



Newsletter of the Big Bend Amateur Radio Club, K5FD

January, 2017 Alpine, Texas

N5HYD to Celebrate 30 years of Maintaining the BBARC Repeater System

Doug Otoupol, N5HYD, will celebrate 30 years of maintaining the Big Bend ARC's repeater system later this year. While all of us owe Doug a great big hug for his effort, the length of time he has been doing this came as a surprise.

Doug, who keeps excellent records of his efforts, was in the process of moving the records to a different software package when he discovered this entry:

"27 Dec 1987
(From Notes)
POWER: Array 23.4 Vdc W/O load. Batteries 12.88 Vdc..."

So...thirty years comin' up. We can't thank you enough, Doug. We hope you will continue to keep us "on the air."



NBEMS for the Big Bend by Charles Brabham, N5PVL

NBEMS (Narrow-Band Emergency Message System) is perhaps the best solution available for moving text-based information over amateur radio frequencies, to handle emergency communications. Here I will outline the reasons that I have come to this conclusion after reviewing the available amateur radio messaging systems.

Mission Parameters:

Our mission is simple. - To provide an alternate means of moving messages into and out of a disaster area where regular internet access has become compromised, is limited or nonexistent. For this purpose, it is seldom necessary to transport messages via amateur radio any farther than 100 miles or so, or to move any great volume of data. It is important however that the messages get through with 100% accuracy, and in a timely manner. In most cases, this service will be needed for anywhere from a few hours up to several days.

Considerations for Amateur Radio Operators:

For amateur radio operators, the best method is to utilize the radios, software and equipment that we use every day for ham radio, and so are already familiar and comfortable with. The system should be inexpensive and easy to use so that all amateurs may participate, and are not faced with a steep learning curve in order to be ready to act in an emergency. Extensive training and drilling should not be required in order for hams to function well when needed. There also should be some flexibility to handle different needs of unexpected situations that may be encountered. The system should work independently of existing infrastructure, and require no costly and delicate infrastructure of its own.

NBEMS

I have reviewed the digital amateur radio messaging systems in current use, and have found that NBEMS best covers the mission parameters and the considerations for amateur radio operators here, as outlined above.

NBEMS was developed as a collaborative effort between Dave Freese W1HKJ and Skip Teller KH6TY, the developer of the popular DIGIPAN PSK31 software. It consists of a suite of programs that send text, images and even binary files. The two main programs, FLDIGI and FLMSG are designed to run under Linux, Free-BSD, Mac OS and Windows from XP to Windows 10.

The NBEMS system is designed to operate on all amateur bands, but is optimized for short to medium range communications such as VHF FM, or HF with an NVIS (Near Vertical Incidence Skywave) antenna.

Digital modes currently recommended for HF NBEMS operations are: OLIVIA 8/500, OLIVIA 16/500, MT63-1k, MT63-500, PSK-125R and PSK-250R.

I have seen great success for years with MT63-500, utilizing it for nightly multicast transmissions of ARRL bulletins on 30m, error-free.

The free FLDIGI multimode soundcard software offers many digital modes, but the modes listed above are most often associated with NBEMS. Amateurs who use FLDIGI for everyday QSOs in PSK31, Hell, Olivia, MT63 etc. will be familiar with the software when occasion calls for the NBEMS system to be called up.

The FLAMP (Amateur Multicast Protocol) add-on program allows you to transmit a bulletin to an unlimited number of stations simultaneously. Each recipient can confirm individually whether they have received the data with 100% accuracy, as FLAMP generates a check-sum for each message.

The FLMSG program makes authoring, sending and receiving text, ICS-205, ICS-206, ICS-213, ICS-214, and ICS-216 forms in addition to ARRL Radiograms a simple point and click proposition.

NVIS Antenna Systems

On HF, NBEMS utilizes “cloud-burner” NVIS HF antennas that typically consist of a low-band dipole at 15 ft, with a ground wire laid beneath so that the signal effectively goes straight up. Characteristics of an NVIS HF antenna are ideal for the mountainous Big Bend area. They receive much less noise than DX antennas, and are ideal for ranges from a few miles to several hundred miles, hearing other NVIS stations better than anything else. Line-of-sight or skip propagation does not apply thus making it difficult to imagine a better HF antenna system for communicating around mountains.

Because NVIS antennas work best at 15 feet height, they are easy and inexpensive to erect. Portable operation with a couple of fifteen foot poles, some rope for guys, and an antenna that can be stored in a paint bucket are quick and easy to utilize.

NBEMS Features:

- Inexpensive (free soundcard software)
- Simple to use, reducing training requirements
- Effective, perfectly tailored to the EMS mission
- NVIS HF antennas are ideal for use in mountainous terrain
- Narrow-band modes conserve spectrum
- A live operator on each end, eliminating interference potential
- Flexible enough for use with most equipment under most conditions
- The software is great for everyday use, again reducing training requirements
- Specialized add-on software for net control, rig control, callbook data, logging etc. are available

Basic information and software download:

<http://www.w1hkj.com/>

<https://groups.yahoo.com/neo/groups/NBEMSham/info>

ARRL articles about NBEMS:
<http://www.wpaares.org/ecom.html>

<http://www.arrl.org/nbems>

NVIS Antenna Systems:
W0IPL's NVIS page:
<http://www.w0ipl.net/ECom/NVIS/nvis.htm>

WB5UDE's NVIS Page:
<http://www.qsl.net/wb5ude/nvis/index.html>

Article on modern EMCOM requirements and principles:
http://www.sgarn.org/forum_library/index.php?topic=31.0

A Personal Note:
I am familiar with the NBEMS system, having used it in the Lower Rio Grande Valley prior to moving to the Big Bend. I also had a hand in some of the software development, and have participated in a few ARES exercises with the El Paso club in the last few years, utilizing NBEMS. My involvement in amateur radio digital operation goes back to its roots, over thirty years ago.

73 DE Charles, N5PVL



**BIG BEND EMERGENCY NET REPORT
From WA5ROE**

Date	Net Control	Check-ins	Length	Remarks
12/25/16	W5NPR	29	29	
12/18/16	WA5ROE	32	32	
12/11/16	WA5ROE	44	44	Change call for Les in Midland. KC5ETV is now NSLMB
12/04/16	WA5ROE	35	35	

Remember – the BBEN meets **every** Sunday on 3922 KHz at 8:15 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 or on EchoLink.



Big Bend 2 Meter Net Report

Our 2 meter net meeting EVERY Wednesday at 8:00 PM (local time) on the clubs repeater system network. These are good training ground for possible emergency situations, as well as helping the new hams in the area to have an easy way to get use to "talking on the radio".

The club website (www.bigbendarc.com) has ALL the information on the 2 meter net. Included is the Net Control members schedule, until year end, the "script" (supplied ONLY as a guide to ensure the important information is given out weekly - you can use it anyway you see fit) and a list of the recent check-in members.

If you have an interest in joining the Net Control stations please call me ([432/837-2257](tel:4328372257)) or holler at me during the Wednesday evening net (either before or after the net).

The month of November had five Wednesdays in it and it went this way:

Date	Check-ins	Net Control
12/07/16	24*	KF5KMA
12/14/16	19	KA5PVB
12/21/16	15	KG5BMK

58 total check-ins for November.

*This is the highest number of check-ins for a single session in the second half of 2016 – THANKS ALL.

Additionally, our Echo-Link system is fully operational and the following stations have checked in to the net at least once this month - KG5DW - DON Denton, TX., W5JSR - STEVE And KK5ROB - ROBIN from Arizona, KC5WFH - BILL Kingston, WA. (north of Seattle) and KD5KC - MIKE from El Paso.

A quick reminder to all stations on the net, pause between transmissions to allow the Echo-Link stations to be heard and recognized.

With the holiday season here now, everyone is busy, and if you don't have the time to check-in to the net and stick around for the round-table

BBARC Club Officers

President - Allen Moore, N5MYM
Vice-President - Bill Brooks, KE5OG
Secretary - Billy Roberts, W5NPR
Treasurer - Angie Otoupol, N5MVV

THE BARK Newsletter of the BBARC

Big Bend Amateur Radio Club
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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

discussion, take a minute of your time and check-in as an "in-and-out" (where you're there for the head count but don't have the time to participate). All participation is much appreciated and encouraged.

73's and hope to talk to you soon.

Hope everyone had a really good Holiday Season!

Chuck Dobbins – KA5PVB
2-meter Net Manager

MEMBERSHIP AND NEWSLETTER SUBSCRIPTION

Annual membership is Jan. 1 to Dec. 31 each year. Dues are \$36 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 [bill.ke5og at gmail.com](mailto:bill.ke5og@gmail.com) to be put on the list.

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)



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

BBARC CALENDAR OF EVENTS

ARRL RTTY Roundup – 1800Z, Jan 7 – 2400Z, Jan 8.

Kid's Day Contest: 1800Z-2359Z, Jan 7

January 10, 2017 – Club Meeting, 7:30 p.m. West Texas
National Bank

North American QSO Party, CW: 1800Z, Jan 14 to 0559Z,
Jan 15

North American QSO Party, SSB: 1800Z, Jan 21 to 0559Z,
Jan 22

**ARRL Texas State Convention 2017 – March 24 & 25,
217, Ft. Bend County Fairgrounds, Rosenberg, Texas.**