

## 2015 Leadership

### Elected Positions

#### President

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

#### Vice President

Joe Barry, K7SQ  
[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

Ray Spreier, KG7AV

#### Webmaster

Bryan Ivie, N7VME

### Meetings

#### Weekly Lunch Gathering

Wednesdays at Noon  
 Jake's Diner in Bend

#### Monthly Business Meeting

1<sup>st</sup> Thursday of the Month  
 7:00pm  
 Saint Charles Medical Ctr. Or  
 Mid Oregon Credit Union

**HIDARG - W7JVO**

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

## On the Air With Mike AD7GC

My introduction to electronics was after graduating from boot camp in the Navy. I was sent to basic electronics classes, eventually including passive and active sonar equipment, radar equipment, HF, VHF, UHF radio equipment, magnetic detection equipment and inertial navigation equipment installed on anti submarine warfare patrol aircraft. I was also sent to morse code school, from which I graduated with a RX speed of 12 WPM (words/minute). Not all that good, but met the minimum speed of 8 WPM. I was then assigned to VP-46 stationed at North Island California. I was one of four electronic techs in my crew. I operated passive sonar, radar, and HF radio during the 1900 plus hours of flight time tracking submarines and other operations. I left the Navy in Oct 1963, got a job, raised a family and went to some more school. Eventually, 35 some years later retired from Hewlett Packard Company in 2000 and moved to Bend Or.

A fishing friend got me interested in HAM radio, so I studied and took and passed the Technician test in Dec 2003. I decided at that time that if I was going to dabble in HAM radio, I should be licensed to do everything HAM radio had to offer. So I continued to study and took and passed the General and Extra Tests. This is when the learning began. Still learning.

I applied to become a VE to help Joe Barry with conducting HAM tests as he is still doing. My way of giving a little payback to the HAM community. I became interested in volunteering at St. Charles Hospital as an emergency radio operator for the hospital system. I helped install some of the antenna systems and radios at the station, along with John Ogden, Joe Barry, John Cherry and others. I also put together a radio operation familiarization presentation for the volunteers that were also volunteers to operate the radio systems. About the same time period I became interested in ARES/RACES and began to learn about that aspect of emergency communications. Still learning how to become useful in that arena.

I helped Bill Johnson a little with maintaining the repeater system in place at the time. It was a good system 30 years ago, but was showing it's age, needing increasing attention. I proposed to the club we try to replace the system with new commercial equipment. Cost was the question. I asked a local dealer to provide a quote on a complete system for each of our repeater sites and presented that to the club. Dave Stucky was the president at the time and also was working with the hospital *More...*



Mike AD7GC, Ralph K7TWR, Joe K7SQ, and Tom K7COW after installation of the new Sharp's Ridge site.



Mike AD7GC, Max KF7MAX, and John KE7GYB installing the solar power system on Stephenson.

Mike AD7GC cont...

to get some grant money to pay for the repeater system which was vital to the hospital plan for emergency communications among the Region 7 hospitals. Dave was successful in obtaining the grant and an agreement with the hospital. Now we have a very good system on 5 locations. All new commercial Kenwood repeater systems. Bill Johnson and I worked on setting all the system audio and RF levels and I did the programming of the controllers and built most of the interconnecting cables. Bill and I and several other club members helped go to each repeater site and take out the old system and install the new system, site by site.

HiDARG was relatively new when I joined. CORA was still active at the time as well. I decided to join HiDARG and have enjoyed the experience. HiDARG had matured quit a bit since I joined. Lots of members have a lot to offer others in the way of expertise in various aspects of HAM radio. Operating, trouble shooting, antennas, power supplies, building projects, the list goes on and on. Whatever you may lack in knowledge of some aspect of HAM radio, someone in the club will likely have "been there, done that" and can provide help as needed.  $\perp$

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## Email Over Radio

When people hear "email via radio", they usually think of the Winlink 2000 network. This network was originally created to address the needs of maritime operators who desired a reliable method of connecting to internet email from sea. In 2006, the Amateur Radio Foundation was created as the non-profit corporation to oversee Winlink 2000 network development. Winlink quickly became the go-to system for email over radio and saw wide adoption for ARES and emergency use. The assumption is that for any disaster, there will be some perimeter, reachable by UHF, VHF, or HF, at which internet connectivity will be available via a Winlink gateway node.

These Winlink "gateways" provide connection to the internet via a cluster of five CMS servers located around the world. The CMS servers are located in California, Australia, Nova Scotia, Austria, and Tennessee. The CMS servers also act as an email server cluster for messages remaining inside the Winlink system. As of this writing, there were 1,307 active public nodes around the world. 628 packet, 380 pactor, 39 robust packet, and 260 winmor. RMS Express is the preferred end-user email client for connecting to the Winlink 2000 network. Users can connect directly to a CMS server via telnet, or to a WL2K gateway node via radio using packet, pactor, robust packet, or winmor. Winmor is a protocol developed by the Winlink group that uses inexpensive sound card interfaces, such as the Signalink USB, as the TNC. As one would expect, being limited by radio bandwidths, email is text-only, with support for small attachments. Message size is limited to 120,000 bytes compressed.

More...

Email Over Radio cont...

Locally, RMS Express is the standard client for ARES, OEM, and R7HPP messaging. OEM is currently conducting training for ARES operators (part of the RADO task book) using RMS Express and OEM ICS messaging templates. VHF packet gateways are available via W7HWY-10 (Bend ODOT), N7CCO-11 (Grizzly Mountain), N7CCO-10 (Crook County SAR), and KG7AV-10 (private operator). KG7AV also provides an HF Winmor gateway. Other regional nodes can be found on the [www.winlink.org](http://www.winlink.org) website.



There are other methods available for messaging that don't rely on the Winlink 2000 CMS network, or even on the internet. Commercial packet TNCs, like the Kantronics KPC-3+, have a built-in mailbox that can receive messages via a command line interface. Some higher end TNCs support multiple mailboxes. Only the radio and the TNC need to be turned on. RMS Express software also supports a point-to-point communications mode. Your radio, TNC, and computer need to be running, with RMS Express up and running in the P2P mode for you to receive messages.

Radio-over-email has also led to the resurgence of the old fashioned store-and-forward bulletin board (BBS) system. At this time, BPQ32 by John Wiseman (G8BPQ) is the most widely used platform. BPQ32 consists of three "layers". The outermost layer is the switch layer. It supports RF connections using almost any protocol you can imagine – packet, winmor, pactor, robust packet, clover, amtor, etc. If you can attach the device, BPQ can likely support it. It also supports non-radio interfaces such as telnet, TCP/IP, and HTTP(S).

The second layer consists of a suite of standalone applications. These include a fully-featured mail server with support for many local-user mailboxes, person to person messages, group bulletins (you can create as many groups as needed), and a real-time chat engine. The mail server has a robust forwarding engine that allows you to create rules that will move messages to other BPQ32

More...

Email Over Radio cont...

nodes. This allows you to create seamless radio-only networks for email with no internet dependency at all. KG7AV participates in a network of six BPQ32 nodes spanning the CONUS. If you do desire an internet gateway, BPQ has built-in POP, SMTP, Telnet, and HTTP support, as well as the ability to forward to other nodes via TCP/IP.

The third layer consists of APIs which allow connectivity to other programs and systems. This includes support for older FBB servers, hooks for AWGPE, Fldigi and MultiPSK, as well as complete RMS gateway support for the Winlink 2000 system. BPQ32 has been officially "blessed" by ARSFI as an approved RMS gateway platform for Winlink nodes.

This little article barely scratches the surface, let alone delving into other topics, such as high speed mesh networks. At the March meeting, KG7AV will provide an overview of his BPQ32 system for your propeller beanie enjoyment. ⊥

### On-Air Event and Contest Calendar

N. Carolina QSO Party.....	Mar 1-2
ARRL International DX Contest SSB.....	Mar 7-8
Idaho QSO Party.....	Mar 14-15
Wisconsin QSO Party.....	Mar 15-16
070 (PSK31) St. Patricks Day Contest.....	Mar 16
Feld Hell Sprint.....	Mar 21

This is by no means an exhaustive list! For more info, see

<http://www.radio-sport.net/calendar/>

<http://www.arrl.org/contest-calendar>

<http://www.ten-ten.org/>

<http://www.podxs070.com>

### Statement of Financial Condition as of 6 February 2015

Bank of America Opening Balance .....	6,729.54
Income this period.....	350.00
(Dues, donations, trailer fund)	
Bank of America Closing Balance.....	7079.54
Paypal Fund Balance (HIDARG).....	424.62
HIDARG (includes PayPal) Unrestricted Funds.....	2,730.36
ARES Designated Funds.....	3,352.45
Drew Holmes Fund (Outreach and Education).....	1,421.35
Total Fund Balances.....	7,504.16

### Upcoming Meeting Topics

Monthly Business Meeting – 1<sup>st</sup> Thursday of the Month  
Presentation: BPQ32 Standalone Radio Mail Server  
Followup briefing on American Volkspport Assn June Event.  
Followup briefing on Maker Mill opportunity and MOU.

### Nets

- + JeffCro Net – Mondays 1900H, 147.38+ PL 162.2
- + HIDARG Weekly 2m – Tuesdays 1900H  
See the [HIDARG website](#) a list of repeaters.
- + HIDARG 2m Simplex – Mondays, and Tuesdays following JeffCro and HiDARG nets, 146.58 MHz

### 2015 FCC Licensing Test Sessions

11 Mar, 29 Apr, 03 Jun, 15 Jul, 19 Aug, 30 Sep, 4 Nov, 15 Dec  
Deschutes Public Library, downtown Bend branch, upstairs  
For more information, contact [Joe Barry, K7SQ](#)

## Trailer Project Update

At the February 5 meeting, the members in attendance (a good turnout!) voted to authorize the trailer working group to proceed with the purchase of a suitable trailer for the 50ft mast. A budget of \$800 was set, \$500 from general club funds, supplemented by \$300 in additional designated donations. The working group consists of Joe K7SQ, Bill N7RGB, John KE7GYB, and Brian KF7WPK. The club also directed our Secretary to write a letter of thanks to Austin Smith WA5CAW for his generous donation of the 50 foot telescoping tower to HiDARG. John KE7GYB reports that the group has submitted an order for a trailer frame / chassis assembly from Trailers Unlimited of Bend. ETA to delivery is several weeks. Upon receipt, work will commence on adding the features necessary to support the mast, appropriate stabilization, and accessories. ⊥

## SCMC KF7IKY Station Update

Sparling Consulting Engineers of Seattle appears to have finished work on the antennas for the relocated EmComm station. A drive-by survey indicates that the contractors took to heart the feedback provided by the club regarding potential coupling issues. The folded dipole runs EW on the second tier roof, with the 2m/70cm antenna mounted atop the center support of that inverted vee. A multiband HF vertical antenna is on a separate mast on the west side of the upper tier roof (just to the east). A backup 2m/70cm antenna is also on a separate mast on that upper tier roof. No word at this time as to location or status of the new EOC, presumably to be in the same hangar building. ⊥



## Mark Your Calendar

### March

- 5 Monthly Business Meeting – 7pm
- 7-8 Bachelor Butte Dog Derby – TBD depending on snow!
- 11 FCC Exam Session – Deschutes Public Library Bend
- 14 Boy Scouts Radio Merit Badge II – Field Station

### April

- 2 Monthly Business Meeting – 7pm
- 15 OEM/ARES Spring SET
- 18 HIDARG Spring Potluck
- 29 FCC Exam Session – Deschutes Public Library Bend