

the Radio Flyer, a BRARA Newsletter

December 2016



BRARA Calendar:

09:00-13:00 Sat 03-Dec-16
Ham Shack Work & Radio Day

19:00 Mon 05-Dec-16 (145.29 [110.9])
Monday Night Nets

19:00-21:00 Tue 06-Dec-16
Club Meeting @ West Boca Library

Wed 07-Dec-2016 Pearl Harbor Day

09:00-12:00 Wed 07-Dec-16
Ham Shack Work & Radio Day

20:00 Wed 07-Dec-16 (442.875 [110.9])
Red Informativa en Español

09:00-13:00 Sat 10-Dec-16
Ham Shack Work & Radio Day

19:00 Mon 12-Dec-16 (145.29 [110.9])
Monday Night Nets

09:00-12:00 Wed 14-Dec-16
Ham Shack Work & Radio Day

20:00 Wed 14-Dec-16 (442.875 [110.9])
Red Informativa en Español

09:00-12:00 Sat 17-Dec-16
Ham Shack Work & Radio Day

19:00 Mon 19-Dec-16 (145.29 [110.9])
Monday Night Nets

Wed 21-Dec-2016 Winter Solstice

09:00-12:00 Wed 21-Dec-16
Ham Shack Work & Radio Day

20:00 Wed 21-Dec-16 (442.875 [110.9])
Red Informativa en Español

Sat 24-Dec-2016 Christmas Eve
Hanukkah begins at Sundown

09:00-12:00 Sat 24-Dec-16
Ham Shack Work & Radio Day

Sat 25-Dec-2016 Christmas Day

12:00 Noon Sun 25-Dec-16
Deadline for Newsletter input

19:00 Mon 26-Dec-16 (145.29 [110.9])
Monday Night Nets

09:00-12:00 Wed 28-Dec-16
Ham Shack Work & Radio Day

20:00 Wed 28-Dec-16 (442.875 [110.9])
Red Informativa en Español

Sat 31-Dec-2016 New Years Eve

09:00-13:00 Sat 31-Dec-16
Ham Shack Work & Radio Day



This Month's Speaker

This month, Ed Callaway N2II gave a presentation on QSL cards and getting a higher percentage back.

Next month, Bob Furtaw, W8IL, gives a presentation on airplane signals. Synopsis on last page.

We're having a Holiday Party:

7 pm 20-Dec-16
Boca Linda North
Clubhouse
1231 NW 13th St
Boca Raton, FL
33486



Repeater, HSMM, & Ham Shack News

Even though the new Shack is operational, there are still a lot of areas for innovation and improvement. We still meet every Wednesday and Saturday morning roughly between 09:00 and 13:00.

Both analog repeaters are working. Innovation and improvement opportunities are present here too. The work on the new 2m antenna and connections are completed

Repeater 2m/70cm linking as well as the time stamp are still works in progress. We are still fund collecting for a new 2m repeater antenna.

While the digipeater is operational, the packet repeater is a work in progress.

We have still not solved the limited internet connection and are still dependent on individual hot spots. We are, however, getting closer to resolving the internet link from the Repeater.

QSL Report ⁿ⁴ⁱⁱ

As we closed out last month, N4BRF has logged in 2,676 QSLs/8,422 QSOs (31.8%) on LoTW.

DXCC Account Status: New this month: Temotu Province (H40), Dominican Republic (HI). Awards received: Mixed, CW, Phone, 15m and 10m.

WAS Account Status: New this month AK (160m, 15m, 5B WAS); AL (30m, 30m RTTY); HI (160m___). Awards issued: Mixed, 20m, CW, Phone, Digital, Triple Play, RTTY. We still need:

- AK, ID for 40m
- AK, DE, ID, ME, NV for 40m CW.
- WY for 20m Phone
- NV for 20m CW.
- WV for 15m
- AK, DE, ID, ME, NV for 40m CW.

We have received the following QSOs from Field Day activities:

- 176 (+0) QSLs from 2012,
- 184 (+0) QSOs from 2013
- 256 (+2) QSOs from 2014
- 279 (+1) QSOs from 2015
- 152 (+3) QSOs from 2016

VUCC Account Status: Nothing new this month.

Update at the next Club Meeting.



Dear ARRL member,

I am writing to you today because we are nearing the end of the 114th Congress and the efforts to obtain passage of *The Amateur Radio Parity Act* are at a critical juncture. With a few short weeks left to the year, we must get this bill passed **NOW** or we will need to start all over again come January 1, 2017.

As you know, thanks to your previous efforts, the legislative efforts scored a major victory in our campaign when *the Amateur Radio Parity Act*, H.R. 1301, passed in the House of Representatives on September 12th. The legislation is now in the Senate in two forms - as H.R. 1301 and alternately in the packaged bill S. 253. We still need every Senator to approve the bill.

You are one of over 730,000 licensed Amateur Radio Operators living in the United States. Many of you already live in deed-restricted communities, and that number grows daily.

We asked you for your help in September - and you responded in great numbers. We collected over 63,000 emails that were distributed to every single U.S. Senator. That is amazing. However, with the election hiatus over, each and every Senator must be reminded that their business is not complete until this important legislation affecting hams is passed and sent to the President.

Even if you wrote in the past, we need you to write again!

ONCE AGAIN I REMIND YOU THAT NOW IS THE TIME FOR ALL HAMS TO GET INVOLVED IN THE PROCESS!

□ If you want to have effective outdoor antennas but are not currently allowed to do so by your Home Owner's Association, PLEASE SEND THESE EMAILS TODAY!

□ If you don't live in a deed-restricted community but you care about the future of Amateur Radio, please support your avocation and your fellow hams and SEND THESE EMAILS TODAY!

We need you to reach out one more time to your Senators TODAY! **Right away Right now!** Help us in the effort. Please go to this linked website and follow the prompts: <https://arrl.rallycongress.net/ctas/urge-us-senate-to-pass-amateur-radio-parity-act>

Thank you and 73,
Rick Roderick, K5UR

Hawaii Amateur Radio Operator Activates Uninhabited Hawaiian Island

Amateur Radio Operator Eric Brundage (KH6EB) is on Kaho'olawe Island for 10 days every month operating from the base camp which supports the state's efforts to restore the island. Eric and one assistant run the base camp, which is an old Navy facility. They maintain the buildings and vehicles, generate power, and ensure fresh water is made from seawater using reverse osmosis.

During his free time in the evenings and mornings, Eric operates using a KX3 with KPA-100 amp on 20 meters as soon as he gets his K10 hex beam antenna erected. You can contact Eric to set up a schedule, but he will generally be on the air from 0600 to 0700 Hawaii Standard Time (HST), 1700 to 1900 and 2000 to 2300 HST. The next time Eric will be on the island is from November 7th to the 16th, and after that December 12th to the 21st.

Kaho'olawe is a rare location because access to the island is restricted due to the presence of Unexploded Ordnance leftover from military training activities. All of the Hawaiian Islands use IOTA OC-19. Kaho'olawe Island is in Grid Square BL10, which is the same as the island of Maui. Kaho'olawe has no permanent residents so this is a great time to make that a contact. The U.S. Islands Awards Program recognizes Kaho'olawe as number HI0265.

Special KH6EB QSLs celebrating this very rare island contact can be earned by QSOs with him on 14.265 SSB, PSK31 (14.070), and JT65 (14.076). Eric is currently only operating on 20 meters. All contacts can be confirmed via eQSL, LOTW, or direct.

Kaho'olawe is located about seven miles southwest of Maui and southeast of Lanai. The island is 11 miles long and 6.0 miles wide, with a total land area of 44.97 square miles. Kaho'olawe has always been sparsely populated, due to its lack of fresh water. During World War II, Kaho'olawe was used as a training ground and bombing range by the Armed Forces of the United States. After decades of protests, the U.S. Navy ended live-fire training exercises

on Kaho'olawe in 1990, and the whole island was transferred to the jurisdiction of the state of Hawaii in 1994. The Hawaii State Legislature established the Kaho'olawe Island Reserve to restore and oversee the island and its surrounding waters. Today Kaho'olawe can be used only for Native Hawaiian cultural, spiritual, and subsistence purposes.

Eric says he will do his best to accommodate those who want to make a Kaho'olawe contact. Eric can be reached via email at wh6eey@gmail.com.

<https://oahuarrlnews.wordpress.com>



Two Radio Amateurs Set to Join ISS Crew

Astronauts Peggy Whitson, KC5ZTD, and Thomas Pesquet, KG5FYG, and Cosmonaut Oleg Novitskiy will head into space on November 17 for a 6-month stay aboard the International Space Station. **NASA Television** coverage will begin at 1730 UTC on November 16. The launch from Baikonur Cosmodrome in Kazakhstan will be at 1820 UTC on November 17.

It will take the Expedition 50/51 crew members 2 days to reach the ISS in their *Soyuz* vehicle.

Welcoming the new crew increment will be Expedition 50 Commander Shane Kimbrough, KE5HOD, and crew members Sergey Ryzhikov and Andrey Borisenko, who have been aboard the complex since October.

Whitson will become the first woman to command the space station twice. Her first tenure as commander was in 2007, when she became the first woman to hold this post. The crew is scheduled to return to Earth next spring.

-- Thanks to NASA

Monday Night Nets

KG4FUR

BRARA now runs three Monday Night Nets on the 145.290 MHz -0.600 [110.9] repeater:

- ⇒ New HAMS Net: 19:00-19:30.
- ⇒ BRARA Informational Net: 19:30-20:00. Out-of-Area Amateurs may check-in via EchoLink. Our Node is 826953.
- ⇒ South County NBEMS Net 20:00-20:30. Analog Voice and FLDigi/FLMsg mixed mode.

NBEMS KG4FUR

For more information and the latest Guide and Troubleshooting, go to www.qsl.net/k4wrc/PBC-BASIC-NBEMS.html or simply Google "Palm Beach NBEMS"

Scheduled Nets

Mon	20:00	S County	145.290 -0.6 110.9
Tue	19:30	PBC NBEMS	147.285 +0.6 103.5

Other Local HAM

Analog Repeater Nets

Daily	18:00	SEFL Traffic	146.61 MHz
Tue	19:00	Boynton CERT	443.1 MHz
Tue	20:00	IRLP Tech	147.075 MHz
Fri	09:00	SARNet:	
		PBC	443.975 MHz
		FTL	442.850 MHz

Scheduled DMR Nets

Day	EDST	Talk Group	
Sun	2000	TG-2	(LO) FL Tech
Mon	1600	TG-13	(EN) UK Tech
Wed	2100	TG-03	(NA) NA Tech
Sat	1200	TG-01	(WW)

Local DMR Repeaters

Location	Rx Freq	Color Code
Miami	442.225	1
N Dade	443.1250	10
Dania Bch	442.4000	1
Plantation	442.4250	1
Boca Raton	442.0000	8
Delray Bch	443.3000	1
Wellington	442.3000	7
Lk Worth	444.4500	10 In Repair
WPB	444.9125	1
PBG	442.1000	10
Jupiter	442.6000	10 Pending

Social Media Committee

A committee was formed to update, simplify and modernize BRARA social media: W4BFL (Jerry), KO4XL (Bruce), NE4LS (Nelson), N1QFH (John C)

Club Repeaters

144.390 APRS Repeater
145.070 Packet Repeater
145.290 -0.600 [PL 110.9] EC-826953
442.875 +5.000 [PL 110.9]

Location: 26.39724 -80.09485
145.290 & 442.875 linking planned

Club Ham Shack

West Delray Regional Park
10875 West Atlantic Avenue
Delray Beach, FL 33446

Board of Directors

Scheduled Meetings

The BRARA Board of Directors:

K4LEW (Lew), KG4FUR (Gerry),
KO4XL (Bruce), WA8VSJ (Art),
KE4OBV (Patrick), W4BFL (Jerry),
and W4WCD (Walt)

will hold scheduled monthly meetings at 18:00 on the third Thursday of the month in the McDonalds on Yamato Rd and Technology Way. Impromptu meetings may be held at the Shack on Wednesday and Saturday mornings.

Donations & Contributions

Contributions to BRARA—a 501(c)(3) organization—are tax deductible as charitable donations. As you complete your membership renewal or begin your year-end tax planning, please consider making a donation to BRARA.

Planned Giving—Please also consider BRARA when updating or initiating planned giving (including charitable gift annuities, bequests and gifts or retirement plan assets) and other assets.

Apparel Donations

\$10 donation-BRARA Name Plate with your Call Sign.
\$30 donation-BRARA Polo Shirt with your Call Sign.
\$40 donation-BRARA button down red cotton/poly shirt (short sleeve)

Membership Application & Renewal

- \$25 Full Membership
- \$5 Associate Membership
- \$5 Family Mbr w/License

Name: _____

Call Sign: _____

Address: _____

Phone: _____

Email: _____

ARRL Member: Yes No

Birthday: Month: _____ Year: _____

License Grade: _____ Exp Date: _____

Interests: Field Day Ham Fest

HF Digital DXing

VHF Packet CW

UHF Voice Contesting

EmComm Skywarn Public Svc

DMR MARS CERT

Award Chasing Ragchewing

Building & Experimenting Satellite

Other: _____

Signature: _____

Return with dues to BRARA at either:

BRARA
P.O. Box 480162
Delray Beach, FL 33448-0162

Or

to a director at the Shack on Wednesday or Saturday morning radio days.

Southwest Florida Regional Hamfest

Start Date: 01/20/2017
 End Date: 01/21/2017
 Location: Gulf Coast Church of Christ
 9550 Six Mile Cypress Parkway
 Fort Myers, FL 33901
 Website: <http://fmarc.net/hamfest>
 Sponsor: Fort Myers Amateur Radio Club
 Type: ARRL Hamfest
 Talk-In: 146.345 (PL 136.5)
 Public Contact: Frank Nocera ,
 WO4K
 610 SW 28th Terrace Cape Coral, FL
 33914
 Phone: 239-357-7021
 Email: WO4K@arrl.net

SFC Section Convention (Tropical Hamboree®)

Start Date: 02/03/2017
 End Date: 02/04/2017
 Location: War Memorial Auditorium
 800 NE 8th Street
 Ft. Lauderdale, FL
 Website: <http://hamboree.org>
 Sponsor: Dade Radio Club of Miami,
 Inc.
 Type: ARRL Convention
 Talk-In: 147.000 (PL 94.8)
 Public Contact: Lloyd Kurtzman ,
 N4LJK
 8266 Mills Drive PO Box 835367 Miami,
 FL 33283
 Phone: 305-332-9142
 Email: LLOYD0703@gmail.com

Free Laurel VEC Testing



Tue 13-Dec-2016, 18:00-19:30,
 Broward Gen MC, 1600 S Andrews
 Ave, Ft Lauderdale [BARC] (2nd Tue
 of every month).

Sun 08-Jan-2017, 11:00-13:00, Fire
 Station 28, 1040 RPB Blvd, Royal
 Palm Beach [PWARC] (1st Sunday of
 odd months).

Thu 9-Feb-2017, 19:00-21:00,
 Rutherford Com Ctr, 2000 Yamato
 Rd, Boca Raton, FL 33498 [BRARA]
 (Quarterly: Feb, May, Aug, Nov)

SE Division Convention (Orlando HamCation®)

Start Date: 02/10/2017
 End Date: 02/12/2017
 Location: Central Florida
 Fairgrounds
 4603 West Colonial Drive
 Orlando, FL 32801
 Website: <http://hamcation.com>
 Sponsor: Orlando Amateur Radio
 Club (OARC)
 Type: ARRL Convention
 Talk-In: 146.760 - 600 (no PL tone),
 147.015 + 600 (no PL tone)
 Public Contact: Lidy Meijers ,
 KJ4LMM
 PO Box 547811 Orlando, FL 32854
 Phone: 407-841-0874
 Email: info@hamcation.com

BRARA Ham Shack Key Rules ^{K4Lew}

To obtain a key for our ham shack
 you must be a member in good
 standing for a minimum of a
 continuous year and hold a general
 class license or above and go
 through a short training session with
 K4LEW (Lew), W4BFL (Jerry),
 W4WCD (Walt) or N4CGC (Max).

Welcome New Members:

KJ4IFG Mark Kaluh

For more on BRARA:

www.n4brf.org

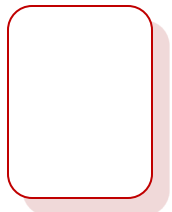
the Radio Flyer's Purpose

The purpose of this newsletter is
 to keep club members and other
 interested hams updated on club
 events and ham activities in the
 Greater Boca Raton Area. We
 hope you enjoy this month's *the RF*
 as much as we did publishing it!



the Radio Flyer

P.O. Box 480162
 Delray Beach, FL 33448-0162



BRARA Club Member Name
 Call Sign
 Street Address
 City, State Zip Code



Amateur License Refresher

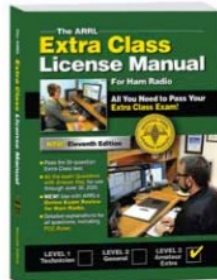
It's probably been awhile since you took your Amateur License exam. Here are a few sample questions just to keep those synapses firing. BRARA is planning a Extra Class after the first of the year.

Extra Pool

E4D06

What is the term for unwanted signals generated by the mixing of two or more signals?

- A. Amplifier desensitization
- B. Neutralization
- C. Adjacent channel interference
- D. Intermodulation interference



E4D14

Which of the following is a way to reduce the likelihood of receiver desensitization?

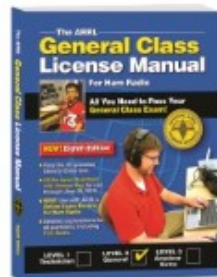
- A. Decrease the RF bandwidth of the receiver
- B. Raise the receiver IF frequency
- C. Increase the receiver front end gain
- D. Switch from fast AGC to slow AGC

General Pool

G6C09

Which of the following is a characteristic of a liquid crystal display?

- A. It requires ambient or back lighting
- B. It offers a wide dynamic range
- C. It has a wide viewing angle
- D. All of these choices are correct



G6C16

Which of the following describes a type-N connector?

- A. A moisture-resistant RF connector useful to 10 GHz
- B. A small bayonet connector used for data circuits
- C. A threaded connector used for hydraulic systems
- D. An audio connector used in surround-sound installations

Answers to License Refresher:

- E4D06 (D)
- E4D14 (A)
- G6C09 (A)
- G6C16 (A)

A world without radio is a deaf world.

A world without television is a blind world.

A world without telephone is a dumb world.

“A world without communication is indeed a crippled world.”

— Ernest Agyemang Yeboah



No Smoking

UNLESS YOU'RE A RADIO WITH A SHORTED CAPACITOR.

Articles for the Newsletter *KG4FUR*

Got an idea for an article? Or constructive critique? Want to share club news and events? How about writing a short 30-minute project idea? Your submissions to the Red Flyer are needed to help keep this one of the best club newsletters in South Florida.

Please send articles to KG4FUR@yahoo.com



“When radio keeps silent, our ears shall never hear the real details!” — Ernest Agyemang Yeboah



Ham Humor

Obama Signs Ham Radio Executive Order

By WBØRUR, on the scene

WASHINGTON, D.C. - President Barack Obama announced today he has signed Presidential Executive Order 11-HAMR, which deals specifically with amateur radio.

“As many of you may know, I recently received my ham radio license. And you may also know that I was not pleased with the callsign assigned to me by the FCC. Rest assured, I have taken steps to rectify that problem through the vanity callsign program.”

“But today, I must resolve another issue that challenges the very integrity of ham radio. Presidential Executive Order 11-HAMR, otherwise known as the “Fairness in Hamfests” directive, mandates hamfest grand prize raffle winners MUST BE PRESENT TO WIN.”

“Too many times I have seen the grand prize winners not in attendance when their ticket number or name was called. Too frequently, a “friend” has the ticket and collects the prize for the AWOL awardee. It is time that we put an end to this, level the playing field and end the class warfare between those who are at the hamfest and those who have left.” Ray Fergie, President of the National Radio Retransmission League, says he supports the President’s position, but feels like free market forces should drive hamfest rules and regulations.

“I’m not sure we need Washington getting involved in our hamfests. If I have to leave early to beat the crowd to IHOP, Denny’s or Golden Corral, then I should not have to forfeit my right to win the transceiver.”

When reporters asked Obama if other rules changes were on the horizon, the Chief Executive stated that in addition to weighty issues such as spectrum allocations, bandwidth specifications and licensing innovation. He really likes those flashing callsign badges and thinks everyone should have one.



HamHijinks.com

Hams Awed By Majesty of 80 Meter Nativity Net

By WBØRUR, on the scene

ORANGE PLAINS, Kansas – Amateur radio operators listening in on 3.875 MHz last night may have been surprised at what they heard crackling through the airwaves as hams across the country recently celebrated the yuletide season.

For weeks, Robert Von Werther and members of the Sunflower State Amateur Radio Club have been planning a “Nativity Scene Net” on 80 meters as part of their Christmas holiday observances.

“One year, we sent QSL cards from Christmas City, Kansas,” says the 58-year-old beet farmer. “Another year, we activated a special event aboard a Christmas parade float. But we really knocked it out of the park with this live nativity net.”

Enlisting the help of ham operators across the United States, amateurs were assigned various “roles;” each required to send specific transmissions “to tell the nativity story” as recounted in the New Testament Gospel of Luke.

“It was heartwarming,” says Von Werther. “I cranked up my vintage Hammerlund HXL-1 and blasted over 1500 watts PEP of Baby Jesus across the ionosphere.”

Participants recited their designated lines, but ended each transmission with a callsign to keep the net “legal.”

But not all went as planned.

Ham operator Gregory Boatwright in Salisbury, Pennsylvania says he was listening into the “nativity net” as the ham portraying The Angel Gabriel concluded his monologue to the shepherds...and finished his transmission with a series of off-color comments when his PTT stuck open.

Worse, one ham says he received an FCC citation.

“I got a pink warning slip in the mail from an Official Observer,” says Winston Northridge of rural Manchester, Utah. “I had to call the OO on the phone and explain that the word “a\$\$” referred to a donkey-like animal and was mentioned in the Bible.”

Von Werther says his club is now working on an 80 meter “Passion Play” for the Easter season.



QRP

Using low power? “That’s crazy!” you think as you observe the declining band conditions at the end of an unremarkable solar cycle. But there are a bunch of dedicated people out there that think less is more when it comes to operating on the ham bands. Check out the blog/webpage of this QRP enthusiast.

<http://www.hamradioqrp.com/>
Below: Elecraft



WSPR

WSPR (pronounced “whisper”) is quietly making its mark on amateur radio operation. The current craze is to set up an attended WSPR beacon to determine propagation on the various ham bands. Here are some sources you can use to explore this relatively new mode of communications.

<http://dev.wsprnet.org/drupal> (be sure to click on the map link)

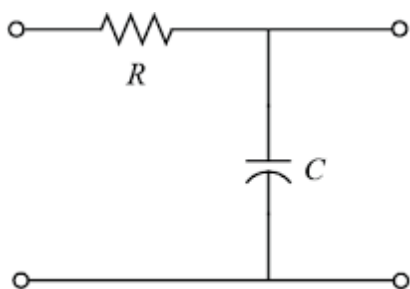
[https://en.wikipedia.org/wiki/WSPR_\(amateur_radio_software\)](https://en.wikipedia.org/wiki/WSPR_(amateur_radio_software))

<http://qrp-labs.com/ultimate3.html>
t’s newest QRP rig, KX2

“Our city’s vast and complex communications system, is indebted to the many trained amateur radio volunteers, who are efficient and dependable and lend a much needed hand in times of crisis or disaster. They are an invaluable part of our city’s communication network...”
Rudolph Giuliani

j Numbers K8BNZF

One of the least favorite parts of electronics for hams seems to be AC electronics. In Tech classes when we get to capacitors, inductors, and phasor diagrams is when the groans start. Yet AC is fundamental to all radio circuits.



Most of us have used an antenna analyzer to check the tuning of an antenna and the MFJ analyzers seem to be the most prevalent. For the most part we just look for the dip in SWR, but a closer look reveals the analyzer is giving you a great deal more information. Namely the resistance, reactance, and impedance of the antenna. And this is just its normal mode, there is much information to be had if you dig into the manual.

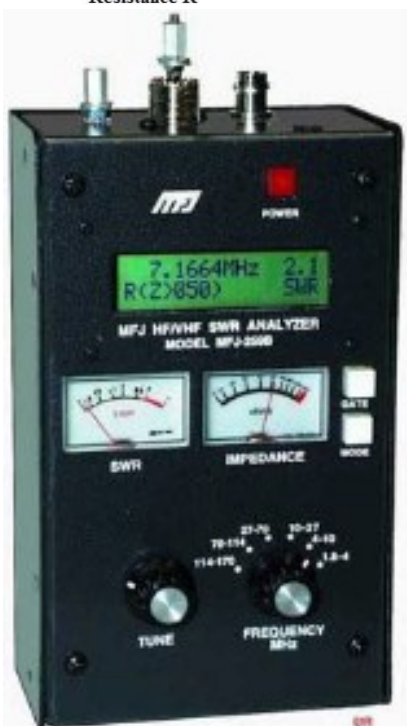
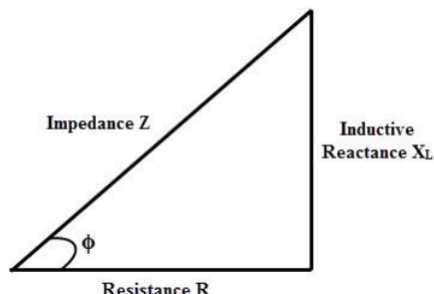
What the analyzer is doing is giving you the impedance of the antenna in complex form. The idea of complex numbers comes from math. Mathematicians also developed the idea of imaginary numbers. They used the symbol i to represent imaginary numbers. Turns out that complex numbers and imaginary numbers are useful in analyzing AC electronic circuits, but we had already used i to represent current, so in electronics we call them j numbers.

Well if you are still reading then let's take a look at what j numbers are and how they apply in electronics. To start let's get past all this imaginary nonsense. But first a cop out. I am not a heavy duty mathematician, physicist, or engineer. But what I have been able to do is find some simplified ideas that helped me understand some complicated ideas. So if you are a mathematician, physicist, or engineer, I'm going to take some liberties with the theory, please address your concerns to Mark, K8MSH. (Editor Mark, K8MSH, says that since Dave is talking about imaginary numbers, please address your concerns to Harvey, Dave's tall and furry imaginary friend.)

In a nutshell, imaginary numbers are how the square root of -1 is handled. Square Root simply means find a number multiplied by itself that gives you the original number. For example, the square root of 4 is 2 because 2 times itself gives 4. The rub is trying to find a square root of -1 . There is no number multiplied by

itself that gives -1 . So the math guys just said, ok we'll invent a new number and call it i . So the square root of -1 is i . They chose i to mean imaginary since there is no real answer.

If we continue like this I'm pretty sure our brains will explode, so let's agree to never again speak of imaginary numbers. Instead we will talk about j numbers.



So why do we need to worry about any of this - sounds like a bunch of nerd stuff? Well you can blame it on Pythagoras and his buddies. You may recall he worked a lot with triangles. And when electronics was being invented they found out it simplified things to use triangles to represent electronic quantities. For instance, the triangle shown here represents the circuit that has a $1K\Omega$ resistor and a $1K\Omega$ inductive reactance. Just to be sure we are together, in the schematic the top part is a resistor and the right hand part is an inductor. R is the symbol for Resistance and X_L is the symbol for the Inductive Reactance. It's not important right now to understand everything about the triangle or the circuit, we'll get there. For now, we just want to see that the values on the schematic have been labeled on the triangle, along with a new value, Impedance, Z .

So you are possibly getting suspicious about now, we kind of did a hit and run when we mentioned Pythagoras. Well he's back. Pythagoras gave us a way to find the value of the side labeled impedance if we know the sides labeled Resistance and Inductive Reactance. It's got a really clever name, Pythagoras' Theorem. What he said is take each of the sides you know, square them, add the result together, then find the square root of the result. Nothing to that, so let's try it. Each side is $1K\Omega$ which is the same as saying 1000Ω . So we start by squaring the resistance of 1000. Squaring is multiplying times itself so we multiply 1000 times 1000. Seems like that should be 1000000 or a million. Since the Inductive Reactance is also 1000, it should come out a million also. Add the two together, probably two million. Last step, find the square root of two million. OK, I can't do that in my head either. So I went to Google and typed in "square root of 2 million" and Google says it is 1414Ω . I left off a bunch of decimal places that won't matter to us. Hey you are pretty cool, you just found the impedance of an AC circuit made up of a 1000Ω Resistor and 1000Ω Inductive Reactance. Bet you could walk in the mall all day and not run into anyone that can do that!

I thought we were going to talk about j numbers, instead we got all this triangle junk. OK, here we go, but after what we did with Pythagoras this is going to seem a little anticlimactic. Another way to write the impedance of a circuit is with j numbers. For the circuit we just solved, you would write: $Z=1000+j1000$. That's it.

What we did here is just go to the circuit and read the values of the resistor and Inductive Reactance. We put the resistor in the equation first, then we put the Inductive Reactance with a j in front of it, and we add them.

OK, but $1000 + 1000$ is not 1414. AhHa, it is if you put a j in front of one of the numbers. Don't take my word, go back to Google and search for j number conversion calculator. The first thing that came up in my search was a page labeled [Polar to Rectangular Online Calculator - Interactive Mathematics](#). I went there and it had some boxes to put in the real and imaginary parts and I see a j next to the box that says imaginary. So I plugged in 1000 for the real box and 1000 for the j box and guess what it came up with for an answer. Uh Huh, 1414. I highlighted the section of the calculator I used below, you can kind of ignore all the rest of the mathy stuff. (Although I do see a triangle in there)

Next month let's look a little more at what these j numbers can do for us, like what it means if the antenna analyzer says we have inductive reactance on our antenna.

Contest and Special Event Operating News and Information

Data below as well as more information courtesy of the following website:
<http://www.hornucopia.com/contestcal/index.html>.

NRAU 10m Activity Contest	1800Z-1900Z, Dec 1 (CW) and 1900Z-2000Z, Dec 1 (SSB) and 2000Z-2100Z, Dec 1 (FM) and 2100Z-2200Z, Dec 1 (Dig)
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 2
+ QRP Fox Hunt	0200Z-0330Z, Dec 2
+ NCCC Sprint	0230Z-0300Z, Dec 2
+ ARRL 160-Meter Contest	2200Z, Dec 2 to 1600Z, Dec 4
+ TARA RTTY Melee	0000Z-2400Z, Dec 3
+ Wake-Up! QRP Sprint	0600Z-0629Z, Dec 3 and 0630Z-0659Z, Dec 3 and 0700Z-0729Z, Dec 3 and 0730Z-0800Z, Dec 3
+ TOPS Activity Contest	1600Z, Dec 3 to 1559Z, Dec 4
+ EPC Ukraine DX Contest	2000Z, Dec 3 to 1959Z, Dec 4
+ Ten-Meter RTTY Contest	0000Z-2400Z, Dec 4
+ SARL Digital Contest	1300Z-1600Z, Dec 4
+ ARS Spartan Sprint	0200Z-0400Z, Dec 6
+ QRP Fox Hunt	0200Z-0330Z, Dec 7
+ Phone Fray	0230Z-0300Z, Dec 7
+ Cops Mini-CWT Test	1300Z-1400Z, Dec 7 and 1900Z-2000Z, Dec 7 and 0300Z-0400Z, Dec 8
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 9
+ QRP Fox Hunt	0200Z-0330Z, Dec 9
+ NCCC Sprint	0230Z-0300Z, Dec 9
+ ARRL 10-Meter Contest	0000Z, Dec 10 to 2400Z, Dec 11
+ SKCC Weekend Sprintathon	1200Z, Dec 10 to 2400Z, Dec 11
+ International Naval Contest	1600Z, Dec 10 to 1559Z, Dec 11
+ AWA Bruce Kelley 1929 QSO Party	2300Z, Dec 10 to 2300Z, Dec 11 and 2300Z, Dec 17 to 2300Z, Dec 18
+ CQC Great Colorado Snowshoe Run	2100Z-2259Z, Dec 11
+ NAQCC CW Sprint	0130Z-0330Z, Dec 14
+ QRP Fox Hunt	0200Z-0330Z, Dec 14
+ Phone Fray	0230Z-0300Z, Dec 14
+ CWops Mini-CWT Test	1300Z-1400Z, Dec 14 and 1900Z-2000Z, Dec 14 and 0300Z-0400Z, Dec 15
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 16
+ QRP Fox Hunt	0200Z-0330Z, Dec 16
+ NCCC Sprint	0230Z-0300Z, Dec 16
+ Russian 160-Meter Contest	2000Z, Dec 16 to 2400Z, Dec 17
+ AGB-Party Contest	2100Z-2400Z, Dec 16

Reminders fm da Prez:

Next Meeting:

**Monday
January 3, 2017
19:00-20:45
West Boca Library**

2017 Membership Renewal:

Renew your membership with BRARA. In addition to sending your check to our P.O. Box, you can renew your membership at the next meeting or at our weekly meetings. Renewals begin October 1 and are due by January 31.

Along with your renewal, please consider a donation to the Repeater Antenna Fund. We need your help!

2016 Tax Donation Letters

Tax Donation letters will be emailed for all the 2016 donations. Please turn in your receipts by January 15 to take advantage of this.

+ OK DX RTTY Contest	0000Z-2400Z, Dec 17
+ RAC Winter Contest	0000Z-2359Z, Dec 17
+ Feld Hell Sprint	0000Z-2359Z, Dec 17
+ Croatian CW Contest	1400Z, Dec 17 to 1400Z, Dec 18
+ Stew Perry Topband Challenge	1500Z, Dec 17 to 1500Z, Dec 18
+ ARRL Rookie Roundup, CW	1800Z-2359Z, Dec 18
+ Run for the Bacon QRP Contest	0200Z-0400Z, Dec 19
+ QRP Fox Hunt	0200Z-0330Z, Dec 21
+ Phone Fray	0230Z-0300Z, Dec 21
+ CWops Mini-CWT Test	1300Z-1400Z, Dec 21 and 1900Z-2000Z, Dec 21 and 0300Z-0400Z, Dec 22
+ NAQCC CW Sprint	0130Z-0330Z, Dec 22
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 23
+ QRP Fox Hunt	0200Z-0330Z, Dec 23
+ NCCC Sprint	0230Z-0300Z, Dec 23
+ RAEM Contest	0000Z-1159Z, Dec 25
+ DARC Christmas Contest	0830Z-1059Z, Dec 26
+ SKCC Sprint	0000Z-0200Z, Dec 28
+ QRP Fox Hunt	0200Z-0330Z, Dec 28
+ Phone Fray	0230Z-0300Z, Dec 28
+ CWops Mini-CWT Test	1300Z-1400Z, Dec 28 and 1900Z-2000Z, Dec 28 and 0300Z-0400Z, Dec 29
+ NCCC RTTY Sprint	0145Z-0215Z, Dec 30
+ QRP Fox Hunt	0200Z-0330Z, Dec 30
+ NCCC Sprint	0230Z-0300Z, Dec 30

December 2016

Presentation:

Airplane Signals

There are approximately 300,000 private, commercial or airline transport pilots registered in the U.S. and on any day there could be 50,000 flying. This is approximately the same amount of amateur radio licensed operators that there are registered in the US.

Today, a pilot only needs to be licensed to operate a radio if he uses an HF radio or conducts flight internationally. All aircraft are required to be individual or fleet station licensed, even if they carry only an emergency locator beacon.

Today's modern aircraft radiates, and is susceptible to lots of EMF as they say "from DC to blue light".

This presentation will help understand the systems, spectrum, diversity of protocols, power levels and safety issues associated with these emissions so that you can understand and avoid signals, in the hopes of avoiding interference and have some fun listening in on some of these signals.

TALARC Monthly Nets

EchoLink, 20-Meter, and IRLP Nets meet the 2nd Saturday of each month.

40-Meter Net meets the 3rd Sunday of each month.

D-Star Nets meet the 1st and 3rd Mondays of each month.

Note: Access to the *FMCA-ARC* EchoLink Conference Node cannot be made via a Repeater.

Mode	Day	Date	Time [Zulu]	Band	Where to find the Net
EchoLink	Saturday	June 11	12 Noon ET [1600Z]		*FMCA-ARC* Conference
HF	Saturday	June 11	1:00 PM ET [1700Z]	20 meters	14.275 MHz [+/- 5 KHz]
IRLP	Saturday	June 11	2:00 PM ET [1800Z]	2 meters	Node 9735 [K9DC-Indy]
HF	Sunday	June 19	6:00 PM ET [2200Z]	40 meters	7.243 MHz [+/- 5 KHz]
D-Star	Monday	June 20	9:00 PM ET [0100Z]		REF 026A
D-Star	Monday	July 4	9:00 PM ET [0100Z]		REF 026A

You know it's bad when...you start hearing CW all the time, and there really isn't any...

Clinton Herbert [AB7RG]

The difference between involvement and commitment is like ham and eggs. The chicken is involved; the pig is committed.

Martina Navratilova

DX Operating News and Information

Credit for the below information and further information on these operations and others can be found at the following website:
<http://www.ng3k.com>

Start	End	DXCC	Call	QSL via	Reported by	Information
1-Dec	11-Dec	St Martin	FS	Home Call	TDDX 20160725	By K9NU as FS/K9NU, N9TK W9ILY K9EL likewise; QRV for CQ 160m Contest w/ 3 simultaneous stations
3-Dec	15-Dec	Bonaire	PJ4	Home Call	DXNews 20161107	By DL1COP as PJ4/DL1COP and DC7MO as PJ4/DC7MO fm SA-006; HF; CW SSB RTTY; holiday style operation
8-Dec	12-Dec	Palestine	E44QX	LotW	TDDX 20160919	By DF8DX fm the West Bank; 80-12m; mainly CW, some SSB; 100w; vertical; limited time operation; QSL also OK via DF8DX (Buro or direct) and Club Log
10-Dec	19-Dec	Turks & Caicos	VP5	LotW	DXNEWS 20160810	By VE7ACN as VP5/VE7ACN fm Grand Turk I (NA-003, FK41kk, FK41kl); 40-10m, perhaps 80m; mainly CW, some SSB; holiday style operation; QSL also OK via VE7ACN
17-Dec	2-Jan	St Lucia	J68HZ	LotW	TDDX 20161110	By K9HZ; 160-6m; CW RTTY SSB; 3 ele yagi; QSL also OK via K9HZ
31-Dec	6-Jan	Nicaragua	H74	EA3BT	DXNEWS 20161115	By EA3BT as H74B and EA3WL as H74WL fm Isla del Gran Maiz (NA-013) 40-6m; mainly SSB, some CW RTTY; 600w; yagi, dipole; first activation in 13 years

2016 Holiday Party

The Holiday Party will be held 1900-2300 on Tuesday 20-Dec-2016 at the Boca Linda Club House located at 1231 NW 13th St Boca Raton, FL 33486

As far as hard liquor - BYOB. Beer, wine, and set-ups will be provided.

In past years, BRARA contributed \$100 for the Hall. This year we may get it back if we are not too roudy.

We are responsible for the post party clean up-that night

As in previous years, each guest is encouraged to bring a Pot Luck dish large enough to feed 10. See following page. In lieu of a dish, guests are encouraged to provide a donation to offset costs.

Suggested donations:

- ⇒ \$15 per person
- ⇒ \$25 per couple
- ⇒ \$10 per child under age 14

Please RSVP to Jerry by 15 Dec at w4bfl@n4brf.org.



**Annual Holiday
Potluck Meal Planner
1900 20-DEC-2016**

Whose Bringing What?

1900 20-DEC-2013
Boca Linda North Clubhouse
1231 NW 13th St
Boca Raton, FL 33486

Appetizers			Entrees		
Call Sign	Name	Dish	Call Sign	Name	Dish
KG4FUR	Gerry Gawaldo	Shrimp Ring			

Sides & Breads			Desserts		
Call Sign	Name	Dish	Call Sign	Name	Dish

Other Items		
Call Sign	Name	Discription
		Paper Plates
		Flatware

- NOTES:**
1. BYOB. Set-ups, Beer and Wine provided by donations.
 2. Please show up early with your potluck items. We may be tasked to help set up (minor).
 3. You are responsible for your crock pots. Also, please remember to take these items home with you before you leave.

Please complete and return to W4BFL