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## Newsletter of the Big Bend Amateur Radio Club, K5FD

March, 2016

Alpine, Texas

### NEW HAMS AND UPGRADES!

The FCC has assigned calls to the new Technicians as a result of the recent classes in the Davis Mountain Resort and in Alpine. Here is the list of new call signs:

#### Jeff Davis County

**KG5LMB**, Charles Smith  
**KG5LMC**, Denise Fryer  
**KG5LMD**, Derrick Nahill  
**KG5LME**, Joe Pasqua  
**KG5LMF**, Edna Queen  
**KG5LMG**, Marvin Voiers  
**KG5LMH**, Donald Waid (Technician, General, & Extra)  
**KG5LMI**, Shannon Barron  
**KG5LMJ**, Samuel House  
**KG5LMK**, Michael Fryer  
**KG5LML**, Sue Smith  
**KG5LMM**, Danny Spencer (Technician & General)  
**KG5LMN**, Cindy Davis  
**KG5LSY**, Rebecca Wren  
**KG5LSZ**, John Snyder  
**KG5LTA**, Russell Martin  
**KG5LTB**, Loren Spencer

#### Brewster County

**KG5DAG**, Dustin Libby (General)  
**KG5LTC**, George Redden  
**KG5LTD**, Adrian Billings  
**KG5LTE**, Scott Gage

There will be another round of classes next fall: a Technician class and a General Class.

If you would like to study on your own between now and the next classes, we will be happy to schedule an exam whenever you feel ready to take it. Contact Dave Cockrum by email ([n5do@sbcglobal.net](mailto:n5do@sbcglobal.net)).

Rick Sohl, K5RIC, of Nogal, New Mexico, gives a definite thumbs up to an internet site, Ham Test Online. The url is: <http://www.hamradiolicenseexam.com>

Although the name emphasizes the test, he says it teaches the material as well. There is a fee for the on-line course of \$25 for Technician, \$30 for General, and \$35 for Extra. Rick says they have found it to be outstanding with great success!

### NEW EXTRA CLASS QUESTION POOL

According to the experts, if you are considering upgrading to Extra Class you might want to do so before July 1, 2016. On that day the new question pool will go into effect and it is thought to be significantly more difficult. The question pool goes from the existing 700 questions to 713 questions, of which 143 are new.

The greatest number of new questions are in the area of solar weather and propagation, covering such topics as ordinary/extraordinary waves, chordal hop propagation, microwave-specific propagation, the effects of solar events such as flares (including different types of flares), geomagnetic storms, temperature fronts, the effects of both ground and air water on signal propagation, ray tracing, A or K indexes, VOACAP, etc. Other areas with several new questions include SDR (Software Defined Radio) and DSP (Digital Signal Processing) functions and digital operations.

To give you a sampling of the new items, I have randomly selected one new item from each of the ten subelements. See how you do – the answers are at the end!

#### SUBELEMENT E1 - COMMISSION'S RULES [6 Exam Questions - 6 Groups]

##### E1C13

Which of the following is required in order to operate in accordance with CEPT rules in foreign countries where permitted?

- A. You must identify in the official language of the country in which you are operating
- B. The U.S. embassy must approve of your operation
- C. You must bring a copy of FCC Public Notice DA 11-221
- D. You must append "/CEPT" to your call sign

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#### SUBELEMENT E2 - OPERATING PROCEDURES [5 Exam Questions - 5 Groups]

##### E2C13

What indicator is required to be used by U.S.-licensed operators when operating a station via remote control where the transmitter is located in the U.S.?

- A. / followed by the USPS two letter abbreviation for the state in which the remote station is located
- B. /R# where # is the district of the remote station
- C. The ARRL section of the remote station
- D. No additional indicator is required

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SUBELEMENT E3 - RADIO WAVE PROPAGATION [3 Exam Questions - 3 Groups]

E3A04

What do Hepburn maps predict?

- A. Sporadic E propagation
- B. Locations of auroral reflecting zones
- C. Likelihood of rain-scatter along cold or warm fronts
- D. Probability of tropospheric propagation

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SUBELEMENT E4 - AMATEUR PRACTICES [5 Exam Questions - 5 Groups]

E4C08

An SDR receiver is overloaded when input signals exceed what level?

- A. One-half the maximum sample rate
- B. One-half the maximum sampling buffer size
- C. The maximum count value of the analog-to-digital converter
- D. The reference voltage of the analog-to-digital converter

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SUBELEMENT E5 - ELECTRICAL PRINCIPLES [4 Exam Questions - 4 Groups]

E5D05

Which parasitic characteristic increases with conductor length?

- A. Inductance
- B. Permeability
- C. Permittivity
- D. Malleability

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SUBELEMENT E6 - CIRCUIT COMPONENTS [6 Exam Questions - 6 Groups]

E6D15

What is current in the primary winding of a transformer called if no load is attached to the secondary?

- A. Magnetizing current
- B. Direct current
- C. Excitation current
- D. Stabilizing current

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SUBELEMENT E7 - PRACTICAL CIRCUITS [8 Exam Questions - 8 Groups]

E7B14

Why are switching amplifiers more efficient than linear amplifiers?

- A. Switching amplifiers operate at higher voltages
- B. The power transistor is at saturation or cut off most of the time, resulting in low power dissipation
- C. Linear amplifiers have high gain resulting in higher harmonic content
- D. Switching amplifiers use push-pull circuits

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SUBELEMENT E8 - SIGNALS AND EMISSIONS [4 Exam Questions - 4 Groups]

E8A10

What is the purpose of a low pass filter used in conjunction with a digital-to-analog converter?

- A. Lower the input bandwidth to increase the effective resolution
- B. Improve accuracy by removing out of sequence codes from the input
- C. Remove harmonics from the output caused by the discrete analog levels generated
- D. All of these choices are correct

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SUBELEMENT E9 - ANTENNAS AND TRANSMISSION LINES [8 Exam Questions - 8 Groups]

E9E06

What is the equivalent lumped-constant network for a hairpin matching system of a 3-element Yagi?

- A. Pi-network
- B. Pi-L-network
- C. A shunt inductor
- D. A series capacitor

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SUBELEMENT E0 – SAFETY - [1 exam question - 1 group]

E0A01

What is the primary function of an external earth connection or ground rod?

- A. Reduce received noise
- B. Lightning protection
- C. Reduce RF current flow between pieces of equipment
- D. Reduce RFI to telephones and home entertainment systems

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Answers:

- |        |        |        |        |
|--------|--------|--------|--------|
| E1 – C | E2 – D | E3 – D | E4 – C |
| E5 – A | E6 – A | E7 – B | E8 – C |
| E9 – C | E0 – B |        |        |

**BIG BEND EMERGENCY NET REPORT**  
**From WA5ROE**

Date	Check-ins	Length	Remarks
Feb. 7	43	26 min	
Feb. 14	44	28 min	
Feb. 21	39	25 min	
Feb. 28	40	30 min	

Remember – the BBEN meets **every** Sunday on 3922 KHz at 8:30 a.m. Central time (either CST or CDT). Visitors are always

welcome. Early check-ins are welcome beginning around 8:05 a.m. on 3922 kHz or on the BBARC repeater system.

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## BIG BEND 2 METER NET REPORT

From KA5PVB

The Big Bend 2 meter net meets Wednesday evening at 8:00 p.m. Central Time on the Big Bend 2 meter repeater network. These Wednesday evening nets are good training grounds for possible emergency situations. They also provide a "safe" and easy way for new amateurs to get used to talking on the radio.

The net control station calls for check-ins from each of the BBARC repeaters. Listen to make sure the frequency is clear, then sign in by announcing your call sign. After everyone checks-in the net control calls on each station to make any comments they wish.

The schedule for Net Control stations is set through June but, if anyone would like to become a Net Control station, please let KA5PVB know on the net or call him (432-837-2257) and he would be happy to work with you to get started.

Date	Check-ins	Net Control
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Feb. 3	18	KA5PVB
Feb. 10	15	N5BBJ
Feb. 17	18	W5RHN
Feb. 24	17	KF5KNA

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## VE LICENSE EXAMINATION SESSION

### South Brewster County

With the completion of the General upgrade class a license exam session is scheduled for March 9 at 2:30 p.m. at the QTH of Chuck Corao, KG5BMK, on the Terlingua Ranch. From State Highway 118, turn into the Terlingua Ranch on the paved road at the ranch sign (where all the mailboxes are located). Follow the paved road for 2.5 miles. You will see a small sign on the right that says "2.5 miles, Corao." Turn to the right and Chuck's QTH is on the left, about 1/4 mile from the paved road. His house is visible from the turnoff.

Anyone is welcome to participate in this session. Bring a photo ID, a copy of your existing license or a current CSCE, and \$15 for the fee to the VE Coordinator, the ARRL.

For additional information contact Dave Cockrum at 837-3711 or via email at [n5do@sbcglobal.net](mailto:n5do@sbcglobal.net).

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## NEXT MEETING: TUESDAY, MARCH 22

The next meeting will be held in conjunction with the National Weather Service's annual Skywarn Severe Weather Spotting training. It will NOT be on the normal second Tuesday, but will

be on the fourth Tuesday, March 22, at the Turner Ranch Animal Science facility at Sul Ross, Room 130. This building is on the east side of Alpine on U. S. Highway 67 / 90. Enter into the building using the entrance on the east side.

Other sessions will be held in Monahans (March 21), Fort Davis (March 23, 6:30 p.m., Fire Station), Marfa (March 29), and Fort Stockton (April 14). See the following url for the complete schedule of Skywarn classes:

<http://www.srh.noaa.gov/media/maf/Skywarn2016SkywarnSchedule.pdf>

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## HAMMERFEST BICYCLE RACE

From Jim, KD5KBU

The Hammerfest 2.2 Bicycle Stage Race will be held in Fort Davis and Jeff Davis County on Saturday/Sunday April 2-3. This event brings some 200 riders to the area for one of the most challenging events on the Texas racing calendar. Due to the lack of cell phone coverage in Jeff Davis County, Amateur Radio operators have been successfully providing communications support to the event for many years.

The race consists of three stages:

### Saturday morning

The Hammerfest begins on Saturday morning with the Mt Locke Hill Climb. Racers start in town and ride to the top of the McDonald Observatory. The first riders start at 8 a.m. with the event lasting about 3 hours. It is usually over by 11 a.m.

### Saturday afternoon

A short road race goes from the Hotel Limpia to the Crow's Nest subdivision on Hwy 166. The first start is at 2:30 p.m. and the event should be over by 6 p.m. depending on the winds that day.

### Sunday

This is the big event - the 75 mile ride around the scenic loop. A lot of radio operators are needed for this event, preferably with mobile radios. The scenic loop does not have cell phone coverage over most of the 75 miles and it is a long way from the repeater. The first start is at 8:30 a.m. and the race is typically complete by 2 p.m.

You do not need to participate in every event. Operators who might need to leave before the usual end of the event can be placed at one of the stations near the start of the race. I like to have at least 5 operators for Saturday's events and at least 10 operators for the scenic loop event on Sunday. I can always make room for more folks.

If you can make any or all of the events, please let me know (email: [jrf12@mac.com](mailto:jrf12@mac.com)).

We will meet in the parking lot of MadDog's Cantina (formerly Murphy's Pizza) at 7:30 on Saturday/Sunday morning for a briefing and then head out to the stations. Note that MadDog's is open for breakfast at 6 a.m. if you want to try it out.

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## FIVE YEARS AGO

During the Hammerhead Bicycle Race in 2011 the infamous "Rock House Fire" occurred. Fortunately the amateur radio net was active and the message was delivered in time to the bicycle riders to abandon the race and return to Fort Davis immediately.

The following photos are reproduced from the April, 2011 issue of the BARK. The first photo (taken by Dick, W5DWD) shows the fire racing across the grasslands, heading toward the scenic loop where most of the riders were. The fire was still some distance away when this was taken.



The next two photos were taken by Doug, N5HYD. This first one shows the fire approaching State Highway 118 north of Fort Davis.



The Jeff Davis County Sheriff's Office lost their repeater at Davis Mountain State Park. N5HYD went to the State Park to ascertain what was wrong with the repeater, thinking it would be a minor problem. Here's what he found – obviously not minor!



You can never tell when your ham radio skills will be called upon.

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### THE BARK Newsletter of the BBARC

Big Bend Amateur Radio Club  
1402 N. 5<sup>th</sup> St.  
Alpine, Texas 79830

Publisher: Bob Ward, WA5ROE  
[wa5roe at juno.com](mailto:wa5roe@juno.com)

Editor: Dave Cockrum, N5DO  
[n5do at sbcglobal.net](mailto:n5do@sbcglobal.net)

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## BIG BEND AMATEUR RADIO CLUB

<http://www.bigbendarc.com>

Meetings on the second Tuesday of each month at the West Texas National Bank Building in Alpine, 7:30 P.M. CST/CDT.

ARRL Affiliated Club

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### MEMBERSHIP AND NEWSLETTER SUBSCRIPTION

Annual membership is Jan. 1 to Dec. 31 each year. Dues are \$36.00 per year for individual or individual & spouse.

Membership allows you to participate in all club activities and vote at the monthly meetings.

Newsletters are available by e-mail for members, subscribers, and interested recipients. Send your e-mail address to [n5do at sbccglobal.net](mailto:n5do@sbccglobal.net) to be put on the list.

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### ABOUT THE BBARC

Founded December 17, 1974

ARRL affiliate since 1986

The BBARC is a 501(C)3 organization. Contributions are tax deductible.

#### Big Bend Emergency Net, 3.922 MHz

Founded September 18, 1977

Meets every Sunday morning at 8:30 A.M. CST/CDT

Controlled net format. Welcomes new participants and visitors.

Established by Bob Ward, WA5ROE.

Net Manager, Bob Ward, WA5ROE, [wa5roe at juno.com](mailto:wa5roe@juno.com)

#### Big Bend 2-meter Net

Founded July 9, 2008

Meets every Wednesday evening at 8:00 P.M. CST/CDT

Controlled net format. Welcomes new participants and visitors.

Established by Bob Ayer, KA1AAJ (SK)

Net Manager, Chuck Dobbins, KA5PVB, [charles.dobbins52 at yahoo.com](mailto:charles.dobbins52@yahoo.com)

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## BBARC REPEATER SYSTEM

**All standard offsets. All repeaters require 146.2 Hz PL tone encoded on your transmit signal. All repeaters are linked.**

147.120+	Shafter, Cibolo Creek
147.020+	Elephant Mt. south of Alpine. System hub
146.620-	Ft. Davis located at McDonald Observatory
146.720-	Alpine, Pearce Mountain
146.820-	Terlingua, Study Butte
146.920-	Glass Mountains, Alpine / Ft. Stockton
145.230-	Emergency Repeater

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### BBARC CALENDAR OF EVENTS

**March 9, 2016, Wednesday, 2:30 p.m.**  
**(Date and time subject to change.)**

VOLUNTEER EXAMINATION SESSION  
KG5BMK QTH (see article)  
Terlingua Ranch

**March 22, 2016, Tuesday, 7:00 p.m.**

BBARC MEETING, Turner Range Animal Science Center,  
Room 130  
Program "NWS Skywarn Training"  
Note: General Public encouraged to attend

**April 12, 2016, Tuesday, 7:30 p.m.**

BBARC MEETING, West Texas National Bank Building  
Program: TBA

**May 10, 2016, Tuesday, 7:30 p.m.**

BBARC MEETING, West Texas National Bank Building  
Program: TBA

**June 25-26, 2016, Sat.-Sun.**

FIELD DAY  
<http://www.arrl.org/field-day>