

# NARS NEWS

The Northwest Amateur Radio Society

Houston, Texas

August 2001

## August Meeting – Weak Signal VHF and UHF

Since the FCC has shifted the entry level licensing emphasis from the Novice with 40 meter CW capability to the Technician with a "shack on the belt" it is time to reacquaint the Club members as to just how useful the frequencies above 50 MHz are.

I will discuss weak signal VHF and UHF propagation and communications techniques that make working DX on these bands so fascinating. With the recent additions of popular manufactured rigs such as the ICOM 706 it is easier to get on the bands, but many operators don't know the capabilities of these bands. I hope to enlighten both the HF contester as well as the newly licensed Technician.

Brian N5BA

Board Members -- Working for You



## The Wired Choice – Update

The totals for electronic distribution of NARS News are now 54 for email and 26 for web access. This leaves 96 still receiving a hard copy. This is an increase of 7 emails and no webs, and a reduction of 9 hard copies (2 due to attrition). The goal of at least 50 percent electronic distribution is almost complete: 80 out of 176 is 45 percent. Let's keep talking up the benefits of electronic distribution.

Are you one of those still getting a hard copy? Do you have an email account? Can you access the web? If so, I ask you to take a look at the web site at <http://www.w5nc.org>. On the first page you will see a link to view this newsletter. Take a peek. I think you will like what you see. The quality is much better than the printed copy. Look also at the Membership page to see those who have already converted to electronic distribution.

If you have not already done so, please send an email to [wd5dxl@arrl.net](mailto:wd5dxl@arrl.net) with your choice for 1) web access, 2) email, or 3) regular mail. Thanks.

Keith Dutson WD5DXL, NARS NEWS Editor

## Important Dates

**Friday, August 17, 7:30 PM** – General Membership meeting, Spring Cypress Presbyterian Church – Eyeball QSOs, 7:00 PM.

**Saturday, August 25, 8:30 AM** – VE License Exam Session, Tomball Community Center, S. Cherry & Market streets (just south of Main Street).

**Tuesday, August 28, 7:30 PM** – Board of Directors meeting, Terra Nova Clubhouse, 5200 Woodville

### Contests:

**Aug 11–12** – WAE CW, Maryland/DC QSO Party

**Aug 18–19** – SARTG RTTY, NAQP SSB, New Jersey QP

**Aug 25–26** – Ohio QP, Hawaii QP, South Dakota QP

**Sep 1–2** – All Asian SSB DX

**Sep 2** – NA CW Sprint

**Sep 15** – SAC CW

**Sep 29–30** – Texas QP, CQ/RJ WW RTTY DX

### Wednesday Lunch Bunch:

**Aug 8:** Pepperchino

**Aug 15:** Original Pasta Co

**Aug 22:** Casa Imperial Mexican

**Aug 29:** Charlie's Hamburgers

**Sep 5:** Jason's Deli

**Sep 12:** Woodlands House

### Notice:

NARS membership dues is \$20 per year, renewable on anniversary of last year's full payment.

*Deadline for articles to appear in the September issue is Tuesday, August 28.*

## BREAKFAST

at Victors

4710 W FM 1960

Saturdays

7:30 AM

## President's Corner

*August 2001*

August is here already, and some schools are starting in less than two weeks, where has the summer gone? Time to start planning for all of the fall activities coming up.

For testers the new season will start in September, and our own Texas QSO Party is the last weekend of the month. Plan on getting on the air and participating in this NARS sponsored event. Check with George, K5VUU, for details.

There is a new swapfest coming up also in September. The 15th will be the Antique Radio Festival and Ham Swapfest sponsored by the Katy Amateur Radio Society. It will be at the Katy VFW Hall, details are available at <http://members.aol.com/KARSradio>. Check it out.

NARS also sponsors two public service events in the fall. The Sire Ride-A-Thon is in October and the Sunmart Texas Trail Endurance Run is in December. These are both fun events. Details on how to sign up will be in the NEWS or at the meetings.

It is also time to come up with a slate of officers for 2002. Bill, K5ZTY, is chairing the nominating committee again this year. If you would like to be an officer or director, please let Bill or me know. We welcome any volunteers or suggestions.

There are a lot of things going on, so get out and join in. Participation is what makes NARS the great club it is.

*Paul Frantz, W5PF*

## *VE Session Results – July*

### **Special Session:**

The VE team held a test session for Element 1 (morse code) on July 14, 2001 at the Cy Fair Hospital. This was the test for a brave few to attend a five-night morse code crash course presented by OJ Quarles K1OJ. Saturday morning brought 15 of the stalwart ones to survive the rigorous study. There were five that successfully completed the code proficiency. Three upgraded to Tech plus and two became general class operators. This equated to a 33% success rate.

The VE's were Gregg Erlenbusch W5IDX, Bill Denton W5SB, and Owen Quarles K1OJ. Thanks to all for their help in this special session.

Word has it that OJ will have another morse code class in the future.

### **Regular Session:**

At the NARS VE Test Session July 28, 2001 we had 13 candidates. This resulted in five new Technician hams, three upgrades to Tech Plus, one upgrade to General, and two upgrades to Extra.

The three upgrades to Tech Plus were some students from OJ's code class. Anita Townsend N5AOK, Peter Farver KD5OCR and Tom Atkins KD5EIJ were all smiles. So look for them on HF. Congratulations to them for passing the code and thanks to OJ for heading up the class. Danny Richards WA5OJE was also all smiles for passing his Extra exam.

The VE's were Norm Covey K5OS, Jim Kirk KJ5X, Peter Wang KF5ND, Virgil Stamps K5OOR, Pat Bement KK5VN, Gregg Erlenbusch W5IDX, and Mark Tyler K5GQ.

The next Test Session will be held on August 25, 2001

Thanks to all for their help.

*Walter KK5LO*

## **Public Service Events** *Your Radio Skills Are Needed*

SIRE 9th annual Ride-A-Thon, Saturday, October 13  
Contact: Keith Dutson, 281-351-7683, [WD5DXL@arrl.net](mailto:WD5DXL@arrl.net)

Here's a chance to take part in an event that NARS members have supported with radio communications since Saddle Up For SIRE started in 1992. With reasonable weather, it is always fun and requires only a 2-meter HT, fresh batteries and a few hours time. Volunteers are stationed along a ten mile trail near Montgomery where participants ride horses to raise money for SIRE, Self-Improvement Through Riding Education, the charity dedicated to the rehabilitation of children and adults with disabilities. For more information, call Keith Dutson.

# DX News

## *“For All the NARS DX News Fit to Print”*

As I think about this month's activity, I wonder about the approaching gray-line and what DX lies within it. Somehow this reminds me of "The Rime of the Ancient Mariner." As sure as I sit here, Coleridge was a DX'r who experienced the same mystery and excitement that brings us back to the bands each day.

In the mariners' fear and confusion he says, "I shot the Albatross." This clearly means "he bagged a new country." So, get those logbooks flying! Remember a confirmed country can and should be worked again and again (without second thought). DX abounds like water and Albatross!

The July numbers are not as good as those for June, but the reports look pretty good. Certainly, persistence equals residual payback. In July the highest SFI occurred between July 16th and 17th with a reading of 150 down from 221. And the lowest SFI occurred July 30th with a reading of 115 down from 133. The A index low occurred on July 4th, 13th and the 23rd with a reading of 8 up from 2. The highest A index occurred July 5th, 10th, and the 28th with a reading of 10 down from 31. The lowest K index occurred on July 9th, 21st and 28th with a reading of 0; and the highest K index occurred on July 16th, 17th, 25th and 26th with a reading of 4.

### Local Events:

George K5VUU reports a windfall month for cards received with five new ones! VP8CSA Falkland Is. 10 meter SSB, 5W0DA Western Samoa 10 meter SSB, 3D2CI Conway Reef 12 meter SSB and CW, VK9ML Mellish Reef 10 meter SSB, and 4K8M Azerbaijan 20 meter SSB.

This brings George to 277 confirmed on the current DXCC list. Soon he will be visiting the "Old Card Checker" in preparation for the DXCC 275 endorsement. George's DX activity was down a bit in June due to his terrific effort at HamCom promoting the September TQP, and all of the excellent work he put

into this year's Field Day Visitor's booth. The only DX he chased was the Somalia crew and he missed them! George, great job and congrats on the new cards and total count.

Cal WF5W says July was a slow month. He only had one new card arrive. The XW Laos card finally came in from England. This puts Cal at a new total of 314 in the box. Cal is still waiting for the EP Iran card. He says John W5PDW received his card last week. Cal this story sounds all too familiar. You work them, and John gets the card! Wake up man, and smell the mailbox.

Cal made several 60 watt mobile contacts on CW with Japan, but he says that's expected with the "Big George Vertical 3," rev 9, special, super-duper, heavy duty, master coiled, electrically run, vertical, on the back of his pickup truck. Note: Cal forget the cards coming in, invest in mobile operation time. Create a new "mobile" log for tracking your new DXCC /mobile operation.

Walter KK5LO says DX has been non-existent at his QTH since his HF antenna has been down all month. Is there a BIGGER antenna set for erection in Spring?

Danny WA5OJE would lead us to believe that he is not a big DX'r, but a few nights ago, he called CQ on 20 meters about 10 p.m. with his K1, and a French station came back. Danny's got three countries worked QRP now! Danny you're on your way to being hooked!

Jim KJ5X reports a pretty slow month and "pretty thin soup," for DX at his shack. He has mainly been trying to build up his 40 meter list of contacts so that someday, he can at least think about 5BDXCC. He has almost 100 worked, but QSL's are slow coming in from the buro. Jim worked several new ones on 40 in the IARU contest. Later in the month, he worked FR5FD on 40 meter CW with 150 watts proving that a 40 meter loop hanging up in the trees does work around the globe. Jim worked VE2A on 20 and

17 meters for CQ zone 2 contacts. Zone 2 was hard to get for a long time. Among others he worked was HK0OEP on San Andres on 20M, 5X1GS on 15M and EZ75R on 20M. Jim says that EZ has been anything but E-Z to get a card from. He has at least 10 contacts there, but no card yet. Jim ended the month with his K5K card in the mailbox!

John W5PDW reports another "Slim Pickens" (not the actor) month in the woods. John did work the 7Z Saudi Arabia on 15 meters and picked up a new card from EP3 confirming Iran. And, right at press time, John has received his 3W2LC Vietnam card!

John says his rotor is hanging up every now and again so he cranked the tower down to see what the problem was. From his note, he is still rubbing his head over the potential problem. But, John says he is in the final planning mode for a complete antenna and tower makeover. Now that's the spirit, John!

John recently received his new screwdriver antenna from the "Master." Within days, it was recalled for a mod. It's OK, John.

Rick KZ5E sends his report along this month giving us a view inside 6 meters. A number of you that faithfully watch the DX cluster have seen recent activity on 6 meters.

Rick says that although 6 meters is dead most of the time, when it's open, it's open and he is there.

He recently put up a new home-brew 4 element quad at 20 feet since his big gun (34 foot boom, 8 element) antenna is still on the ground waiting for some magical force to lift it to the top of his tower. It's also easier to climb on the roof to a tripod mounted at 20 feet. He heard 3 to 4 VEs in the NE, but had the grid squares and just wanted to confirm my "on the ground" antenna adjustments.

*Continued on page 4*

## *DX News – Continued from page 3*

On 7/11/01 at 5:30 p.m., he saw WP4 Puerto Rico on the cluster and worked them at 50.120 SSB with marginal conditions for the band.

The next day, he got on the air late and missed part of the opening. As soon as he turned the rig on at about 6:00 p.m., it was evident the “magic” band was alive. From that time, he worked three new grid squares in three different directions, most stations were very strong with virtually no fade. The conditions lasted until almost 9:00 p.m. It was 6 meters at its best, and he can only imagine what it would have been like with 8 elements at 60 feet!

Grids worked: FK68 Puerto Rico, EL95 Florida, EM82 Georgia, and EN11 Nebraska. Rick says he heard a number of other grids, most of them he had already worked. However, he is keeping a partial list of what he is hearing to show how open the band was!

States heard (with grid square): California CM13, Arizona DM42 and DM43, New Mexico DM66 and DM65, Texas (south) EL17, Texas (central) EM10 and EM12, Texas (north) EM13, Nebraska EN11, Ohio EM89, N Carolina FM04, S Carolina EM94, Georgia EM84, Florida EL95, EL96, and EL98, and Puerto Rico FK68!

Rick reports hearing the following 6 meter DX: Canada, USA, Cayman Is.(ZF), Panama HP, Dominican Republic HI, Honduras HR, and Mexico XE.

Bruce N1LN notes a slower month than normal due in part to poor band conditions and vacation, but for those of you that just passed your CW exam, look at the ratio of CW to SSB contacts.

Get on HF and have fun with the CW DX – all w/100 watts

- \* 4L7FS Georgia 20 meter SSB
- \* UK9AA Uzbekistan 17 meter SSB
- \* VK9NL Norfolk Is. 15 meter CW
- \* XU7ABR Cambodia 17 meter CW
- \* 3B9FR Rodriguez Is. 20 meter CW
- \* 4K9W Azerbaijan 20 meter CW
- \* TA3DD Turkey 15 meter CW

- \* FK8GJ New Caledonia 20 meter CW
- \* DU9HKD Philippines 20 meter CW

Good point Bruce! The DX worked list looks pretty doggone good to me. Thanks for the report and congrats on the DX!

From this Station:

Sheet-rock, Not! With that said, I received a personal call from the screwdriver manufacturer a few days ago. A re-call? Yikes! We are currently in negotiations as to how long the antenna will be off the truck. So far, I’m told an hour will do it. In a weak moment, I can live with an hour of downtime. On the brighter side, I am a very lucky man. UPS is not involved and no S&H, either. If pressed, I could go on the cluster and beg the teeming DX to standby!

Recent trips to visit family in Oklahoma and N. E. Texas provided the perfect opportunity to hone skills (and that of my personal logger) required for the upcoming TQP.

While visiting, I was reminded that nothing gets by a mother-in-law. As I drove the beloved lady home from the hospital, she asked, “What’s that thing on your truck, sweetie?” There are, of course, several messages in this question which are more powerful than the answer.

While traveling, I played in the ships and the IOTA weekends racking up about 40 Qs. This along with short stints of idling on the driveway have pushed my DX country count to 43 worked.

This month’s activity shapes up this way: 62 Qs, 26 countries, 16 zones, 48 prefixes, 38 Qs on 20 meters, 21 on 15 meters, 1 each on 40, 17 and 10 meters. All mobile.

DXCC paperwork returned from Newington in July making me very happy. A nice, small batch of cards came from the buro, but no new counters.

Scheduled DX Operations

Here are some of the scheduled DX operations for August. The full callsign at the end of most entries represents the QSL manager.

- \* Aug 01–10 – Colombia HK5 – W5WP
- \* Aug 02–04 – Midway Island KH4 – NH6YK
- \* Aug 02–12 – Turks & Caicos VP5 – K9APW
- \* Aug 02–15 – Grenada J3 – PA5ET
- \* Aug 04–10 – Monaco 3A – IZ1DSH
- \* Aug 05–08 – Macao XX9
- \* Aug 05–08 – Market Reef OJ0
- \* Aug 06–08 – Faroe Islands OY – ON4BAM
- \* Aug 07–11 – South Cook Islands ZK1AHB – KM6HB
- \* Aug 09–14 – Alaska KL7AK – N6AWD
- \* Aug 09–23 – Iceland TF – ON4BAM
- \* Aug 13–18 – St Maarten, Saba, St Eus PJ
- \* Aug 15–28 – Bhutan A52U – I7JFQ
- \* Aug 09–23 – Anguilla VP2E – N5AU
- \* Aug 11–16 – South Cook Islands ZK1AHB – KM6HB
- \* Aug 11–29 – Benin TY – F5MOO
- \* Aug 13–17 – South Cook Islands ZK1AHB – KM6HB
- \* Aug 14–05 – Thailand HS0ZCY – AA4XR
- \* Aug 15–28 – Reunion FR – I4ALU
- \* Aug 16–27 – St Vincent J8 – PA5ET
- \* Aug 18–02 – Corsica TK8T – F2YT
- \* Aug 23–30 – Cyprus 5B – IZ8CCW

DX IS and July proves it. So spin those multi-outfitted VFO’d rigs. Keep the DX wind at your back and sail head-long into the fog-smoke (gray-line) as the Mariner did and work DX “until there is no tomorrow!” It will keep your mind square with the world.

Thanks to George K5VUU, Cal WF5W, Walter KK5LO, Danny WA5OJE, Jim KJ5X, John W5PDW, Rick KZ5E, and Bruce N1LN for continuing to support this month’s column. Your support for the column is appreciated by all.

If you have DX info for the column, e-mail to wa5mlt@arrl.net.

*73 and gd DX to all ...  
de H. O. WA5MLT*

# Modulation and Microphones

Modulation is the process of varying some characteristics (amplitude, frequency or phase) of an RF carrier wave in accordance with the instantaneous variations of some external signal, for the purpose of conveying information. Almost every amateur will think of phone transmission when the word modulation is mentioned. The subject of modulation, however, is much broader than that. The principals are the same whether the radio transmission is modulated by speech, audio tones or the on-off keying that modulates a CW transmitter with Morse Code.

The sound of your voice consists of physical vibrations in the air, called sound waves. The range of audio frequencies generated by a persons' voice may be quite large, the normal range of human hearing is from 20 HZ to 20,000 HZ. All the information necessary to make your voice

understood, however, is contained in a narrow band of frequencies. In amateur communication, your audio signals are usually filtered so that only frequencies between about 300 and 3000 hertz are transmitted. This filtering is done to reduce the bandwidth of the phone signal.

The first step in phone transmission is to convert the sound of your voice into electrical signals that contain the same information. The device that does this is the microphone. Several types are commonly used by amateurs.

Piezoelectric microphones make use of the phenomenon by which certain materials produce a voltage through mechanical stress or distortions of the material. A diaphragm is physically coupled to a small bar of material such as Rochelle salt ceramic. The motion of the diaphragm stresses the material, producing a very small voltage that varies in relation to the sound wave. A

microphone containing Rochelle salts is called a crystal microphone, while one containing ceramic material is known as a ceramic microphone. These microphones generate very small signals. Their frequency response depends on the resistance of the load the microphone operates into.

Another common microphone in use is the dynamic microphone which consists of a lightweight coil suspended in a magnetic field. The coil is attached to a diaphragm. When sound waves hit the diaphragm, the coil moves in the magnetic field and generates an alternating current. Yet another type, the electret microphone uses a set of biased plates similar to a capacitor. These plates are set in motion by air-pressure variation, which create a changing capacitance and an accompanying change in output voltage.

*Harry AC5XD*



**George DiLetto, KDORW**  
President

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# Welcome, Congratulations and Condolences

Welcome new member Rick Sewell N5SCS N5RVG

## NARS Resource List

### General Help:

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Dick Rooney W5VHN  
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### Electrical Design, Troubleshooting:

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### Computer Programming:

Keith Dutson WD5DXL  
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### Interference (Basic Advice):

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Mark Tyler K5GQ  
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### Card Checking Awards Managers:

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### NARS Public Information Officer:

George Levandoski KD5AYF  
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## NARS Information

### PRESIDENT & BOARD CHAIRMAN

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### ADMINISTRATIVE AND GENERAL INFORMATION

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281-353-2196, kd5kr@arrl.net

Send address, phone, email and other  
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NARS  
PO Box 90387  
Houston, TX 77090-0387

For general information call one of the Club  
Officers or Board Members.

### NETS

75 M Ragchew: Mon 8:00 PM, 3861KHz  
Coordinator: Jim Kirk KJ5X  
281-376-0718, kj5x@swbell.net  
2M Information: Wed. 8:00 PM, 146.66MHz  
Coordinator: Bill Denton W5SB  
281-469-8331, w5sb@arrl.net

### WEB SITE

URL: <http://www.w5nc.org>  
Webmaster: H.O. Townsend WA5MLT  
281-376-7416, wa5mlt@arrl.net

### NARS REFLECTOR

NARS@qth.net  
Coordinator: O.J. Quarles, K1OJ  
281-955-1555, k1oj@ditdit.com

### REPEATERS

2M: 146.060 / 146.660 (KA5AKG)  
70 cm: 449.375 / 444.375 (KA5AKG)

### MEETINGS

#### Monthly General Membership

Third Friday each month at 7:30 PM  
Spring Cypress Presbyterian Church, 6000  
Spring Cypress Road

#### Saturday Breakfast

Victor's Restaurant 7:30 AM

#### Wednesday Lunch 11:30 AM

Various locations (Info on 146.660 and listed  
on front page in Important Dates column)

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