



Ø-BEAT

Volume 67 Issue 12

December 2016

Activities/Meetings

- HAM breakfast will be at: New Day Café, 5901 Delmonico Dr. Saturday, 7 January 2017 Join us anytime between 8:00-9:30 AM All are warmly invited
- PPRAA Board Meeting Monday, 9 January
- PPRAA Club Meeting, Wednesday, 11 January IHOP 5749 Stetson Hills Blvd
- 10 Meter/2 Meter net Every Thursday 7:00 pm 28.390 MHz—USB 144.200 MHz-USB

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December Meeting—Christmas Party

Field Day 2016 Results - AFØS Club Questionnaire

12 of 55 Field Day Wide
1st place in Rocky Mountain Region
1st place Colorado Division
Nice Job Folks!

I will be generating a club wide questionnaire for members to provide input for the board to plan projects and events club members want to do in the upcoming year.
Mike WV7T
VP PPRAA

Thanks for all the help

Our thanks to all the hams that helped with the preparations for Rhoda's return after breaking her hip. I could not have accomplished all that needed to be done without the help of the club members.
Mike and Rhoda WV7T-KB2BZY

Crutchzilla by Mike WV7T



It is not the class of license the Amateur holds, but the class of the Amateur that holds the license.



PPRAA Officers and Board of Directors

PPRAA Board of Directors consists of four elected officers, seven board members, as well as the past president (time limit dependent). The Ø-Beat editor is a board appointed position and is also a member of the board.

Officers include:

- ⇒ President
- ⇒ Vice-President
- ⇒ Secretary
- ⇒ Treasurer

To send board member's email, browse to the officers section of our website: <http://ppraa.org/about-ppraa/officers>

President	Raleigh Holcomb	N4HYF
Vide-President	Mike Anderson	WV7T
Secretary	John Wishart	NGØI
Treasurer	Jim Madson	K3ILC
Board Member	John Bloodgood	KDØSFY
Board Member	Glenn Brodt	N3ULW
Board Member	Dan Huber	KNØMAP
Board Member	Frank Roger	KB3PDT
Board Member	Jim Rader	KDØNQM
Board Member	<open>	
Board Member	Virgil Yost	NØXRS
Ø-Beat Editor	<open>	
Webmaster	Doug Nielsen	N7LEM

Online Resources

PPRAA Website

<http://ppraa.org>

The PPRAA website is the cornerstone for club related information, events, and technical information.

In addition you can register, pay dues, and submit donations. Donations to the PPRAA college scholarship fund are managed by FAR Scholarship Committee

Facebook / Google+

Follow activities as they unfold, or get reminders of upcoming events.

Links to both Facebook and Google+ social media sites can be found on the PPRAA.org.

Or from each social media site search on: Pikes Peak Radio Amateur Association.

PPRAA Forums

The PPRAA forums are intended to allow users to exchange ideas, ask and answer amateur radio related questions, and plan/discuss upcoming events.

This is a fantastic, but underutilized, tool. Check it out and register at:

PPRAA.Forumotion.net



Monthly Activities

Membership Meeting

Held the 2nd Wednesday of the month starting at 7:00.

IHOP
5749 Stetson Hills Blvd
(Just west of Powers Blvd)

NOTE: Many show up at 6 pm for kibitzing and grub.

Board Meeting

IHOP
5749 Stetson Hills Blvd
Colorado Springs, CO 80906

6:30pm—8:00pm
On the Monday preceding the membership meeting.

Board Meetings are open to all members.

Ham Breakfast

Location changes monthly: Check ppraa.org or table of contents, page 1 for the breakfast meeting location.

10 Meter/2 Meter Net

Every Thursday at 7pm
Starts on 28.390 USB then transitions to 2 Meter SSB at 144.200 USB.



Is there a market for a \$400 “prepper” radio?

By Dan Romanchik, KB6NU

A couple of days ago, a reader wrote:

"I would like to know if it would be feasible to build a radio with the following features:

- ◆ SSB operation (only SSB is required, CW would be an additional benefit)
- ◆ 20 – 50W of power
- ◆ Portable-friendly (lightweight, capable of operating at lower voltages from small portable batteries)
- ◆ Low receiver current drain
- ◆ Coverage of 40m and 80m bands. Very limited coverage is acceptable. Even channelized coverage of a few select frequencies would be acceptable.
- ◆ S-meter

"It strikes me that there is a large market for ham radio products for “preppers,” and there has been a lot of interest in the Baofeng line of radios from that market. I think there would be a LOT of interest in a radio that could go far beyond line-of-sight and contact friends or family hundreds of miles away. Preppers would have little interest in contacts more than a state or two away, and no interest at all in novel operating modes. I wonder if a radio that trims away excess features (all-mode operation, wide frequency coverage, high power output, sophisticated audio filtering) could be produced for a lot less cost than currently available HF rigs. If so, and it was paired with a decent NVIS dipole and some General-class study materials and sold as a package deal, it could be a huge hit – Something you could tuck in a bug-out-bag, set up in the field, and use to make contacts in a reasonably local area, or set up in your backyard at home and use minimal power to operate.

"Is there a reason why I don't see radios like this on the market, some kind of technological limitation that would make this sort of thing impractical? If something like this was built, what kind of cost and performance would you expect? I'm certainly not expecting any kind of detailed

analysis, but even just a speculation about if such a project could be feasible would be appreciated."

I replied:

"I think one of the reasons you don't see radios with the feature set you describe is that more full-featured radios are already pretty inexpensive. The Yaesu FT-450D, for example, costs less than \$800 and offers 100W output. The FT-817ND, which is designed for portable operation, costs less than \$700. Is that too much for preppers?"

"While it might seem like you could sell a radio with fewer features for less, I think that you hit the law of diminishing returns. At some point, removing features, doesn't reduce the cost all that much. For example, removing the CW capabilities from a transceiver capable of SSB operation really doesn't save that much because in a way CW operation is really just a subset of SSB operation. You'll save the cost of a key jack, but how much is that? Maybe a buck or two. Having said that, it could be that the big amateur radio manufacturers are overlooking an opportunity here."

We swapped a couple more e-mails about this. He noted, "Most preppers would probably rather buy a high-end AR-15 or several months' worth of storage food for \$800 than a radio." I suggested, "If there was a catastrophic event, and you really needed to communicate, wouldn't it seem silly to have not spent the extra \$400 on a really decent radio?"

What do you think? Is my analysis a little too simplistic perhaps? Are amateur radio manufacturers ignoring a potential market?

When he's not Elmering new hams, you'll find Dan building kits and working CW on the HF bands. He is the author of the "No Nonsense" amateur radio license study guides, and blogs about amateur radio at KB6NU.Com. You can contact him by e-mailing cwgeek@kb6nu.com.

0-Beat Editor needed

I need to resign as 0-Beat editor due to work commitments. Currently I use Microsoft Publisher, but using another product is fine. WordPress would be a good example of a better tool.

You may have noticed that there are monthly columns submitted to the 0-Beat editor. There

are other sites I pull from where we have written permission to publish. So with just a little bit of time, proper grammar, and correct spelling, you will find that the pages of the 0-beat fill up fast.

If you are interested, I can email you the general outline of putting the 0-Beat together.

73, Dan



**Dan Romanchik
KB6NU**

Dan, KB6NU, 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. When he's not pondering the vagaries of the U.S. licensing system, you'll find him working CW on the HF bands



PPRAA Board Meeting Minutes 7 November 2016

Present: Raleigh Holcomb, John Wishart, Mike Anderson, Rich Milligan, Jim Bishop, Frank Rogers, Virgil Yost, Mr. & Mrs. Doug Nielsen, Jim Madsen, Mr. & Mrs. Glenn Brodt, John Bloodgood, Dan Huber

The meeting was called to order by President Raleigh Holcomb at 6:30 PM at the IHOP Restaurant at Powers & Stetson Hills.

Silent Keys: None.

The previous meeting's minutes were approved as published in the Zero Beat.

Treasurer's Report

Jim Madsen reported that we had \$13,479.56 in our accounts as of 30 October 2016. Jim requested reimbursement (\$73.80) for Pam for paying a Colorado state filing fee and postage fees. Moved and seconded to pay the reimbursement to Pam Scott. Passed.

Committee Reports

Club Station - Planning is happening for installing a 40m delta loop. There was also some discussion about the possibility of installing a 6m antenna and/or a tri-bander on the new tower. This will be taken up on the regular meeting on Wed. We also need to find out what the cost of insuring our club station equipment would be.

Christmas Party

Pam has reserved the Country Buffet for the event.

Megafest 2017

Prizes are not yet purchased. The following radios are being considered for the main raffle prize: Kenwood TS-2000, Yaesu FT-991, Icom IC-7100, and Icom IC-7300.

Jim Bishop - some hardware is needed for antenna installations. Estimate is \$88. Moved/seconded to provide up to \$100 for hardware to be used for completing the new tilt-over tower installation. Passed.

Education - Mike is having vision problems and will not be taking on new students until that is resolved. He would like to have a backup instructor to take over any new students.

JOTA Event - we had many Scouts attending our setup. Did many demos, but not too many contacts. Lot of interest in getting ham licenses.

Virgil - participated in the JOTA event.

Jim Madsen - needs to contact Michael Derbort to get the bank account signature authority fixed up.

Doug - noted that we should get a table at upcoming hamfests.

ARES report - John Bloodgood reported on JOTA activities. He also reported on upcoming balloon launches. Skywarn Recognition Day is coming up. He would also like to get a Public Information Officer (PIO) position and a kit instituted for our club.

Next PPRAA Board meeting: Monday, December 12, 2016, 6:30PM at the IHOP at Powers & Stetson Hills.

The meeting was adjourned at 7:52 PM.

Respectfully submitted,
John Wishart NGØ1
PPRAA Secretary
21 November 2016

PPRAA Business Meeting Minutes 9 November 2016

The meeting was called to order at 7:01 PM by
PPRAA Business Meeting Minutes
9 November 2016

The meeting was called to order at 7:00 PM by
President Raleigh Holcomb at the IHOP Restaurant
on Stetson Hills near Powers Blvd. Approximately
38 members and guests were present.

Silent Keys: None.

Minutes Approval

October meeting minutes were approved as
published in Zero Beat.

Treasurer's Report Jim Madsen reported that we
had \$13479.56 in our bank accounts as of 30
October 2016.

Committee Reports

Club Station - Ed has constructed a 40m delta loop
which will be installed between the two towers. We
have been considering the purchase of an Icom
7300 for the club station. The Yaesu FT-991A and
the FT-857 are also being looked at. Decision on
this will be tabled until the next business meeting in
January. Security will also need to be improved to
protect our assets.
We will be installing the 6m antenna, probably on
the fixed tower.

La Junta Radio Club

Several members will be attending their next
meeting on 19 November in La Junta.

ARES Report

John Bloodgood reported on recent ARES activities,
including the JOTA event. Some balloon launches
will be occurring this coming Saturday. John also

talked about the benefits of having a PIO for our
organization. He would like to encourage that our
club create a PIO position.

Education

Mike Anderson reported that he has some vision
issues. He will be unable to take on new students
and needs some aid to instruct new students.
January program will be Home Brew Night, so
bring in your home-built ham radio projects. He is
also generating a survey form for getting club
members' inputs on what they want for club
activities.

Program

CS City Council member Larry Bagley talked
about marijuana grow light RF interference
problems in Colorado Springs and a proposed
ordinance to control grow operations.

Upcoming Events

Next Board Meetings: 6:30PM, Monday,
December 12, 2016, at IHOP Restaurant at
Powers & Stetson Hills.

Also 6:30PM, Monday, January 9, 2017, still at
IHOP.

Next PPRAA regular meeting: 7PM, Wednesday,
January 11, 2017, also at the IHOP Restaurant.
Program is Home Brew Night. Bring your latest
DIY ham radio projects.

Christmas Party, 6PM, Dec 14 club meeting.
Location is Country Buffet at Academy & Galley.

The meeting was adjourned at 8:15 PM.

Respectfully submitted,
John Wishart NGØ1
PPRAA Secretary
21 November 2016





VE Testing & Education—Colorado Springs (PPRAA)

Pikes Peak Radio Amateur Association (PPRAA)

When:
Monthly
2nd Saturday at 9:15 AM

Location:
C21 Library,
ENT Conference Center
1175 Chapel Hills Dr
Colorado Springs, CO
80920

Directions available at:
ppraa.org/ve-testing
or contact:
Richard Milligan
VE@PPRAA.org



Mike Anderson, WV7T does personal and small group training for all license classes.

Mike also does Morse code training.

Mike can be reached at:
719-229-8610
vv7t@aol.com

VE Testing Woodland Park (MARC)

MOUNTAIN AMATEUR RADIO CLUB (MARC)

When:
Jan, Mar, May, Jul, Sep, Nov
1st Saturday at 10 AM

Location:
Woodland Park
Woodland Park Library-
Community Meeting RM
218 East Midland Avenue

Directions:
<http://www.nx0g.org/ve.html>
or contact
Wes Wilson (KØHBZ)
k0hbz@arrl.net
Call (719) 687-8758



Applicants will need the following items:

1. A valid PHOTO ID, driver's license preferred (if you do not have a valid photo ID, please call for alternative identification requirements).
2. Your FRN or SOCIAL SECURITY NUMBER (now required - this includes children).
3. Your CURRENT ORIGINAL amateur radio license (if any) and a PHOTOCOPY for the VE Team to keep.
4. The CURRENT ORIGINAL CSCEs you have and a PHOTOCOPY for the VE Team to keep.
5. MARC Only: Cash, Check or Money Order for \$15 (standard ARRL VE Fee). Checks and money orders should be made out to ARRL. This covers all exams you wish to take at this VE session. There is not cost for the PPRAA tests.

NOTE: PPRAA and MARC VE Team policy, as with many VE Teams, is to not allow same day retests on failed exams.

PPRAA – Colorado Springs testing only:

Anyone passing their Technician Class examination at a PPRAA test session will receive a free year's membership to the Pikes Peak Radio Amateur Association

HOW DOES COAX WORK—Ralph WD0EJA

HOW DOES COAX WORK?

Coax cable is for transferring RF energy from the transmitter to the antenna. I have heard remarks that coax can be used as a poor radiator. Putting a tuned circuit at the end of your coax will cause this to happen.

Actually, most antennas are a tuned circuit. Other than loops, it has the characteristic of a Series-Resonant circuit. These antennas do the radiating, coax does not. However, if you use discreet components (capacitor and inductor) as the antenna, will the coax radiate?

You will have a resonance like the antenna. What will be different is the Radiation Resistance. The antenna develops a Radiation resistance anywhere from 20 ohms to 200 ohms approximately. This resistance is a result of the antenna radiating. The discreet resonant circuit has a Radiation Resistance that is very low. This is not only a mismatch to the coax, but it resembles a shorted circuit. This is great for circuits in your radio, but not for a radiating antenna. However, at the same time, the coax will not become the radiator. If it does, it needs replacing.

There is a condition called Common Mode Currents or Voltages. This is when RF energy, due to skin effect will travel on the outside shield of the coax at the feed-point of the antenna. This small percentage of energy will radiate. However, it is only a fraction of the power you put to the antenna. It mainly produces interference problems in your own station. Any antenna can develop this situation. How is this corrected?

Normally a simple choke at the antenna. This could be made from coaxial cable, toroid cores or ferrite beads. I have had these used on my antennas with much success.

My first article is dealing with feedlines. Here it is again so you can see why good quality coax will not work as an antenna.

Many are familiar with Ladder Line. 2 wires in parallel from the transmitter to the antenna. If the

2 wires are spaced very carefully with little variation, one side will be of a positive value (voltage or current) and the other will have a negative value exactly equal. The 2 RF fields cancel each other. This does not take away the RF energy, but keeps it from radiating into the atmosphere and follow the wires. In affect it makes a very high resistance to the atmosphere and a low resistance along the Ladder Line.

The draw back with Ladder line is it is affected by nearby objects. Something close to the Ladder Line will unbalance it. Therefore, coax was developed to reduce that problem.

Coax is doing the same thing as Ladder Line electrically. The center conductor has one polarity while the shield has the opposite. The same principal of cancellation is taking place. The shield is not really a shield in that RF is contained inside of it. There is just as much RF energy on the shield as the center conductor.

Due to the physical shape of the coax, the shield can be kept at a zero voltage in respect to your grounding. So, if you had an RF volt meter you would in theory measure 0 voltage from the shield to your grounded installation such as radio chassis, tower or mast, walls of your home and so on. Now a nearby object has little affect on the balance of the coax.

At times this balance can be disrupted slightly. The result is RF feedback, interference to other electronic equipment, common mode currents or voltages, higher than normal SWR readings and more. The problems with coax is not severe, just aggravating.

73,
Ralph WD0EJA
December 2016

BILAL COMPANY
137 MANCHESTER DR.
FLORISSANT, CO. 80816 U.S.A
PH/FX: 719/687-0650
wd0eja@isotronantennas.com



ISOTRON 160/80

www.isotronantennas.com

**PIKES PEAK RADIO
AMATEUR
ASSOCIATION**

Send membership application to:

Pikes Peak Radio Amateur PO
Box 16521
Colorado Springs, CO
80935-6521

General Questions:
ppraa@ppraa.org

ØBeat:
zerobeat@ppraa.org



ppraa.org

Get Radio Active, get on the air!

Membership Application:

Date: ___ / ___ / ___ New Membership: Yes / No

Name: _____

Address: _____

City/State/Zip: _____

Call: _____ Class: ___ Phone # (____) _____

Email: _____

Are you a ARRL member: Yes / No

Additional Family Members:

Name 1: _____ Call: _____ Class: ___ ARRL Member: Yes / No

Name 2: _____ Call: _____ Class: ___ ARRL Member: Yes / No

Name 3: _____ Call: _____ Class: ___ ARRL Member: Yes / No

___ \$15.00 Full Member

___ \$10.00 Full Member over 65

___ \$18.00 Family Membership

___ \$12.00 Family Membership over 65

\$___ Membership Amount

\$___ Scholarship Fund Donation

\$___ PPRAA General Fund Donation

\$___ Total

2017 Scholarship Fund

This last year the donations to PPRAA Scholarship Fund have been slipping.

The scholarship is for a hard science or math related field of study. Those fields of study are, or are similar to, Physics, Chemistry, Math, Electrical Engineering, Bio Engineering, etc.

There are many ways to make your tax deductible donation to this fund. Contributions may be made via:

⇒ [PPRAA website \(http://ppraa.org\)](http://ppraa.org)

⇒ Part of your membership renewal,

⇒ Club meetings and event.

⇒ Directly to the fund at:
FAR Scholarship Committee
P.O. Box 911
Columbia, MD 21044

**Make checks to:
PPRAA Scholarship**

Ø- Beat Banner

This photograph of Pikes Peak from Rockrimmon, Colorado Spring, CO was taken by Pam W0PRS, October 6th 2016.

The theme of the banner is Pikes Peak Region which include PPRAA activities.

If you would like to submit pictures for the Ø-Beat banner, please send them to:

zerobeat@ppraa.org

Please Include "[Ø-beat]" as part of the subject line.