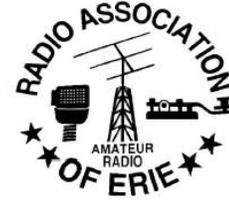




The QUARAE



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Paul Needs your info.

All officers and board members, please e-mail Paul Szymczuk (KB3POY) kb3poy@gmail.com with info such as e-mail address and listed phone number so he can update the internet page.

Alinco DX-SR8T



The Alinco DX-SR8T is a very easy transceiver to use. It doesn't have all the "bells and whistles" of the higher priced rigs. But for someone like myself that is looking for good value for the money this rig is the one. It had digital change of frequencies. It has automatic tuning with a compatible LDG AL-100 auto tuner that's externally wired to the back of transceiver.

Pro: It a good value for the money at \$499.00 at AES. It is Easy to use. It connects to an auto tuner and has a digital link to computer by ERW-7 USB Cable

Cons: Some of the control buttons are small and it could have a better speaker. The handheld microphone that is with the radio could be better. I use the MFJ-297 Desk top Microphone.

For the Ham that's on a budget it's a great radio for the money.

Richard Quinn KB3ZVH

Women will never be equal to men until they can walk down the street with a bald head and a beer gut, and still think they are sexy.

March General Meeting Minutes

Began at 7:30 PM on March 3, 2016

Board Members and Officers Present: Gene Brinig KB3JZL, Frank Etzler N8WXQ, John Lindvay WB3IFD, Bob Fuller N3LBI, Ed Barlow K1ZIL, and Doug Sweet AD4UL (via Skype).

Program: Coax Losses by Frank Etzler N8WXQ

New hams: None

Silent Keys: None

Don't FORGET!



**Radio Association of Erie
Club Meeting at the Club
House Red Cross Bldg at
4961 Pittsburgh Ave
Thursday April 7th**

Program: TBA

Visitors: None

Treasurer's report: \$791.29

Membership report: 18 Members

Facilities Report: Trouble with electric meter reading. All we ever get is estimated readings with no explanation why.

Repeater Report: Repeaters on the air and working fine.

Contesting Report: None

Old Business: There was some discussion on ramp. Will Work on project later in spring.

New Business: None

Public Service: On May 1 communications needed for March of Dimes at Behrend.. Starts at 11 AM

Meeting end at 8:07 PM

Respectfully submitted by

John Lindvay

82.7% of all statistics are made up on the spot

Is AM Radio Still Relevant?

March 15, 2016 — C. Crane

C. Crane started in 1983 selling AM antennas. We have progressed so we now manufacture a range of high quality radios of most types. We were one of the first U.S. distributors of Internet radios, but the vast majority of customers still prefer the instantaneous free convenience of radio.

If you don't have time to read this but want to help keep AM stations capable of long distant night time broadcasts here is a link to KFI who has organized a petition to keep it the way it

is: <http://www.kfiam640.com/features/save-am-radio-1919/>

The FCC is proposing radical changes to AM radio signals. They have already adopted some of the proposed changes, but others that could have a more noticeable impact are still under review and are now open for comment. Currently smaller stations generally have to reduce power and sometimes change the direction they broadcast their signal so they don't interfere with more powerful stations. What this means is larger 50,000 Watt stations like KGO, San Francisco; WGY, New York; KDKA, Pittsburgh; WGN, Chicago and many, many more are capable of transmitting several hundred miles at night and early morning. Those stations have a "protected" status during those specified hours. They're known as clear channel stations (not to be confused with Clear Channel Broadcasting).

This proposal is being called the AM Revitalization plan and some of the reasoning behind it stems from what is called the AM radio noise floor level. With the increase in all things electronic (think smart phones, televisions, Bluetooth and even LED light bulbs), the noise produced by all of these things has impacted AM Radio and not for the better. In many areas (you may be in one of them) the noise is so bad that AM, and in some cases FM, is almost not listenable. Another argument in favor of these changes is to allow room for more local stations or to expand coverage for existing local stations. In theory, this expansion would give listeners a wider choice of programming. A lesser understood impact may include these larger powered stations losing up to 46% of their listenership due to the change in the late night coverage where their signal currently travels hundreds of miles. One of the biggest concerns for losing this protection is the unintended consequences. The FCC claim of how these changes will work out is actually a theory while the

reality of implementation will be different. Unfortunately this is not a “try again” situation if the results are considered horrible by some listeners. It is a situation best served with the idea of “doing no harm”.

C. Crane has talked first hand with over one million AM radio listeners concerned with improving their AM reception. There is a considerable group of listeners who enjoy or by circumstance choose to use radio as their primary source of news and entertainment. They many times live in a more rural setting listening to distant stations. They are generally satisfied watching the world go by with radio as a companion. We would compare them to a sleeping bear that might take a remarkable exception to being poked with a stick. You might take this as a challenge until you meet some of these fine people and realize the misplaced destruction caused by eliminating their signal of choice.

There is a lot of discussion about AM being dead or being much less important than it was before cellular phones, WiFi, satellite radio and even FM Radio. There are many people who can't afford, don't have or don't want access to WiFi or cellular services. The proposed FCC changes could irreversibly affect those who rely on that AM radio signal each night to be informed and entertained.

You may not know why AM radio is very important to the United States, Canada, Australia and China but it is because all of these countries are too big to be covered with a free source of news. All of these countries also have a large relatively unknown group who listen at night. Taking clear channel stations away would affect a great many people.

Possible remedies to improve AM reception:

The FCC could consider a power increase for local stations one at a time. If you look at the comments on this topic, you can see it is too complex to make this kind of change with one general stroke of the

pen. A one size fits all approach isn't going to work. Guidelines can be developed to help the submission process and make this work better for all.

Local stations can stream when their signal goes down in power. The cost is low. A small subscription and/or advertising would be more than adequate.

New technology has given us at least one possible simple solution but it would take 10 years to implement. Bandwidth filters for receivers are quite good and inexpensive now since one chip supplier went into making AM/FM chips. They also make one that has a noise blanker that will likely work well on radio noise. So if broadcasters were able to keep their signal contained to bandwidth specifications and receivers matched it could work much better than it does now for the listener. If it works as well as we expect then the FCC could reduce the AM bandwidth to 8KHz and add more stations. Intelligent offsetting the stations geographically would mean less interference. All we would need is receivers capable of 1 Kiloherz resolution which would be mandated by the FCC.

Last reasons for AM stations

We all take the Internet for granted and in our opinion it is unlikely it will ever fail catastrophically. If it did fail the U.S. has no backup system which would plunge our great country into complete chaos. Until we are sure it can't fail why eliminate 50,000 watt clear channel AM stations. They would be the only possible backup source of information capable of spanning the nation. Our military still installs and uses sophisticated High Frequency AM radios as a backup for a reason.

Here are some places you can go to learn more and form your own opinion

<http://www.timesunion.com/business/article/A-wave-of-discontent-over-AM-radio-proposal-6854910.php#photo-9458937>

<http://chicagoradioandmedia.com/news/8012-fcc-s-proposed-am-revitalization-plan-could-have-impact-on-many-chicago-radio-stations>

<http://swling.com/blog/2016/02/am-radio-proposal-has-class-a-broadcasters-upset/>

<http://www.radioworld.com/article/questions-for-the-fcc-about-am-class-a-protections/277341>

There are stations and individuals for and against these proposed changes. Some arguing that the only local programming is religious, some stating that in localized emergencies, only local stations report on it and others offering what seem like reasonable compromises or suggestions. One thing is clear: Times are changing and there is a limited opportunity to be heard.

We are curious on your take, tell us your opinion – please share in the comments, but if you really want to be heard, you can file a comment either electronically or through the mail <http://apps.fcc.gov/ecfs/proceeding/view?name=13-249> Comments are being accepted through March 21st 2016 and replies through April 18th.

A clear conscience is usually the sign of a bad memory

Mini computers in the shack

Frank M. Etzler, N8WXQ

Computers come in a variety of sizes and the smaller ones can be dedicated to some interesting ham activities. The Raspberry Pi computer has been used in a number of ham applications. The Raspberry Pi, however, does not use the familiar Windows operating system so there is a significant learning curve. The requires a monitor and keyboard for programming and some operations.

Recently, I purchased a Pipo X9 computer from Amazon. You can get this from China for a bit cheaper. So what is a Pipo? The Pipo X9 is

windows 10 PC. It has a 9 in touch screen (1920 x 1200) that gives a tablet experience but can be easily changed to the familiar desktop mode. As a bonus the computer is dual boot to Android 4.4. Unlike a tablet the Pipo has no battery but it does run on 12 v. There are also plenty of ports - 4 USB ports, and HDMI port for an external monitor or TV, a TF card slot for up to a 32 GB TF card, a LAN cable connection and headphone jack (no mic though). The computer is powered by an Atom processor and has 2 GB RAM and 64 GB (a 32GB version is also made) of solid state drive space. The Pipo also has a rather large WIFI antenna. The Atom processor is not a speed demon but quite capable many ham radio tasks. The speakers are adequate laptop type speakers.

So what tasks can the Pipo perform. It will certainly allow one to surf the net and write simple letters, for the latter you may prefer to attach a larger monitor and add a keyboard. It is great computer to tuck under your TV. A wireless keyboard can be your remote control. The Pipo does fine job streaming audio and video like Amateur Logic TV and Youtube to your big screen TV. I and others have been successful in using the Pipo for D-Star using a dongle or DVAP. Wires works too. Because there is no mic input you will need a inexpensive USB sound card for the dongle. Below is a lists of tasks that such small computers can easily perform.

1. Logging
2. Rig control
3. digital mode decoding or TNC Terminal.
4. mobile/portable operation - the Pipo uses 12V!
5. Recording data from a weather station

I am sure thank you think of more. The various mini PC's (no the Pipo isn't the only one) offer numerous opportunities for ham radio. Most are less than \$200 some much less. The Pipo has many deluxe features for a small and inexpensive computer. Think of your next project.

If you want the rainbow, you have got to put up with the rain

UT Austin Engineers Design Next-Generation Non-Reciprocal Antenna

AUSTIN, Texas — Researchers in the Cockrell School of Engineering at The University of Texas at Austin have designed an antenna that is able to process incoming and outgoing radio-wave signals more efficiently and without the need for separate bulky and expensive electrical components commonly used in antenna systems. This new technology could lead to significantly faster, cheaper and clearer telecommunications in the future.

Andrea Alù, associate professor in the Department of Electrical and Computer Engineering, along with postdoctoral fellows Yakir Hadad and Jason Soric, discuss their non-reciprocal antenna's design and capabilities in the *Proceedings of the National Academy of Sciences*. Their article will be published online this month.

The research team's breakthrough design is an antenna that can break reciprocity, or the natural symmetry in radiation that characterizes conventional antennas. In textbooks, the angular patterns for antenna transmission and reception have been assumed to be the same — if the antenna opens a door to let signals out, signals can come back through that same door and leak toward the source. By breaking reciprocity, the UT Austin researchers' new antenna can independently control incoming and outgoing signals with large efficiency.



Pipo X9

6. Terminal for an SDR
7. APRS terminal
8. DX cluster monitor

The main advantage of this technological advancement is the possibility of sending out a signal while keeping out noise and echoes that come back toward the antenna, enabling faster data rates and improved connections while requiring less bulky antenna systems. Beyond telecommunications, the new antenna technology may be applied to sensors used in applications as diverse as health care and weather tracking, allowing the sensors to pick up stronger signals for more accurate data collection.

The researchers' new antenna demonstrated a drastic difference between transmission and reception capabilities, with reception efficiency from a certain direction that is hundreds of times smaller than their transmission efficiency toward the same direction.

Conventional antennas are subject to reciprocity, implying that they unavoidably transmit and receive signals with the same efficiency. This means that if a conventional antenna is a very good emitter of radio-wave signals toward a certain direction, it is also a very good receiver from the same direction. As it happens, this property is not always a beneficial feature because transmitting antennas are prone to absorb surrounding reflections or echoes that bounce back from nearby obstacles. This noise deteriorates the quality of the transmission signals.

“Our achievement is that we break the symmetry between transmission and reception signals, so we are able to prevent the antenna from having to listen to reflections and echoes that affect the source,” Alù said. “We show that it is possible to efficiently overcome these constraints using temporally modulated traveling-wave antennas.”

In the team's experiments, the researchers fed the antenna with two signals simultaneously: the radio-frequency signal that they want to transmit or receive, and a weak low-frequency modulation signal that slowly changes the properties of the

antenna as the radio-frequency signal travels along it. This modulation breaks the inherent symmetry of the antenna in transmission and reception, overcoming the reciprocity constraints.

Associate professor Andrea Alù and his team have designed a non-reciprocal antenna that can independently control incoming and outgoing radio-wave signals with greater efficiency. *Cockrell School of Engineering*

Presently in the telecommunications field, magnet-based isolators are commonly used as part of antenna systems to prevent received signals from traveling into the transmission amplifier. The researchers believe their new antenna may be an efficient solution to significantly reduce the need of isolators and reduce the size and cost of telecommunication systems.

The researchers are now looking into how this concept may be extended to other applications such as optics. They envision that by pushing these concepts to higher frequencies, it will be possible to break a similar constraint affecting energy-harvesting devices such as thermophotovoltaic cells. The researchers believe that their antenna experiment, extended to the infrared part of the spectrum, may provide a route toward more efficient energy-harvesting platforms.

This work received support from the Office of Naval Research, the National Academy of Engineering's Frontiers of Engineering program and The Grainger Foundation.

You're never too old to learn something stupid

Ham Calendar

April 2- Mississippi QSO Party. See www.arrlmiss.org

April 2- Missouri QSO Party. See
www.w0ma.org/mo_qso_party.htm

April 30- Florida QSO Party. See
www.floridaqsoparty.org

April 3- Radio Amateurs of Corry All You Can Eat
Breakfast Buffet Fundraiser at the Corry VFW 8 am
to 11 am

April 5- Corry Club Meeting

April 7- RAE Meeting

April 9- Cuyahoga Falls 62nd Annual Hamfest. See
<http://www.cfarc.org/hamfest.php>

April 9- New Mexico QSO Party. See
www.newmexicoqsoparty.org

April 9- Georgia QSO Party. See
www.georgiaqsoparty.org

April 12- Wattsburg Wireless Meeting

April 14- Union City Wireless Meeting

April 15- Tax Day

April 16- Nebraska QSO Party. See
www.qcwa.org/chapter025.htm

April 16- Michigan QSO Party. See
www.miqp.org/Rules.htm

April 16- 144 Ontario QSO Party. See
www.va3cco.com/oqp/rules.htm

April 16- North Dakota QSO Party. See
w0nd.com/ndqso15.pdf

April 16- VE Testing Session

April 17- ARRL Rookie Roundup. See
www.arrl.org/rookie-roundup

April 18- Conneaut Club Meeting

April 24- Boston, PA 44th Annual Hamfest. See
<http://www.trarc.net>