NARS ❖ NEWS

The Northwest Amateur Radio Society   Houston, Texas   **June 2012**

June Meeting

NARS Field Day

Ron Horton, KF5LFL, Field Day coordinator will be one of our featured speakers this month. Ron is a NARS director and this is his first time as our Field Day coordinator, so let's get out and give him some support this month as he updates us on the NARS Field Day activity. A few changes are planned and I know that you will all want to get the skinny.

Tom King, WK5DX, has a short presentation about the logging software and how we will be using HSMM-Mesh to network the logging computers this year.

HSMM-Mesh, while not a new digital mode, is new to most of the NARS members and Field Day is a great way to introduce mesh networking to the members and the public to show how it could be used in an emergency situation. See insert.

Lots of things for us to do to get ready for this annual event. I hope we can count on you to join us for all the fun at Burroughs Park the weekend of:

June 23-24, 2012

Important Dates

Friday, June 15th, 7:30 PM
Monthly Club Meeting,
Cypress Creek Christian Community Cntr,
6823 Cypresswood Drive

Saturday, June 23th, 8:30 AM
VE License Exam Session
Tomball Community Center
S. Cherry & Market streets
(just South of Main)

Tuesday, June 26th, 7:30 PM
Board of Directors meeting
Ponderosa Fire Station
17061 Rolling Creek drive.

Lunch Bunch - North
Spring Creek Barbeque - June 13th
Pei Wei Asian Diner - June 20th
Cafe Express - June 27th
Jason's Deli - July 4th
Baker St. - July 11th
Sweet Tomatoes - July 18th

Lunch Bunch - West
Please contact Mark Tyler K5GQ for details.

Lunch Bunch - Medical Center
Marco's Mexican Bar & Grille - June 13th
Silver Palace Chinese Buffet - June 20th
Pappas Barbecue - June 27th
Morningside Thai - July 4th
Pronto Cucinino - July 11th

Taildraggers Lunch Bunch
11:00 am, Aviator's Grill, Hooks Airport

Notice: NARS membership dues are $20 per year, renewable on anniversary.

Deadline for articles to appear in the newsletter is the last day of this month.

President's Corner

Last month's insertion in the NARS Newsletter brought some interesting responses. It was a real pleasure to get supportive feed back and excellent suggestions to assist us in our efforts to recruit more amateur radio operators to take part in our organization. From the feedback that I received we are going in the right direction and with some interesting touches to our approach we could see some improvements very quickly.

Our structure with listed "Elmers" is a solid approach, and the only suggestion was to be more proactive with active ham radio demonstrations of things that are the most common "new" aspects of ham radio. This subject has been discussed many times among our members and the designated Elmers and the most common issue is when and where to do these hands-on demonstrations. Not all of us have the space to have several hams in our shacks, and we can't move most of our radios due to antennae issues. Not all of us have the most modern radios so that we can pick and choose sites with any flexibility. Here is what I suggest that we do.

- Pick some subjects that are new and have not been before outr group as a general topic. Such as how to tune your Roofing Filters, or how to set up your radio to attain best power when using the digital modes, and lot of other things that we do.
- Ask our members to suggest what interests them and we set up a session at a members radio shack.
- Arrange for some refreshments for each of these sessions and a follow up at perhaps one of the attendees shacks to revisit an earlier session.
- Contacting our membership is easy enough but how about an arrangment for an email distrubution list of the teachers, scout masters, other radio clubs, and anyone that has an interest in ham radio but not a member of NARS. We could email mailings and set up sessions to include these folks too.

VE Session Notice

Keith Dutson NM5G - NARS VE Session Manager

May 26th VE Test Session Results at Tomball Community Center.

- Tracy Shillock - upgrade to general
- Jeremy Brown - new tech
- Jed Wilkinson - upgrade to general
- Brandon Brown - new tech
- Michael Tracy - upgrade to extra
- Marcela Clay - new tech
- Ronald Aycock - upgrade to extra
- Jack Kauffman - new tech
- Cody Burns, Sr - upgrade to general
- Richard Quinn - new tech

Thanks to the VE's in attendance:

- Paul Frantz W5PF (deputy session manager)
- Ken Mitchell KD2KW
- Martin Rogoff N5GPS
- Jerry Seay KE5PUT
- Sheree Horton KF5LMJ
- Ronald Horton KF5LFL
- Sarah Connell W2AOV

There will be NO SESSION IN JUNE because of conflict with Field Day.

The next session will be held Saturday, July 28 at 8:30AM at the Tomball Community Center, located at the corner of Market and South Cherry Streets.

Official address is 221 Market Street. Let me know if you would like to serve at this session. Thanks.

Parking is in the rear of the building. Use the entrance on the south side bordered by Fannin Street.

President's Column (cont)

I got a nice letter from D.E. "Dee" Logan, W1HEO, The Ham Radio Prormotion Project. Dee was one of the founders of NARS who now lives in Mentor, Ohio. His letter and attachments will be scanned and submitted to our Web Master for inclusion on our Web Site. His suggestions were direct and quite good ones. Several ideas of his are included in the bullet items above. Here is something that I did not know about. NARS is a member of the Ham Radio Promotion Project. We received a 50 page "Toolkit" when we first joined. I have not seen that "Toolkit" but will begin a search for it right away. If anyone knows its where abouts, please let me know. In anycase, I will ask Dee to send us another one. This toolkit addresses all of the issues that we have been discussing these last months.

This is FD month. Hope to see all of you at Burroughs Park

HSMM-MESH: Configuring Your First Node

by Tom King, WK5DX

I knew nothing of HSMM-MESH (High Speed Multi-Media Mesh) until I watched the ARRL video "The DIY Magic of Amateur Radio", released in Dec. 2011. The video was intriguing, and after reading several articles on the project's web site http://hsmm-mesh.org, I decided to ask Jim, K5KTF, to make a presentation to NARS. The presentation was well received and I went out and got a couple of LinkSys WRT54G wireless routers and give it a try. This article describes how I got started and what I learned along the way.

HSMM-MESH is a digital communication mode that lets computers communicate using WiFi networking hardware on amateur-radio bands. The scheme that the mode provides is not limited to single point-to-point links: equipment automatically manages the routes of the mesh network, rerouting as necessary around broken network links. So this sounds great, but . . . why do I care?

When All Else Fails Amateur Radio Works

Wildfires of recent years and the vandalism of ten fiber-optic cables in April of 2009 revealed to me that our society's communication infrastructure is fragile, undefended, and lacks adequate redundancy. Of course I can do nothing about these commercial networks, but I can imagine creating a parallel, high-speed digital network that is tested weekly during the local nets.

Details of such a future network are, as one says, to-be-determined, but the building blocks surely will include wireless links and automatic routing. So it only made sense to me that I start to play with new equipment, learn and apply new techniques, and evaluate potential facility locations of such a network.

Getting Started

Although I have said "WiFi networking hardware," the software that runs on the equipment is not WiFi—it is developed by hams. Using one of the last menu items in the wireless router's admin page, I directed the router to upload the amateur-radio software image into its non-volatile memory. Here's how I did that.

Step 1: I started by printing these instructions:
http://www.hsmm-mesh.org/documentation/68-firmware-installation-instructions.html

Why did I print the instructions? Because configuring the router eventually required me to disconnect my computer from the internet. Not immediately, but eventually. At that point, I no longer could browse back to the instructions! Of course if you don't want to print the instructions, you can keep another browser open to the instruction's page and be careful not to refresh it.

You should print this article, too, since I mention a few clarifications.

Since I had purchased two new WRT54GL routers, for each one, I followed instructions for a stock router.

Step 2: I browsed to the hsmm-mesh.org software download page and downloaded the latest software image for the WRT54G and WRT54GL.

- Browse to http://hsmm-mesh.org
- Click User Documentation in the left navigation area.
- Click the article Firmware Installation Instructions
- click software download page.
- Get the latest HSMM-MESH firmware. I got hsmm-mesh-0.4.2-wrt54g.bin, but yours might be a later version. Ensure that the file name you get ends with wrt54g.bin.

The instructions don't mention one very important step, and so I'll put it here. After connecting a computer to one of the four LAN ports on the back of the WRT54G, I needed to **disable the wireless link of my laptop**. So I'll list that step here. You see, although this is a wireless router, we reconfigure it over a wire!

Step 2.5: Turn off the wireless link of your laptop, and connect the laptop's network cable to one of the WRT54G's four LAN ports. At this point, your computer should have no network connections, wired or wireless, except for the cable going to the WRT54G.

Step 3: I followed the instructions for "routers with factory firmware". Since I saw the instructions required two chages, here they are as I followed them:

- in a browser go to http://192.168.1.1
- user = admin
- password = admin
- click Administration
- click Firmware Upgrade
- click Browse and select the file you downloaded, such as hsmm-mesh-0.4.1-wrt54g.bin
- click Upgrade

Step 4: I waited for the router to reboot and blink its LEDs as described in the instructions. Then I unplugged the network cable and plugged it in again to get the laptop to reset its network connection.

Step 5: Finally, I followed the instructions to store my callsign as part of the router's name. As the control operator, this final step is required before using the device. I called my two HSMM-MESH nodes WK5DX-100 and WK5DX-101.

After transforming both WRT54G routers into HSMM-MESH nodes, I could browse to the control panel of HSMM-MESH node WK5DX-101: http://localnode:8080

Then I asked for the mesh network's status, and the web page listed that WK5DX-101 could see node WK5DX-100!

What's Next?

So that's how I got started. If you want to get started yourself, you can buy a pair of new WRT54G/GL/GS routers, Check the NARS-HSMM yahoo group, or go by the Goodwill ComputerWerks store where you can find LinkSys routers for around $16. The current WRT54G (no L) will not work for HSMM-MESH because it was cost reduced to use half of the memory. You'll need to get an old WRT54G (up to version 4) or any version of WRT54GL. The hsmm-mesh.org web site describes which versions of which routers will work. See the list of supported hardware. The NARS-HSMM group on Yahoo.com also has an updated list of supported hardware, current firmware and applications that you can use with the mesh network.

In the next article I'll describe how I got a couple of computers to talk to one another. I'll address the mystery of why I needed to put :8080 on the end of the address above.

Welcome, Congratulations, and Condolences

NARS Resource List

General Help:
Allen Majeski WA5REJ
281-353-8652, **wa5rej.tx@netzero.net**
Bill Denton W5SB
281-469-8331, **w5sb@arrl.net**
Deral Kent K5WNO
281-548-7476, **k5wno@juno.com**
Digital Modes:
Marty Fitzgerald W5MF
281-251-4301, **fitz6@swbell.net**

VHF/UHF:
Brian Derx N5BA
281-894-5942

PC Programming and Operations:
Keith Dutson NM5G 281-351-7683,
keith@dutson.net

Building Electronics & Kits:
Mark Tyler K5GQ
281-587-0256, **k5gq@juno.com**

Interference (Basic Advice):
Terry Myers KQ5U
281-443-6042,
tmyers1031@sbcglobal.net

Card Checking for Awards:
Bob Walworth N5ET - DXCC
281-292-2221, **rwalworth@charter.net**

Brian Derx N5BA - WAS, VUCC
281-894-5942

Bob Walworth N5ET - WAZ
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NARS Public Information Officer:
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NARS Information

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Send address, phone, email and other
changes to:
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P. O. Box 90387
Houston, TX 77090-0387

NETS
10-Meter Ragchew: Mon 8:00 PM,
28.444 mHz

2-Mtr Wed. Night: 8:00 PM, 146.06/66
Coordinator; Jerry Whiting KB5VGD
g_whiting@sbcglobal.net

WEB SITE
URL: **http://www.w5nc.net**
Web master: Bill Buoy N5BIA
281-370-3510, **n5bia@arrl.net**

NARS REFLECTOR
NARS@mailman.qth.net
Coordinator: Keith Dutson NM5G
281-351-7683, **keith@dutson.net**

TEXAS QSO PARTY
Coordinator: Chuck Sanders NO5W
936-273-6930, **no5w@consolidated.net**

VE SESSION (ARRL) Manager:
Keith Dutson NM5G
keith@dutson.net

REPEATERS (KA5AKG)
2-m: 146.06/146.66 mHz Tone: 141.3
70 cm: 444.375/449.375 mHz Tone:103.5

MEETINGS
Monthly General Membership
Third Friday each month at 7:30 PM
Cypress Creek Christian Community
Center, 6823 Cypresswood Drive

Saturday Breakfast
Denny's, 7720 Louetta, 7:30 AM

Wednesday Lunch 11:30 AM
Various locations (Info on 146.660 and
listed on front page in *Important Dates*
section)