



## Deep East Texas Amateur Radio Club

**DETARC, Inc.**  
Lufkin, TX

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Roger K0YY Editor,  
[k0yy@arrl.net](mailto:k0yy@arrl.net)

### 1. DETARC INFORMATION

#### Club Officers:

President- Steve KG5ODZ, Vice President- Randy N5CRW. Secretary- RM K5AGE, Treasurer- Patricia K5HER.

Club Web Page: [www.detarc.net](http://www.detarc.net)

Club Email Reflector: **Notice:** The old DETARC email reflector is no longer in use. Join the "DETARC of Lufkin" Google Group email reflector to receive Club information. To join contact Megan KB5MEG the Group Administrator.

Meeting Times/Location: Our monthly meeting is the fourth Thursday of the month at 7 PM at the old armory on Tulane Drive, across from Kiwanis Park.

DETARC/ARES Net: 146.940 MHz-600, 141.3 CTCSS. Every Tuesday at 8 PM, alternates 147.360+600 MHz, 141.3 CTCSS, or 146.42 Simplex.

For additional information on DETARC/ARES see the web site at [www.detarc.net](http://www.detarc.net)

#### Meeting Minutes: February 2018

Megan KB5MEG volunteered to take over the Door Prize Fund. Thanks Megan. Roger K0YY and RM K5AGE won several small door prizes. The motion was made, seconded and passed to place excess prize money funds over \$300 into the Club General fund.

The Club is also looking for a member to coordinate meeting presentations. Now is the time to get out of your comfort zone a little and volunteer to help the Club and your fellow members. These activities

generate interest and bring in new and old members alike to our meetings.

We talked about gathering more data on the cost and type of a weapon to sell tickets as a fund raiser. Many members at the meeting agreed to sell tickets for this Club fund raiser. Megan will gather more info on costs. We will discuss further next meeting.

We might also talk more about how to conduct a membership drive to gain more members.

Welcome to new Ham Tim from Huntington who just passed his Tech test this week.

#### DETARC/ARES News:



Net Control Operators: Many thanks to Jerry KC5JCB for his great job. **Please step up and help out with NCS duties.** If you can't make an assigned date, please find someone to fill in for you.

#### DETARC/ARES Projects/Events:

##### Neches River Rendezvous:

The River Rendezvous is scheduled for **June 2 and backup June 16<sup>th</sup>**. Radio operators needed for all positions. See Steve KB8QWN to sign up. A sign-up sheet was passed around at the Feb. meeting.

##### Meeting Antenna Presentation:

Roger K0YY gave a PowerPoint presentation at the February meeting with many examples of different types of antennas and antenna accessories. We discussed antenna specifications, terms, operating

characteristics, and reference sources. Thanks Jerry, Randy, and Gary for bringing in examples and sharing ideas. See also the Tidbits Section.

**Future Presentations:** Patrick W5DVG volunteered to do a presentation in May on the 900 MHz Ham repeater system set up in Austin. He will bring his 900 MHz radios as well.

### Fox Hunt:

We are planning another Fox Hunt to coincide with the CQ Magazine World-wide Fox Hunt weekend of **May 12 & 13<sup>th</sup>**.

All that is required to participate in the Fox Hunt is a basic 2-meter hand-held radio. All the better if you have built a 2-meter directional Yagi. See below.

Fox Hunting is popular with Hams throughout the world. Some Clubs make it a full day by holding a BBQ picnic or meeting at a restaurant afterwards.

Some Clubs invite other local groups such as the Scouts to participate. This is a good way to introduce Ham Radio to new people.

**CQ Magazine Sponsors World-wide Fox Hunts with Clubs participating from all over the world.**



*Hidden transmitter hunting, both on foot and in cars, is a growing sport all over India. These girls in Mumbai have just completed a measuring tape Yagi and are off to find a 2-meter transmitter. (Courtesy of Shailesh Deshmukh, VU2LOC)*

DETARC has a PowerPoint presentation on Basic Fox Hunting techniques and equipment usage. We conducted a training session and practice Fox Hunt this past January 13<sup>th</sup>.

2-meter Fox Hunt tape measure Yagis can be built for around \$12 dollars and are great for fox hunting. Randy N5CRW just purchased the necessary parts at Lowes and built one.

Here is a website on how to build the Tape Measure Yagis.

[http://theleggios.net/wb2hol/projects/rdf/tape\\_b m.htm](http://theleggios.net/wb2hol/projects/rdf/tape_b m.htm)

### Tape Measure Yagi for Fox Hunting

--Yagi by Ray AG5EG from Conroe, thanks!



--Photo by Randy N5CRW

**HAM Radio Operators  
Do It With Frequency!**

## 2. Upcoming Ham Radio Contests/Special Events:



### UPCOMING CONTESTS:

#### Texas State Parks on The Air (TSPOTA)

04/7-8/2018, <http://www.TSPOTA.org>

DETARC will participate. This is a low key event. If interested contact Roger K0YY, Gary KI5LR or Jerry KC5JWB. See more information below.

### SELECT HAM SPECIAL EVENTS:

#### 04/21/2018 | San Jacinto Day Special Event

Apr 21-Apr 22, 1400Z-2100Z, K5T, Nacogdoches,

TX. Nacogdoches Amateur Radio Club. 21.350

14.270 7.220. All contacts will be confirmed via

LOTW. Special QSL card available for SASE.

[w5nac.com](http://w5nac.com)

### UPCOMING HAMFESTS:

#### March 16/17<sup>th</sup> 2018

ARRL South Texas Section Convention

Greater Houston Hamfest

<http://houstonhamfest.org/>

Fort Bend County Fairgrounds

4310 Texas 36 Rosenberg, TX 77471

Approx. 33 mi SW of downtown Houston.

#### 03/17/2018 Swapfest

Location: Georgetown, TX

Type: ARRL Hamfest

Sponsor: Williamson County Amateur Radio Club

Website: <http://wcarc.com>

For further details on Contests/Special Events/Hamfests see:

[www.hornucopia.com/contestcal/](http://www.hornucopia.com/contestcal/)

[www.arrl.org/contest-calendar](http://www.arrl.org/contest-calendar)

[www.arrl.org/special-event-stations](http://www.arrl.org/special-event-stations)

[http://www.cq-amateur-radio.com/cq\\_contests/cq\\_annual\\_contest\\_calendar/cq\\_annual\\_contest\\_calendar.html](http://www.cq-amateur-radio.com/cq_contests/cq_annual_contest_calendar/cq_annual_contest_calendar.html)

<http://www.rsgbcc.org/hf/>

<http://www.arrl.org/hamfests/search/Location.state:TX>

## 3. AMATEUR RADIO EMERGENCY SERVICE® (ARES)

Mike WD5EFY, South Texas Section, District 2 Emergency Coordinator (DEC) (Angelina & Surrounding Counties)



[www.arrl.org](http://www.arrl.org)

There has been some flooding in parts of east Texas. You never know when we might get the call to assist.

As always, be prepared with fueled vehicles, charged batteries and a ready go-bag!

--73 for now, Mike WD5EFY

ARES monthly Wide-Area Net Remember the ARES Wide Area Net is held monthly on the third Monday night on the 146.94 and other participating repeaters at 2030 hours local time. Multiple Counties participate.

To join our **ARES email reflector**, send an email request to [ares-join@detarc.net](mailto:ares-join@detarc.net).

## 4. OPERATING/TRAINING:



### Texas State Parks on The Air (TSPOTA).

TSPOTA is an annual event that takes place on the second full weekend in April, *(except when Easter falls on the second weekend, then the contest is moved to the first weekend of April).*

This year TSPOTA will be **April 7-8, 2018.**

TSPOTA is a low pressure, fun contest, designed to give Texas hams that have been house bound during the winter, a chance to go to a local state park and make a few contacts. It is a great opportunity to check out your radio gear and enjoy a little sunshine in the park.

The Lake Area Amateur Radio Klub LAARK in The Colony TX is, once again, sponsoring the **Texas State Parks on the Air contest**. If you are not familiar with the TSPOTA contest visit <http://www.TSPOTA.org> for complete rules and park activation information.

We have reservations for a cabin and will activate Fort Boggy State Park south of Centerville. Come on over for the day on Saturday or Sunday morning and get on the air in a low-key event. Contact Gary KI5LR, Roger K0YY or Jerry KC5JWB if interested. See-- <https://tpwd.texas.gov/state-parks/fort-boggy>

### 5. REPEATER NOTES:

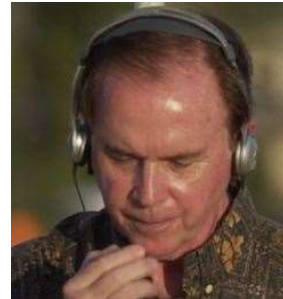


As always, reports of operational status, good or bad, are always appreciated and should be reported to me, Mike WD5EFY.

The new Alto Intertie repeater that will allow us to link all the way to Tyler is about ready to be installed. The local UHF hub repeater that links everything together is still having issues and is being trouble-shot.

--73, Mike WD5EFY, Trustee & W5IRP Repeater Systems Maintenance Technician.

### 6. ARRL NEWS:



**A recent NBC News Left Field report asserted that hams "could save our lives" in a disaster.** A team from NBC News' nascent digital news unit Left Field was in Hawaii to

visit with some radio amateurs to produce a report when the false nuclear missile alert happened on January 13. Left Field's report points out how much we rely on cell phones and 21st century technology...and what we would do if these suddenly were no longer available. Amateur Radio operators "are standing at the ready and may save us all," NBC Left Field said in the tease to its [YouTube version](#) of its report. Accessible [directly from NBC News](#), the report, with Left Field's Jacob Soboroff, runs 7:22. "Ham radio is one of the ways you'd be able to hear what's happening," when conventional telecommunications systems fail, Soboroff told his viewers. Among those interviewed in the piece are ARRL Section Manager Joe Speroni, AH0A, and Assistant Section Manager Kevin Bogan, AH6QO. NBC News says its Left Field unit "is a new internationally minded video troupe that makes short, creative documentaries and features specially designed for social media and set-top boxes."

--February 15, 2018 ARRL Letter

### 7. FOR SALE/WANTED:

Do you have something to sell or are you looking for a Ham related item? Place a free ad by sending ads to [k0yy@arrl.net](mailto:k0yy@arrl.net). (Kilo Zero Yankee Yankee).

Ad Rules:



1. Ham related only
2. DETARC/ARES Members receive priority.
3. Include asking price, name, call, and email address or phone number—**this is required for all ads.** You give your permission to publish your email address and/or phone number by submitting an ad.
4. Be specific, short & concise. Use brand and model numbers if available. State condition if appropriate- poor/fair/good/excellent, or as is.
5. Newsletter Editor determines what is/isn't appropriate and may edit ads to fit or limit the number of ads.
6. Be aware that the Newsletter is shared among many of the regions Hams.
7. This is on a trial basis to see how it works.
8. **Disclaimer:** DETARC and the Newsletter Editor are not a party to or responsible for transactions between individuals. Strongly recommend buyers thoroughly check purchases prior to completing any transaction. Buyers may want to check prices for similar items on [www.eham.com](http://www.eham.com) or [www.ebay.com](http://www.ebay.com).
9. The cutoff date to receive ads is the 15<sup>th</sup> of the month prior to the monthly meetings. The next month's Newsletter is published immediately after the DETARC/ARES monthly meeting the 4<sup>th</sup> Thursday of the month. For example: to place an ad in the May Newsletter, your ad must arrive by April 15<sup>th</sup>.

### **Ham Radio Ads:**

**FOR SALE:** New Possum J270 Dual-band 2/440 J pole base/portable antennas \$40 each, \$10 discount for seniors. 1 ½ inch mount. Gary KI5LR. [gary.antley@consolidated.com](mailto:gary.antley@consolidated.com)

**FOR SALE:** Rohn BX-64, 64-foot medium duty free standing tower. Rotor platform in top section. 8 8-foot sections, excellent shape, never been in the air. Hardware package (bolts/nuts) not included. Good for 2/440 beam, small 6-meter beam, or dual-band vertical.

\$450 cash/**negotiable**. Pick up only in Lufkin. Roger K0YY, [k0yy@arrl.net](mailto:k0yy@arrl.net)

**WANTED:** Rohn 25 tower sections, 10-foot sections, 4 each in good to excellent condition. Will consider partial trade for above BX-64 tower. Contact Roger K0YY, [k0yy@arrl.net](mailto:k0yy@arrl.net).

## **8. EXTRA TIDBITS: Antenna Theory**

**ANTENNA GAIN:** As discussed at the meeting--

We discussed antenna gain and what those dBi versus dBd figures mean.

So here is the straight information on antenna gain. The two common ratings are:

dBi = Decibel Gain over an Isotropic (point) theoretical source.

dBd = Decibel gain over a Dipole.

There isn't an industry standard on how antenna gain must be labeled. Therefore "the buyer must know what the manufacturer is actually saying".

Inserted in the next page below is a copy of a table from one of Bill Orr's W6SAI (SK) Antenna Handbooks. Bill was an expert on antenna design.

Note that there is a 2.1 difference in gain between and antenna rated in dBi versus one rated in dBd for the same antenna. See the chart below.

So, now you know the real gain ratings of antennas and the added gain achieved by adding elements to a Yagi, Quad, or colinear style antenna.

### **Antenna Gain Versus Output Power:**

So how does antenna gain relate to output power from a transmitter?

**Antenna Fact:** Every 3 dB of antenna gain doubles the Effective Radiated Power (ERP) of an antenna. Yes, ERP power is a real power gain, (focused in the forward direction for a beam style antenna, and

towards the horizon in a vertical colinear type antenna).

### VHF Examples:

For example, a 3-dB gain antenna used with a 50-watt transmitter provides 100 watts of ERP power  $50 \times 2 = 100$ . (assuming no losses in the transmission line).

A 6-dB antenna used with a 50-watt radio provides 200 watts of ERP power. ( $50 \times 2 = 100$ , and then  $100 \times 2 = 200$  watts ERP).

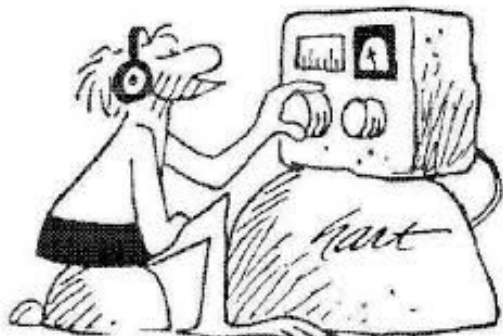
A 9-dB antenna used with a 50-watt radio provides 400 watts of ERP power. ( $50 \times 2 = 100$ ,  $100 \times 2 = 200$ ,  $200 \times 2 = 400$  watts ERP) and so on.

### HF Examples:

A 100-watt radio with a 3-element Yagi having 8 dB of gain has approximately 700 watts of ERP power. ( $100 \times 2 = 200$ ,  $200 \times 2 = 400$ ,  $400 \times 1.75 = 700$  watts of ERP power focused in the forward direction).

A station using a 1.5 KW amplifier and a 3-element Yagi has 10,500 watts of ERP power. ( $1,500 \times 2 = 3,000$ ,  $3,000 \times 2 = 6,000$ ,  $6,000 \times 1.75 = 10,500$  watts of ERP power focused in the forward direction).

We also talked about Front to Back (FTB), Front to Side (FTS) ratios, Beam Widths, Radiation Resistance, Take Off Angles, etc.



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Remember others hear us. Consider what you say. Lots of local folks have scanners.

### Antenna Gain Table by Bill Orr W6SAI (SK)

ANTENNA PERFORMANCE		43
Fig. 1 TRUTH TABLE OF ANTENNA GAIN		
ANTENNA TYPE	DECIBEL GAIN OVER ISOTROPIC RADIATOR	DECIBEL GAIN OVER HALF-WAVE DIPOLE ANTENNA
ISOTROPIC RADIATOR (A THEORETICAL ANTENNA ONLY)	0	-2.1
GROUND PLANE	+0.3	-1.8
HALF-WAVE DIPOLE ANTENNA	+2.1	0
5/8 WAVE ANTENNA	+3.3	+1.2
QUAD LOOP ELEMENT	+4.1	+2.0
2 ELEMENT YAGI BEAM	+7.1	+5.0
3 ELEMENT YAGI BEAM	+10.1	+8.0
4 ELEMENT YAGI BEAM	+12.1	+10.0
2 ELEMENT QUAD BEAM	+9.1	+7.0
3 ELEMENT QUAD BEAM	+12.1	+10.0
4 ELEMENT QUAD BEAM	+14.1	+12.0

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Table from Bill Orr W6SAI (SK) Antenna Handbook

### Members— we would like your input.

What have you done recently in Ham Radio that is exciting? Let us know and I'll include mention of it in the next Newsletter.

Perhaps we could talk about it at an upcoming meeting. Bring your latest project for show and tell.

Roger K0YY,  
DETARC Newsletter Editor