. You are really “spell-talking”. However, the hearer has been trained to put the letters together to form words, and the words connote various images in the mind.

A baby learns to associate words with ideas. When he is about 5 years old he learns the alphabet and the sounds that go with the letters. Lo and behold, he can read. If his skills develop he may get to the point where he does not actually perceive the letters, but whole words and ideas are triggered in his mind. He is a speed-reader.

During WWII fighter pilots were trained to send and receive code at 20 wpm. Small aircraft could not carry the powerful transmitters used for phone, so CW was used for long distance communication. Several classes got jammed up because pilots were unable to pass the code test. T.C McElroy, the worlds fastest CW operator, (95wmp), was asked to come help train pilots. He set up various time periods during the day when no-one was allowed to “speak”. Words had to be transmitted and received in spelled form – “spell-talking”. He also re-trained them by sending letters at about 35 wpm with wide spaces between the letters so they were sound packages, not groups of dots and dashes. It worked!

Why do folks feel that it is hard to learn code? They are not learning a new language, just learning to “spell-talk”. After the code speed progresses beyond about 25wpm, the operator begins to hear words, not letters. After a while, the ideas being transmitted appear in his mind, not the words.

I had a student in an on the air (2m) training class where we learned the letters as sound packages, not combinations of dots and dashes. The letters were sent at about 25wpm, with long spaces between. After about 2 weeks, the student had learned the code and by another 2 weeks he was copying at about 20wpm – about as fast as one can write down the words. With this method of training the student does not go through the traditional speed humps of 8 wpm, 12 wpm, etc. The mind is able to receive the letters as sound packages and very quickly adapts to words being sent rather than letters.

Voice transmissions take about 2500 cps bandwidth. The words need to be about 10db above the noise level in order to not confuse the similar sounding words. CW requires about 200 cycles of bandwidth at 35wpm. The human ear can perform a type of Fourier transformation and is able to distinguish the code tones even when they are 10db below the noise level. Thus CW has a 20db noise advantage over phone, and a 200/2500 cycle bandwidth advantage. It is even superior to teletype and some other digital systems.

So why the reluctance to learn code? It is not “obsolete”. In fact, in emergencies it is often the only form of communication that can get thru. It seems to me that the reluctance comes from the fact that it sounds “old fashioned” and requires a little effort to learn to use it.

Granted that CW does not have the word inflection and vocal emphasis of the phone. However, CW operators often develop idiosyncrasies in their sending. During the WWII CW operators could often tell that an enemy operator had “borrowed” the call letters of another station and they were able to reject the bogus traffic.

So give it a try. Learning it at a much faster speed right off is both faster and generates greater proficiency. CW is not dead. (ed note: More folks are getting into CW than ever before!)

-73 John Ogden W9CZ

# Hams and Pi's

Max Vaughan, KF7MAX

No, I don't mean pie, I mean Pi but no like 3.1415926 etc etc... but in Raspberry Pi. Some of you may be familiar with them, others may have heard someone refer to them, you are just not sure what all this fuss is about. The history of Pi is quiet fascinating, and you can read some bits of it in the first issue of the MagPi magazine. This bit excerpted from that issue sums it up: "The Raspberry Pi project began in 2006. There was a common desire amongst certain individuals to recapture a sense of the pioneering spirit of computing that came during the 1980s, when affordable personal computers became available to the average hobbyist or budding computer enthusiast. There was a growing concern about the diminishing interest in computer science and an opinion that the ICT (tech) curriculum had become too focused upon word processing, spreadsheets and databases"

Basically these folks wanted to provide kids the opportunity to learn about computers, programming and electronics. See the resources box for more info. Suffice it to say their goal started out to sell 10,000 units at a fairly low cost (\$35us) so that young minds would be inspired to do something more with technology, rather than just sending texts to one another or playing Nintendo.

The Pi was launched on Feb, 29<sup>th</sup> 2012. pre-orders for 10,000 units were being taken at that time. In short it was a hit: demand was incredible. Orders fell behind by several months. By Nov of 2013 the foundation had sold over a million units. As of Feb. 2016 over 8 million Pi's have been sold. Since the beginning the Pi has gone through a number of iterations, each time getting faster, more memory and more features. The current Pi3 has 1 gig of ram, HDMI video out, built in wi-fi, and Blue Tooth, runs a quad core processor at 1.2ghz. Add a wireless mouse and keyboard, a monitor that supports HDMI, and you have an extremely useful computer, all for less than \$100.

What is totally amazing is that with the GUI interface up and running, there is nothing you can't do with this PC that most of folks are not currently doing with your basic high end PC system. Email, surfing the net, creating docs. The OS on the PI supports Libre Office, which is the program I do the Newsletter with. Watching Netflix or YouTube videos runs just fine, with no dropouts or picture pauses an the Pi3.

The best part with having a Pi? Its personality can change to suite the job at hand. The Pi uses a MicroSD simcard to hold it's operating system and store files. However by switching out the card in mere minutes, you have toggled from a normal everyday PC, to a dedicated TNC controller capable of hosting email. Not only can a Pi process images, take pictures and video with it's new 8meg color camera, it can control your electronics in your house, and it can even control your ham radio. There is even a company that is working on creating a repeater controller with the Pi.

If you have heard of the Roku media entertainment box, the Pi can emulate a media player, again just by switching out its memory card. And the Pi can also access external hard drive systems for more storage.

There are a number of books out on the Pi and how to start up with it, and what it can do. With respect to Amateur radio, the ARRL has one in their library called Raspberry Pi for Dummies. The problem I see with most of the books out there, is that it is hard to find the right one to suit the skill level of the individual. If you are new to Pi's then this one covers most of the Pi, and getting it setup. What ever book you get, make sure it is a current one, and address's the new versions that are out there. The raspberrypi.org is a great resource, but can be difficult at times to find exactly what you want. The user groups are loaded with information, and they are a great place to start reading.

Listed in the resources section are a number of the my favorite links to Pi's and ham radio. If you have found others not mentioned drop me an email so I can add it to my list of links.

One last mention on the Pi. The Pi Foundation held a contest for school kids to come up with programs to load onto a Pi and take it up to the International Space Station. Housed in a customer flight worthy box, there are two Pi's in space. Ed and Izzy. Tim Peake (Britain's astronaut on the ISS) is in command of them, and running the kids experiments for them. The story takes place over several issues of the MagPi magazine which are free downloads from the magazines web site. Issue 43 covers the switch on and experiments that Ed and Izzy are performing for the kids whose code made it to space. The 2016 code contest is now underway. If you do not read any other issue, read this one. - KF7MAX



## Unpacking the Astro Pis

4 January 2016

Ed is set up in the ISS at his designated spot, ready and waiting to be turned on.



## Ed boots up

2 February 2016

Ed gets switched on by Tim Peake and starts running Crew Detector as his first experiment.



## Izzy switches on

16 February 2016

Finally, Izzy is activated by Tim and begins her experiments, pointing her camera at the Earth far below.

### Raspberry Pi Resources

The specs for the new Pi3 can be found here. This is also the main site.

<https://www.raspberrypi.org/magpi/raspberry-pi-3-specs-benchmarks/>

The MagPi magazine. (Downloads page for all issues)

<https://www.raspberrypi.org/magpi/issues/>

British resources for ham projects with Pi's.

<http://www.g0hwc.com/raspberry-pi-ham-radio.html>

Lots of ham radio Pi projects, I have only scratched the service on this one.

<http://www.raspberrypiconnect.com/raspbian-packages-list/item/71-raspbian-hamradio>

Interesting info on using a Pi as a repeater controller.

<https://openrepeater.com/>

Building a transceiver with a Pi

<https://www.element14.com/community/community/raspberry-pi/blog/2015/11/05/building-a-ham-transceiver-with-an-rtl-sdr-raspberry-pi-and-rpitx>

Alternate link to similar project (same)

<http://www.rtl-sdr.com/building-a-ham-transceiver-with-an-rtl-sdr-raspberry-pi-and-rpitx/>

Not really Pi related but more SDR, very cool.

<http://www.rtl-sdr.com/rtl-sdr-tutorial-following-trunked-radio-unitrunker/>

One Hams use of a Raspberry Pi

<http://ag1le.blogspot.com/p/raspberry-pi.html>

News worthy article about Hams and Pi's. A bit dated, but still interesting. Some info is not relevant.

<http://www.hamradioscience.com/the-raspberry-pi-and-ham-radio/>

Joe KB6NU project for a Pi

<http://www.kb6nu.com/with-just-a-wspr/>

Places to Buy a Pi.

<http://www.newark.com/raspberry-pi-essentials-kits> Best Place, always \$35, and the 5vdc adapter is only \$5. Several starter kits as well.

<https://www.adafruit.com/> Lots of stuff to go with Pi's, and I don't mean whipped cream, plus many tutorials.

<http://www.amazon.com/> Always a bit more, as they try to have them in stock at all times, lots of starter kits.

### **ARRL Field Day. Location "Creek Side Park in Sisters, OR**

At this time we do not know what class we will run in, could be 3A or 4A. Depends upon who will step up and devote a few hours of operation calling for contacts. Even though the primary goal is to practice our skills in making contacts, and to have fun. The fact remains that if we as a club in Central Oregon want to be noticed as a seriously committed organization in all of our activities, placing higher up on the list of Oregon participants in field day and chalking up some serious points goes a long way to get us there. Each year we do pretty darn good, all things considered.

We have a few folks that can work through part of the night, so those of you that can step up and work a few hours when you can during the other times would go a long way to help out.

You do not need to know what your doing... trust me. Those of us that do, can show you what to do and how to do it. Even if you only have a tech license, you can operate HF on all the bands, as there will always be an "Extra" standing by. We will have our own private network with linked laptops for logging contacts. This will allow you to check if we have a duplicate call already.

Hope to see you there... there is rumor of a BBQ on Sat afternoon, will be potluck for the side dishes. Work parties will be forming to raise antenna's, setup stations, etc. Let me know if you want to help out, either with setup or operating a station.

- KF7MAX

**Dan Romanchik, KB5NU** (This column is going out to 385 clubs. Dan should hit 400 soon!)

**I'm EXTRA Ignorant:**

On Sunday, I received the following e-mail from a reader:

"Just wanted to let you know I passed the General exam using your study guide. It was very helpful. I am now generally ignorant whereas before I was only technically ignorant. Ha!"

My reply to him was: "Well, if you're generally ignorant, I guess that makes me EXTRA ignorant!"

This isn't just a joke--being ignorant is part of the hobby. Amateur radio operators will always be ignorant about something or other. Even if you could master every facet of the hobby at some point in time, your mastery would be short-lived as the technology continued to advance.

Over the course of my amateur radio career, we've gone from equipment that primarily used vacuum tubes, to solid-state gear that first used discrete transistors and then integrated circuits, to software-defined radios. I could have, at some point, simply given up on the new technology and still enjoyed amateur radio. Some guys do that, and that's OK. It is only a hobby after all.

I'm not one of those guys, though, and if you're not one of those guys, then you have to resign yourself to being ignorant. But, that's a good thing, as long as you realize that you're ignorant. Realizing that you're ignorant will spur you on to learn new things and accept new challenges.

Recently, I realized that I'm mostly ignorant about satellite operation. I know some of the basics from having read articles and writing about the topic in my study guides, but I have never made a contact using a satellite. I think that might be one of my next challenges. With the advent of CubeSat, there are many new satellites up in the air and many more opportunities to have interesting contacts.

So, what are you ignorant about? By that I mean, of course, what's going to be your next challenge in amateur radio? \

– 73 KB6NU

When he's not challenging himself with new things, Dan falls back on something he knows pretty well--operating CW. You'll find him mainly on the 80m, 40m, and 30m bands. Dan is the author of the "No Nonsense" amateur radio license study guides, and blogs about amateur radio at KB6NU.com, and you can contact him by e-mailing [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com).

**Glass repeater update:** Glass Butte system was down for a few weeks, due once a gain to a popped breaker. Either something serious is going on in the environment up there, or the alternate breaker we moved to the system to was in a marginal state. Brian KF7WPK and Max KF7MAX headed up on Saturday 14th to check out the system, unfortunately we failed to bring along the necessary access tools to get into the actual site. A quick trip back on Sunday morning and once into the site, the breaker that "only" our system uses was popped. Suspecting that we might have an issue with the power supply over drawing on current, when power events occur, we changed out the power supply as well. We swapped out the batteries with a new set, as the ones on site had been depleted. (They are currently being tested and reconditioned to see if they are still viable for use.) While there we had a chance to finally hook up the APRS system and bring it online. Once we can obtain a weather resistant antenna, we can then bring up the Digiappeater as well.

Also as a secondary measure we once again moved the primary ac power to an alternate breaker that was only powering 1 unused outlet. Recommendations on next trip, (due early summer) will be to bring two new breakers, put the system on one of those breakers, and a back up system on another breaker that not only keeps the batteries alive, but will allow us to know when the power is down, and to remotely deal with it. We also need a system to monitor the voltage on both AC, and the batteries, so that we can be notified asap when any issue come up.

An Arduino can monitor both the AC line, DC power supply, and battery voltage level, it can shut the system down, or switch everything over to the backup breaker if need be, and send a message on a time schedule that maintenance is required. Most of this stuff has already been designed in one form or another due to the work on the Sharps Ridge repeater system enhancements It would also allow us to remotely shutdown the APRS and Digiappeater as well to conserve battery power in time of need. Since Glass is an integral connection to Burns, I also recommend that we add additional batteries to the site.

Getting this project into place will of course delay Sharps Ridge enhancements from getting online. But Sharps is not going to suffer because of it. The more critical aspect is that a weakness with Glass has been exposed, and we need to do what we can to ensure it can stay healthy. A suggestion has come to get it totally off grid. Suffice to say that solar panels on site would suffer the same fate as microwave dishes and sides of building which have numerous bullet holes and gouges from repeated hits via unscrupulous gun owners. So how to get lots of sun and not get shot presents a problem looking for a solution.

Anyone interested in helping with various aspects of the Glass Butte site are welcome to contact me for more information or ideas that they may have.

-KF7MAX

### Presidents Corner: Thoughtful musings from our fearless leader.

It was over at Da Vinci Days in Corvallis. I had been toying for some time with re-engaging my interest in radio comms, and particularly in getting my ham license. I stopped by a public booth that was setup by a local radio group to ask a few questions. Within seconds, it was clear. The individuals manning that booth were there to play radio, and had precious little time for fielding questions from some unlicensed wannabe. If I wanted information, I could take a brochure, thank you very much. I left with a decidedly less than favorable impression of that group and hams in general. Thankfully, I later met Joe, Max, Andy, and other good folks involved with ham radio in Central Oregon. And God help you one and all, the rest is history...

As members of HIDARG, there are certainly a lot of benefits. We have access to club equipment and resources. We have a circle of friends and subject matter experts from whom to draw support. Elmering help is there for the asking. We have access to facilities, and have earned the trust of elected officials, agencies, and prominent organizations throughout Central Oregon. And we get to participate in a lot of fun events on the air.

But there are also responsibilities that come with membership. We often find ourselves in public venues, such as the County Fair, JOTA, Field Day, or at the various events for which we provide safety and welfare comms support. We may find ourselves immersed among public employees and officials. It is very common that non-hams will see us in action, want to talk with us, and ask us questions. With the recent focus on Cascadia and heightened awareness of the role of radio in emergency preparedness, more than ever we find ourselves in the spotlight. Whether we realize it or not, whether or not we are elected officers or in an appointed club position, and regardless of whether we actually desire to wear the mantle or not, every one of us is an important ambassador to the community - representing HIDARG and amateur radio in general.

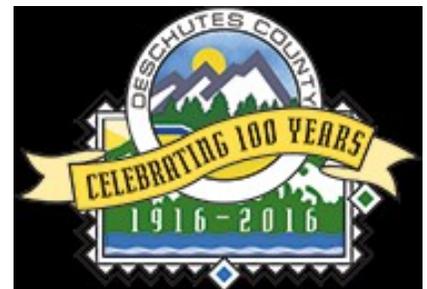
Each of us carries an incredible power. In those precious few seconds of interaction with someone, we have the power to inspire, to encourage, and to spark a lifetime of interest and involvement in ham radio. We have the ability to walk the talk and demonstrate that amateur radio is all about cheerful service to others, collaboration, mutual support, and adaptability. We also carry with us the power to discourage, to quash passion, to stifle interest, to drive away, and to create a long lasting negative impression.

The old sales adage holds that do someone right, and they will tell twelve other people. Do someone wrong, and they will tell anyone who will give them ear. As we move into summer, we're already finding the number of support events, speaking events, and other public opportunities cramming our calendars chock full. Thank you in advance, to all of you, for being capable, professional, positive, and encouraging ambassadors for HIDARG and amateur radio in our communities.

-73 / Ray KG7AV

(Ed's Note... To summarize, when in the public eye and as a ham, you do represent your self as a face to the club being you are a member of HIDARG. When wearing the shirt with the logo, you are NOW an official representative to the club. I would encourage any public interactions to help promote ham radio as a whole and the club as a worthy organization.)

## Affiliations and Sponsors



good friends. great service.



## Mark Your Calendar

### June

2 HIDARG Meeting 19:00 MOFCU  
8 ARES Meeting 18:30

### July

7 HIDARG Meeting 19:00 MOFCU  
13 ARES Meeting 18:30

### Aug

4<sup>th</sup> HIDARG Meeting 19:00 MOFCU (Tentative)  
Deschutes County Fair is going on at this time.  
10<sup>th</sup> ARES Meeting 18:30

Please note that times may change after publication, keep an eye on the HIDARG email list for latest information for club meets and ARES dates and times as well as the website.

MOFCU is of course the Mid-Oregon Federal Credit Union.

### Area Exercises and Events on the horizon

Saturday 28 May 2016 St. Charles Radio Station Bend  
Orientation and checkout 0900-1200

Tu-Fr 7-10 June 2016 Cascadia Rising SET TBD

Sat June 18<sup>th</sup>. Suniver Classic Horse Endurance. We need folks to step up for this one, they do donate to our club. Still looking for a few good hams.

ARRL Field Day 25<sup>th</sup> -26<sup>th</sup> Creekside Park Sisters.

Jim Sellers N7RDN wants to thank all that helped out with the PPP this year, we had a great turnout for ham radio help. Though a bet wet for some, we all managed to pull it off, if you have pics for the newsletter send them to the editor.

### Statement of Financial Condition as of May 15th 2016

Bank of America Opening Balance 1 May 2016.....	4,476.06
(a) Paypal Balance (HIDARG).....	107.29
(b) HIDARG general fund.....	3187.63
(c) Drew Holmes Fund (Outreach and Education).....	1,395.72
(d) Trailer Fund .....	300.00
(e) Total Cash Assets (BOA bal + a).....	4583.35

### Upcoming Meetings and Topics

**June 5th. Field Day, Misc discussions, check Website for latest info, upcoming fair support for the booth.**

#### Nets

+ JeffCro Net – Mondays 1900H, 147.38+ PL 162.2  
+ HIDARG Weekly 2m – Tuesdays 1900H  
See the [HIDARG website](http://www.hidarg.org) for a list of repeaters.  
+ HIDARG 2m Simplex – Mondays, and Tuesdays following JeffCro and HiDARG nets, 146.58 MHz This net has been very active and interesting, set some time in to check in.

#### 2016 FCC Licensing Test Sessions

June-1 July-13 Aug-31 Sept-28 Nov-2 Dec-14 All days are on Wednesday 1Pm at Deschutes Public Library, downtown Bend branch, upstairs. BUT Please confirm the location prior to the day of the test. For more information, contact. [Joe Barry, K7SQ](mailto:Joe Barry, K7SQ) [joek7sq@gmail.com](mailto:joek7sq@gmail.com) [www.hidarg.org](http://www.hidarg.org)

### Repeater Maintenance & Planning

Now is the season for repeater maintenance. Here is what is on tap in the next several months. Work parties are being put together. Keep in mind that the word “work” is a given. We have room at times for extra folks, but if wish to take part, you may have to provide your own transportation in some cases. The only site that might be an issue is Mt-S, it has controlled access, and looki-loo's are discouraged by the owners. However if you want to learn and be part of the repeater maintenance team, please let KF7MAX know.

Long Butte: Replace old back up batteries with new set.

Mt. Stephenson: Spring inspection. Test coax etc, document any issues, evaluate for replacing antenna. Replace or add set of batteries if appropriate.

Pine Mt & Glass. Spring Maint completed.

Sharps Ridge: Revamp computer system, add remote systems control. Add another bank of batteries, tie in the wind generator to provide better backup support and control.

JohnDay: Revamp current system, add local access from 2 meter system to link system into Mt. Stephenson.

### HIDARG WEBSITE NEWS!

We are finally live at [www.hidarg.org](http://www.hidarg.org) Thanks to Bryan Ivie N7VME whose hard work over the past year to get moved to a new provider, moving old content over, and other stuff to get things setup and working. There is still some work to do, the members area is still under construction. A picture gallery.

Getting the new site up has been challenging, to say the least, Bryan has been working full time at a “normal” job as well as taking courses at COCC, and what time he has left to help with the site is very much appreciated.

I also should mention that if you are NOT on the HIDARG email reflector please let us know. As a reminder, having your email on the roster does not make you a member of the list server. Please keep that in mind.

### ARRL Membership Reminder.

Please keep in mind that if you are not an ARRL member, that in order for the club to have official status from the ARRL, 50% of members in HIDARG need to be ARRL members. And something I have recently become aware of is that if you join the ARRL through HIDARG, the club gets to keep \$15 dollars of the ARRL membership fee for NEW ARRL memberships, this is also true for any former ARRL members who have let their dues go past 2 years. For renewing ARRL members: HIDARG will keep \$2 back.

### Call for News Letter HELP! – kf7max

*If you have something of interest to include in the newsletter by all means let me know. If you would like to see a specific topic covered let me know. It is increasingly difficult for JUST ONE PERSON to keep coming up with all the content!! If we want to stay a monthly edition, I need help in the way of idea's: content that I can expand on, or a full fledged article. I would prefer this to be the clubs newsletter, not just mine or what I think is interesting to me and my slice of this great hobby.*