



Deep East Texas Amateur Radio Club

© Copyright 2017, DETARC
Roger K0YY Editor,
k0yy@arrl.net

DETARC, Inc. Lufkin, TX

1. DETARC INFORMATION

Club Officers: President- Steve KG5ODZ, Vice President/Repeater Trustee- Mike WD5EFY, Secretary- RM K5AGE, Treasurer- Randy N5CRW.

Club Web Page: www.detarc.net

Email Reflector: To join send an email request to: detarc@detarc.net

Meeting Times/Location: 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

DETARC/ARES News:



DETARC/ARES members have you upgraded, or recently accomplished something special in Ham Radio? Are you working on a special project? Share it with fellow Club members and let us all know what you are doing. Bring it up at a meeting or the 4th Saturday DETARC Social Gatherings. We'd like to hear about what you are doing.

New Generals: Congratulations to our two new General Class Licensees— Jerry KC5JWB & Greg KG5NRO. Well done guys and welcome to the wonderful world of HF! K0YY was lucky enough to be Jerry's first HF contact as a new General. There

is an old Ham radio tradition to send the new licensee a QSL card as his/her first contact.

Door Prizes: The Club meetings now have door prizes thanks to Gary KI5LR.

Door Prize Donation: Each attendee receives one free ticket for showing up. For each dollar donated to the prize fund you will receive one additional ticket. See Gary KI5LR for additional details.

DETARC/ARES Upcoming Projects/Events:

NEW-- DETARC Social Gathering April 29th 10:30 AM, location to be determined. Listen on the nets and at the meeting This is a **monthly occurrence on the Saturday after the meeting**. Stop in and visit with your Ham friends. Put it on your calendar now, don't forget.

Hudson Fire Search & Rescue (SAR) Event May 20th & 21st.

We will again need 7-8 radio operators to support the SAR Teams and Marine Corp League heavy trucks used for high water rescue. Operators will be assigned to individual SAR Teams and the high-water rescue trucks. Portable and mobile radio setups will be needed. Multiple SAR teams from the region will again be involved. Please contact Mike WD5EFY to sign up to participate.

Neches River Rendezvous Event June 3.

This event takes place every year on a 10 mile stretch on the Neches River. We stage at North Boggy Slough (on Hwy 7 West) just 1 mile west of the Angelina/Houston County line. We transport participants north to Anderson Crossing where they canoe downriver to the Hwy 7 bridge at the Angelina/Houston county line. If you are new to amateur radio and/or ARES, this is a great event to get your feet wet in learning how an ARES event goes. This is a fast-paced event where there's a lot of traffic. Your ears will be your best friend

We are still looking for 10 more operators to assist with the 20th Annual Neches River Rendezvous. This is a fun event that I hope you will give strong consideration to being a part of. It is good practice for ARES events and you will give your traffic handling technique a good workout. If you keep an open mind, you will learn new things as to what works, what doesn't and how you can improve your radio skills.

It is a very fun event in the East Texas outdoors and you do get lunch, complete with desert provided to you!

If you are interested in being a radio operator for this event, and you have not previously signed up, please get the following information to Steve Glass KB8QWN as soon as possible.

- 1.) Name and Call-sign
- 2.) Shirt size
- 3.) Email address
- 4.) Contact number (if you are willing – only to be used for last-minute changes – I won't spam your phone!!)
- 5.) Do you have a preferred position?
- 6.) Are you willing to volunteer for additional work if the Chamber needs additional help (van driver, pull a trailer, vehicle coordinator/passenger loader, boat operator, etc.)?
- 7.) Do you need radio/antenna equipment? Which one or both?
- 8.) Do you have equipment you're willing to loan? If so, what?

"Hurricane Charlie" state-wide Exercise, 7 June, several radio operators will be needed. More information to follow.

FIELD DAY, June 24-25th. W5IRP Club station.

2. Upcoming Ham Radio Contests/Special Events:



SELECT HAM CONTESTS: (There are many more).

UN DX Contest May 20, 0600z to 2100z.

Run for the Bacon QRP Contest May 22, 0199z to 0300z

ARRL June VHF Contest, June 10-12th,

<http://www.arrl.org/june-vhf>

SELECT HAM SPECIAL EVENTS:

May 6-7, 7th call area QSO Party

.05/20/2017 Armed Forces Day,

05/22/2017 Indianapolis 500 Special Event May 22-

May 29, 0400Z-0400Z, W9IMS, Indianapolis, IN.

Indianapolis Motor Speedway Amateur Radio Club.

18.140, 14.245, 7.245, 3.840.

UPCOMING HAMFESTS: --from ARRL Web Site.

- **06/09/2017 | [West Gulf Division Convention \(Ham-Com\)](#)**

Location: Irving, TX

Type: ARRL Convention

Sponsor: DFW Metroplex Clubs

Website: <http://www.Hamcom.org>

[Learn More](#)

Hamfest/Convention

- **07/08/2017 | [Texas City/Tidelands ARS Hamfest](#)**

Location: Texas City, TX

Type: ARRL Hamfest

Sponsor: Tidelands Amateur Radio Society

Website: <http://tidelands.org>

[Learn More](#)

Hamfest/Convention

- **08/04/2017 | [South Texas Section Convention \(Austin Summerfest\)](#)**

Location: Austin, TX

Type: ARRL Convention

Sponsor: Austin ARC & Texas VHF-FM Society

Website: <http://www.austinsummerfest.org>
[Learn More](#)

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

www.hornucopia.com/contestcal/

www.arrl.org/contest-calendar

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.rsgbcc.org/hf/>

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

3. AMATEUR RADIO EMERGENCY SERVICE® (ARES)

Roger K0YY, Angelina County Emergency Coordinator (EC). k0yy@arrl.net

Steve KB8QWN Assistant EC (AEC)

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



Come Join Us!

GO KITS: Hurricane season is coming. Are your radios properly programmed with the Regional Repeater Frequency List? Do you have an up to date Equipment and Admin Go kit complete with all the forms you will need during an incident? Check out the Repeater Frequency List and sample Go Kit Lists on the ARES Forms and Lists page at www.detarc.net You can download any forms you may need for your Go Kit. Are you RMS Express capable? Computer generated ICS fill-in forms are also available.

Simulated Emergency Tests (SETs):

RMS Express Software: WD5EFY and K0YY spent several hours the evening of April 13 exercising the RMS Express software for both VHF Packet and HF Pactor. Several messages were exchanged via the 050 and 070 digipeaters, peer-to-peer (direct), and via the Winlink Central Mail Server (CMS) stations. File attachments were included. An updated RMS Express VHF Operations Procedure is now posted on the DETARC web site on the ARES Forms and Lists page. <http://detarc.net/index.php/ares-forms-and-lists/>

RACES Exercise: WD5EFY and K0YY activated the Lufkin City EOC on Thursday April 20th as a part of the Mount Pleasant RACES Communications Exercise. The 146.94 remote base was activated to link to the Mount Pleasant EOC. Several RACES organizations participate from East Texas. Tyler County and Walker County ARES participated from our area with Tyler County activating their link to our 94 repeater.

Did you hear some strange digital signals on 94 Thursday morning April 20th? The Mount Pleasant RACES members were transferring data over the linked repeater systems using the FLDigi software.

Good operational and technical information was garnered from these two exercises.

See the article on digital operations in the Operating Section below.

To join our ARES email reflector, send an email request to ares@detarc.net.

Article Links Amateur Radio Growth to Emergency Communications— ARRL E-Letter April 19, 2017

An April 11 [article](#), "Emergency Communications Driving Increase in Amateur Radio Operators," in *Emergency Management* magazine links the growth in Amateur Radio numbers to interest in emergency communications.

"There has been a tremendous amount of interest in emergency preparedness since 9/11 and Katrina, and this is true for the Amateur

Radio community as well," ARRL Emergency Preparedness Manager Mike Corey, KI1U, told the publication. "Emergency communications is a gateway into Amateur Radio, and many join our ranks through an interest in being better prepared themselves and as a way to serve their community."

The article cites numbers from ARRL VEC Manager Maria Somma, AB1FM, who notes that 2016 was the third year in a row that the total number of new licenses exceeded 30,000.

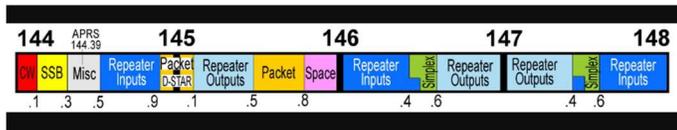
The article also cites ARRL Colorado Section Manager Jack Ciaccia, WM0G, who agreed with the premise that the uptick in new licenses is due to Amateur Radio's emergency capabilities.

"Interest really peaks after a large-scale event where ham radio has been utilized," Ciaccia said. "When regular phone service fails, Amateur Radio operators fill the communications gap with their independent transceivers and battery power backups," said the article, which also discusses the ARES program. -- *ARRL News*

4. OPERATING:



2 Meter Band Plan: Where should I operate?



--Thanks Mike KG5ODX

2 meter/440 MHz operating notes: Did you know?

1. Some states use different repeater channel spacing, typically 15 kHz not like our 20-kHz spacing here in Texas. This is typically used in very congested activity areas.

2. Some locations use reverse repeater frequency allocations on 2 meters. That is-- inputs high and outputs low. Example-- input 146.67, output 146.07 MHz. It is a similar reversed rule for 440 in some locations, input low, output high. Example— 443.350 input and 448.350 output.
3. We of course always monitor the output of repeaters to benefit from their greater range.

TEXAS STATE PARKS ON THE AIR (TSPOTA) "Where Radio meets Wild". April 8-9, 2017



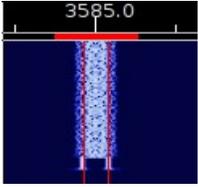
Operating portable for TSPOTA. — www.tspota.org

Quoting from TSPOTA.ORG— "Texas State Parks on the Air is an annual event that combines the fun of amateur radio contesting with the beauty of the Texas State Parks! During this event, amateur radio operators are invited to take their radios, family and friends into the wilds of the Texas State Parks and have some fun contacting other radio operators in other Texas State Parks!" Unquote.

TSPOTA would be a really fun event to participate in for our DETARC Club next year. We could activate Martin Dies Jr SP east of Woodville, or Mission Tejas SP northeast of Crockett.

I had fun contacting 13 State Parks On-The-Air This year from home. I contacted the Ham Club I am a member of over in Uvalde. The Coyote ARC there activated the Kickapoo Caverns SP near Brackettville, TX.— Roger K0YY

Digital Operations, what are those strange sounding signals?



BPSK 31 Signal in a waterfall display, courtesy W1HKJ.

Want to hear what the various digital modes sound like? Go here—

<http://www.w1hkj.com/FldigiHelp-3.21/Modes/>

A SHORT OVERVIEW OF AMATEUR RADIO DIGITAL OPERATIONS. –Roger K0YY

1. Background:

This is a short overview of Amateur digital modes aimed at the Ham with little or no background in digital operations. It is not a comprehensive article or intended to cover the topic in depth. See articles on the Internet or UTube for additional details. Here are a few out of many references:

<http://www.arrl.org/digital-modes>

https://www.tapr.org/pr_intro.html

<http://www.hamuniverse.com/hfdigitalmodessoftware.html>

<http://www.eham.net/ehamforum/smf/index.php/board,10.0.html>

Most of the Amateur digital modes use computer based software to generate signals to transmit and receive text type messages. Most digital modes are computer sound card based using Audio Frequency Shift Keying (AFSK) transmissions. There are specific frequency sub-bands designated for digital operations on both the VHF and HF bands.

Packet Radio is the most used VHF digital mode. On HF, there are several popular modes listed below in the TNC examples paragraph. Some digital modes have error correction capability to automatically request retransmission when errors in transmitted data are detected.

2. Equipment:

The special interface equipment used for Ham digital operations are called TNCs. There are several models of these **Terminal Node Controllers** (TNCs) available. They typically provide the functions of audio interfacing to and from the radio and the radio transmit/receive control. Some TNCs also have internal memory to store messages.

TNCs Examples: There are many models available, these are a few of the popular ones.

- a. For VHF, one of the more popular TNCs is the **Kantronics KPC3+** that is designed to handle PACKET Radio transmissions. See--
<http://www.kantronics.com/products/kpc3.html>.
- b. For HF, there are generally two types of TNCs.

1. The first type is a multi-mode external **sound card based TNC** that typically transmits and receives such HF modes as Radio Teletype (RTTY), Phased Shift Keying (PSK) with PSK -31/63/125 the most popular, Olivia, MT63, MFSK, Morse Code (yes CW) and several other modes.

The **Signalink USB TNC** is a popular example of an external sound card TNC. See--

<http://www.tigertronics.com/slusbmain.htm>

2. The second type of HF TNC uses a special proprietary mode called **Pactor**. Pactor was developed by a German company and has 3 levels of transmission speed. (A 4th level is available but not approved yet in the US by the FCC). The higher level Pactor 3 is proprietary and requires a TNC with a special P3 license. The **SCS PTC series of TNCs** are examples of the Pactor capable TNCs. Pactor has a fairly high throughput capability over HF radio. See--
<http://www.p4dragon.com/en/Modems.html#widget>

3. Software:

There are many software packages available to handle digital modes. Some are fairly expensive, and some are free. Most digital software packages require some study and practice to operate them effectively.

- a. For VHF— **RMS Express** is special software designed to easily handle text message type traffic. There are also other software packages that allow more operator interaction with the TNC and radio. See RMS Software below for EMCOMM applications. See—
www.winlink.org
- b. For HF—

FLDIGI is a popular multi-mode software package that is free. See--
<https://sourceforge.net/projects/fldig/>

Ham Radio Deluxe with Digital Master 780 is a popular multi-mode software package that is somewhat costly but also provides a logging capability designed for DXers looking to confirm as many countries as possible. See--
<https://www.hrdsoftwarellc.com>

Many of the HF software packages have a tuning window “waterfall” that allows the operator to see where signals are on the band and easily tune them in. HF digital software frequently requires a fair amount of set up to get it to operate properly. There is also a learning curve to become proficient with them.

These two software packages below are not just for digital operations, but they greatly assist with logging and log submission for use during digital mode (and other modes) contests. For more contesting information see--
<http://www.hornucopia.com/contestcal/weeklycont.php>

N1MM software is specially designed to provide unique contest required information and logging. It provides specially formatted output files contesters send to contest web sites for review by the contest committee members. See--
<https://n1mm.hamdocs.com/tiki-index.php>

N3FJP Software is specially designed to make logging and contest submission easy for many special Ham Radio contests like state QSO Parties. See-- <http://www.n3fjp.com/>.

4. Digital Emergency Communications (EMCOMM) Operations:

RMS Express/Winlink Express software is designed to assist the EMCOMM operator in easily creating text type messages and passing them by either VHF or HF communications. See--
www.winlink.org

EMCOMM operators use the digital modes to easily pass lists of information such as resource requests or status reports. They can do so without tying up a voice channel. These digital modes can handle attachments to messages to include Incident Command System (ICS) Forms such as ICS Form 213 messages or even pictures. The voice channels can then be used for higher priority traffic or coordination among multiple users. See our ARES RMS Express for VHF Operations Procedure out on the DETARC web site--
<http://detarc.net/index.php/ares-forms-and-lists/>

5. Summary:

Digital Ham radio modes offer an exciting method of communication. Many Hams find the technical requirements to use the digital modes a fun and interesting challenge. The digital modes also lend themselves very nicely to Emergency Communications operations. -- Roger K0YY

5. REPEATER NOTES:

--Mike WD5EFY, Repeater Trustee/Technician.



Repeater Update: The repeaters remain healthy and operational. I picked up some software to help us program some of the older Motorola equipment we have (thanks to Kris, K5KRK) but I haven't had a chance to try it.

I've been pretty busy with the linking system for our Wide-Area coverage system and made good progress on the Alto intertie repeater that will allow our link system to connect to the Tyler organizations system of linked repeaters during emergencies.

Work was done on Saturday (4/8/17) at the Doucette repeater site with mixed results ☐ Thanks to Andy, KE5EXX and RM, K5AGE for the tower climb and ground support, along with Nick, AE5VV for access to the repeater site. Andy had a tough climb on that tower only to find out he couldn't remove the feed line on their link antenna without either destroying the connector and / or the antenna so it was put back in service. As it turned out their existing link antenna (2 meter only!) had almost zero reflected power on the UHF link frequency and heard and hit the hub repeater in Lufkin just fine! Thanks Andy, RM, and Nick! We still had fun and didn't encounter any wasps on the tower!

Jasper is also in the testing phase of their link to the Lufkin hub and have been successful in linking to it. More work to come!

The Alto system should go online pretty soon (hopefully by the time you read this) and start testing with that link to the Tyler system.

On an operating note, thanks to Jerry, KC5JWB, for switching to the W5IRP 147.360 repeater during the regular net on April 11th to test it! Everything worked flawlessly with that system so that's great also as our backup to the 94 repeater.

--Mike, WD5EFY, Repeater system design engineer and maintenance technician. Thanks Mike!

6. ARRL NEWS:



NVIS Research Paper Available

--ARRL Letter 3/31/2017

Excerpts from the ARRL article— "A thorough and fully annotated discussion of Near Vertical

Incidence Skywave (NVIS) is available in the research paper, "Radio Communication via Near Vertical Incidence Skywave Propagation: An Overview," by Ben A. Witvliet, PE5B/5R8DS, and Rosa Ma Alsina-Pagès. See the paper at: <https://link.springer.com/article/10.1007/s11235-017-0287-2>

NVIS has become a popular means to enable close-in communication on Amateur Radio HF bands between 3 and 10 MHz. NVIS can be used for radio communication in a large area (200-kilometer radius) without any intermediate manmade infrastructure, and it has been found to be especially suited for disaster relief communication, among other applications.

In NVIS propagation, electromagnetic waves are sent nearly vertically toward the ionosphere, and, with appropriate frequency selection, these waves are reflected back to Earth.

The great reflection height of 80 to 350 kilometers results in a large footprint and homogeneous field strength across that footprint," the paper says. "Due to the steep radiation angles, large objects such as mountain slopes or high buildings cannot block the radio path." Unquote. Much more information is in the article. See the link above.

We strive to maintain a balance between theoretical and practical content. Articles range from simple construction projects to progress in radio theory."



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. (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 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 or www.ebay.com.
9. The cutoff date to receive ads is the 15th of the month prior to the monthly meetings. The next month's Newsletter is published immediately after the DETARC/ARES monthly meeting the 4th Thursday of the month. For example: to place an ad in the May Newsletter, your ad must arrive by April 15th.

Ham Radio Ads:

SOLD, the HF radio advertised in last month's Newsletter by KI5LR has been sold.

WANTED: Rohn 25 tower sections, 10 foot sections, 4 each in good to excellent condition. Contact Roger K0YY, k0yy@arrl.net.

FOR SALE: AZDEN PCS-7000H 2 Meter Transceiver. Receive range is 118 to 135.99 MHz aircraft AM as well as 136 to 173.995 FM. Transmit is 140.1 to 149.995 mhz. Modifiable for all MARS and CAP frequencies. Radio is 50 or 10 watts. The mic plug could use a reworking and strain relief.

Asking \$140, as is condition.

Gary.Antley@Consolidated.com

FOR SALE: ICOM IC-3200A 2 Meter/70 Centimeters Transceiver. Older dual band radio. 25 watt max output on VHF/UHF. May need new PA deck on the VHF side. Last time I replace the PA deck I think I paid about \$25 after shipping. This radio has been just laying about for the past 15 years. I don't know if I still have a mic for it (ICOM MH-14.) 440 MHz does not get out of Possum Walk well at all. Asking \$100, as is condition.

Gary.Antley@Consolidated.com

Editor's Notes: If you have an idea for the Newsletter or a question about Ham Radio of general interest to the members, drop a line to the editor at k0yy@arrl.net. We'll try to include the topic or answer the question in a future Newsletter.

60 years in Ham Radio and still loving it!

--73, Roger Krautkremer K0YY, Editor

===



Did you know that there are several Amateur Radio satellites in orbit that you can talk through?

See-- <http://www.amsat.org/>