Special D-Star Coverage

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The Greensboro Amateur Radio Association

Feed Line





Providing Amateur Radio news for the Triad

Volume 17, No. 10 Editor: Tom Forrest, N4GVK

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D-Star UHF On The Air For GARA

by Tom Forrest, N4GVK Feed Line Editor

The GARA D-Star 442.8625 UHF machine is "on the air" as of September 22. Engineer Arch, KT4AT, installed the Icom RP-4000 UHF repeater at the site along with his custom D-Controller hardware and software. The repeater will be on a trial basis for GARA to see just how well D-Star will operate in the area. The GARA machine is reported as the only club sponsored machine in North Carolina.

Using Arch's equipment, the machine has been modified for enhanced receive sensitivity and transmit power. Arch's D-Controller also has numerous features, scheduler, voice IDs and has the capability of providing over-the-air control of the repeater for control operators. This feature is in compliance with Part 97 of the FCC Rules and Regulations. The voice IDs are of GARA's Bill Mauldin, WG4R. Presently the GARA machine is not on the gateway.

On the first evening of use, there were check-ins from Cary and near Charlotte. A number of GARA members had already purchased radios capable of D-Star and were ready when the machine was placed in service. So far, the initial results were outstanding. What's on the horizon for GARA? A lot! Just wait. Read more about D-Star in North Carolina inside the Feed Line.



D-Star system along with Arch's D-Controller in the cabinet.



Arch, KT4AT, uses his test equipment to set up the repeater.

Photos by N4GVK | GARA

NEXT MEETING October 27

The next meeting of the Greensboro Amateur Radio Assoc. will be October 27, at the Golden Corral Steak House, 4404 Landview Dr, Greensboro, NC 27407, off Wendover Ave., near Sam's Club. The progam will be a video presentaion about digital voice for HF.

GARA Meeting Minutes



Regular Meeting Minutes September 22, 2008

The regular meeting of the Greensboro found by Jesse Lindley, N4BFD and Mark Amateur Radio Association was held Robertson, KG4STP. September 22 at the Golden Corral Steak House. Chris Thompson, K4HC, GARA 7:15 PM. Chris asked everyone to identify themselves for those visitors.

Chris asked about approval of the minutes from the last meetings as published in the Feed Line. The minutes were approved and passed. Chris also noted those amateurs in the area that were sick.

Old business: None

New business: Chris announced, the new GARA D-Star UHF machine was brought online Monday, 9/22, on a trial basis. At the time of the meeting it was noted check-ins were already coming in from as far as Cary and near Charlotte.

In other business, Madeline Bradley, KD4SVJ, gave a report on the soccer torurnament, Labor Day weekend. She also said there will be another tournament held November 22 and 23 and they would need operators.

Roy Smith, N4BYU, gave a report of the Fox Hunt. Roy was the fox, and was

The Greensboro Amateur Radio Association

President Chris Thompson, K4HC Vice-President John Strandberg, AJ4BT Treasurer Ernie Wall, NC4EW Secretary Greg Spencer, KG4UQV Financial Al Allred, K4ZKQ Engineering Chairman Bob Morris W0EG Operations Roy Smith, N4BYU Member at Large Clark Doggett, KG4HOM Member at Large Dave Touvell, KN4ZO Appointed Positions: News letter editor and Webmaster: Tom Forrest, N4GVK

"The Feed Line" is ©2008 by the Greensboro Amateur Radio Association and published monthly. Our address is P.O. Box 7054, Greensboro, NC 27417. The purpose of the newsletter is to provide the club and prospective members information about the club and amateur radio in general. Material and information should reach the editor by the first Friday of the month for the next edition of the newsletter. Opinions expressed in "The Feed Line" do not necessarialy represent the views of the officers, directors, editor or members of the Greensboro Amateur Radio Association. Material may be reproduced, provided proper credit is given to GARA.

president, called the meeting to order at provided by John Strandbery, AJ4BT, of N4GVK, Substiture Secretary. Riely Hollingsworth, K4ZDH, making a presentation at the 2007 Dayton Hamvention.

There being no further information, the meting was closed at 8:15 pm.

The program for the evening was a video Respectfully submitted by Tom Forrest,



The regular monthly meeting of GARA, Sept. 22. We had a very nice attendance count!

Board Meeting Minutes

The October board meeting was held on renewals in by the November meeting. 10/13/08 at the Benjamin Branch Library. The meeting started at 7:15 PM with Chris Thompson, K4HC; Al Allred, K4ZKQ; trial. Going good with one small Ernie Wall, NC4EW; Dave Touvell, KN4ZO and Greg Spencer, KG4UQV in attendance.

Al Allred said that the budget is better than forecast due to new club members and book sales. We currently have 93 members. Ernie stated that all bills are paid and the finances are good.

Dave asked for a clarification of Roy Respectfully submitted by Smith's dinner offer. It will be one name Greg Spencer, KG4UQV, Secretary pulled from a hat containing names of all

Old Business: We discussed the D-Star equipment malfunction on the loaner repeater. We discussed what would happen next if we decide to purchase the equipment.

Chris said that we received a favorable response from the new GYSA director after the Wrangler soccer Tournament. The meeting closed at 8:00 PM

China to Launch Hamsat

ham radio satellite. Michael Chen, BD5RV last is designed for digital operation. portable 4 reports that he recently received an update from BA1DU, on the progress of the ham radio bird.

First off, this satellite was originally named CAS-1 but its is now known as XW-1. And XW-1 will carry a beacon and

China is planning to launch its first-ever One is for FM, another is linear, and the

Plans call for it to be launched into a sun synchronous orbit in June 2009. This, by a CZ-2C rocket from the Taiyuan Satellite Launch Center in North China..

More on this upcoming hamsat launch three cross band transponders into space. as information becomes available. (ANS)

ARRL Offers New General Class License Course

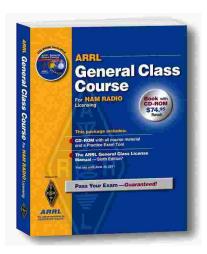
General Class License Manual with an all ionosphere and solar conditions will new instructional CD-ROM. This package has everything you need to upgrade.

The CD-ROM includes topics divided into "bite-sized" sessions, allowing you to learn at your own pace. The visual animations, along with colorful illustrations and audio, make your learning experience exciting and fun. The CD-ROM also includes quizzes and practice exams based on official exam questions to help reinforce your learning. The complete General Class License Manual is on the CD, giving you the freedom to have the entire book at your fingertips.

There are many reasons to upgrade your license, including:

- *More frequencies* -- The General class licensee has access to more bands.
- *More communications options* -- As you access the General frequencies, you now have many more ways to make contacts on new modes and with new groups of hams. Your new skills are also valuable to your emergency team or club.
- New technical opportunities -- With your new General class privileges, you

ARRL General Class License Course. now have many more ways of assembling The course includes the popular ARRL and operating a station. The effects of the



become second nature. Your improved technical understanding of how radio works will make you a more knowledgeable and skilled operator.

• *More fun* -- The traditional activities of ragchewing, DXing and contesting continue to attract hams as they have for decades. You'll find that even familiar activities take on new and interesting aspects on the HF bands.

Not only does upgrading your license grant you more privileges, but your experiences will be much broader. You'll enjoy Amateur Radio in ways that hams have pioneered and fostered for generations. These new privileges are well worth the effort.

By earning your General class license, you will gain access to nearly all amateur frequencies. Remember: There are no bands on which a General class licensee can't transmit! As a more experienced ham, your wider knowledge will allow you to experiment with, modify and build equipment and antennas to improve your communications abilities.

The ARRL General Class License Course with CD-ROM is available from the ARRL for only \$74.95. This course is valid for exams given until June 30, 2011.

Minimum System Requirements for CD-ROM -- Microsoft Windows Vista/XP/2000/NT/98/95 or Apple OS X; 200 MHz processor; 32 MB RAM; sound card and speakers; 4-speed CD-ROM drive or higher. Requires Web browser -- Microsoft Internet Explorer 6.0, Mozilla Firefox 2.0, Apple Safari 3.0 or later versions. Some documents require Adobe Reader. Via ARRL web site.

Hams Have Fun At Area Events

Fox Hunt



Photo by N4GVK | GARA

THE HUNT— Getting ready for the "hunt" are, left to right, Dan, KJ4FWU; Greg, KJAED; Jesse, N4BFD and John, AJ4BT. Jess and Mark, KG4STP found the Fox - who was Roy, N4BYU.

Fall Picnic & BBQ at the Doggett's



Photo by N4GVK | GARA **FALL PICNIC** — It was a brisk evening Sept 20, and the BBO was wonderful. We had a great turn-out of hams to enjoy the fun and fellowship at the Doggett family home. Thanks to the Doggetts for preparing for the great food.

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D-STAR Growth Spurt in North Carolina

by Gary Pearce, KN4AQ Special to the Feed Line

A whole bunch of new D-STAR repeaters appeared in North Carolina as The K4ITL repeater came on-line in summer drew to a close. We now have D-STAR machines in Raleigh, Durham, Burlington, Greensboro and Charlotte, with overlapping coverage from Raleigh to Charlotte along the I-40/85 corridor. That mirrors the growth of D-STAR nationwide, even worldwide. You can get a look at how D-STAR is growing by looking at the users and repeater directory at www.dstarusers.com.

With that growth comes a change in my recommendation about buying a D-STAR radio. Previously, I said that only those willing to risk being on a leading edge that could break off into nowhere should consider D-STAR. Now, there are enough repeaters that I'd recommend D-STAR to any ham interested in the new technology.

There is still some risk. ICOM is still the only manufacturer making D-STAR equipment (though there is one non-ICOM product, the DVDongle, that gets you onto the worldwide D-STAR network through your computer and Internet connection – see the sidebar). ICOM's D-STAR radios are still on the expensive side, but prices are coming down. You can get a D-STARready IC-91AD handheld for under \$400 now, and the mono-band radios are even less expensive. More downside: I spoke to a Kenwood sales manager at the TAPR conference in Chicago recently, and he was adamant that Kenwood is not getting into D-STAR.

So you should go into D-STAR (or stay away) with your eyes wide open. My article Operating D-STAR (September, 2007 QST) is still a good primer, and you can download a pdf of it on my web site: www.arvideonews.com, in the Digital Voice section. One thing to consider is that all D-STAR radios are dual-mode. They're good analog radios, and the D-STAR part of them is on a plug-in board. ICOM isn't even whispering this, but if D-STAR should be replaced by different, or newer technology, maybe the radios can be upgraded with a new board.

A review of NC D-STAR repeaters

Raleigh: K4ITL B, 442.2125 MHz September. It's up about 1800' on one of the WRAL TV towers near Clayton, and has excellent coverage of the greater Triangle area. The antenna sits on the southwest side of the platform, so expect some shadowing to the northeast. This repeater does not have a Gateway. It's sponsored by Danny Hampton K4ITL, as part of the PCRN. It's an ICOM repeater, but uses a 3rd party controller built by Arch KT4AT called DController, allowing it to have voice IDs, a courtesy beep, and hang-time.

Durham: KB4HG B, 442.5375 MHz

This repeater is the first D-STAR machine in the state. Rhett Isley KB4HG put it up on a 300' tower in Sanford in 2007. It spent some time borrowing the RARS Bayleaf tower before moving to TV Hill in Durham last spring, with space courtesy of Charlie Durst NC4CD. Coverage is good in the Durham/Chapel Hill area, but spotty in Cary and Raleigh. Also no Gateway, but the site does have an Internet connection, so it's being considered. This is also an ICOM repeater, using an updated version of Arch's prototype DController.

Burlington: AK4EG C, 145.32 MHz; AK4EG B, 444.8875 MHz

These repeaters began life as the backyard project of Peter Scherp AI4UE. As such, they had almost no signal outside of Burlington. Over the summer, Peter moved them to Cane Mountain, a tall lump of ground in south Alamance County. Now they cover from the higher spots of Raleigh, through Greensboro, to the higher spots of Winston-Salem. They are all-ICOM, and do have a Gateway connection.

One note of caution – the 145.32 frequency was coordinated at Peter's lower location, based on SERA's new policy of coordinating narrowband digital repeaters like D-STAR in between conventional analog channels, with significant geographic spacing. On Cane Mountain it is officially uncoordinated, and its signal encroaches into the coverage area of the

145.31 repeater in Thomasville. There are no 145.31 or 145.33 repeaters in the Triangle area, so using it from here isn't a problem (more on this later in the article).

Greensboro: W4GSO B, 442.8625 MHz

This repeater appeared just a week after the K4ITL Raleigh machine was launched. The only club-sponsored D-STAR repeater in the state, it had a user group ready and waiting, and the night it was turned on, about 25 different callsigns were heard. A few, like mine, were from out of the area, but most were Greensboro Amateur Radio Association members who bought radios and had been waiting for months. Their enthusiasm was tempered only a little by being able to use the Burlington



GARA repeater

Photo by N4GVK | GARA

machines that began to cover Greensboro a few weeks earlier.

This is a medium-wide coverage machine. The antenna is only up 400', but it tickles the higher spots of Raleigh/Durham, and gets solid from Burlington through Winston-Salem. For the moment, it's an ICOM repeater with a DController. Arch is their local hero, and he is currently working on converting a GE MSTRII analog repeater to D-STAR.

I believe this will be the world's first fully- Charlotte. It's using an abandoned functional non-ICOM D-STAR repeater. For now, there is no Gateway, but Arch's controller has provisions for many things not included in ICOM's controller, and RF linking is one of them. We're dreaming Carolina.

Charlotte: KA4YMY C, 145.14 MHz; KI4WXS B, 443.8625 MHz

Along with KB4HG's machine in Are those frequencies right? Durham, the Charlotte UHF machine is North Carolina's Granddaddy D-STAR repeater. It's been on since Christmas 2007! The VHF machine is the baby of the group, hitting the air in early October 2008. The repeaters are sponsored by the MetroLina UHF Group (www.metrouhf.org), a loose association of hams led by Ken Johnson KC4YOZ and Steve repeaters. Are they right? Koone KA4YMY.



Charlotte repeater stack

The UHF machine is on Spencer Mountain, a tall rock west of Charlotte in Gaston County that used to be the site of some Charlotte TV stations. It's an all-ICOM machine, has an Internet Gateway, and covers a wide area around Gaston and Mecklenburg Counties.

The VHF machine is about 1000' up another former TV tower in northeast

commercial antenna that's cut for the 152 MHz range, so performance isn't as good as Ken and Steve hoped. Replacing that antenna will be an expensive proposition (over a thousand dollars for the antenna of an RF-linked D-STAR network in North and tower crew). At the moment, it's an ICOM repeater (borrowed from K4ITL), with the state's third DController, but no Gateway. Arch is working on another GE MSTRII radio to handle the RF.

If you are familiar with the frequencies used for VHF and UHF repeaters, you might be squinting a little at the numbers I've listed above. The UHF frequencies seem to have a few too many digits in them, and the VHF channels are in between what we expect to see for

Barring a typo, they are correct. As I mentioned in the Burlington section, these repeaters are all on the new SERA (SouthEastern Repeater Association) band plan for narrowband digital repeaters. D-STAR repeaters occupy about 7 kHz of spectrum, compared to an analog repeater's 16 kHz. There's been a lot of debate nationally about just how to accommodate these repeaters and take advantage of their spectrum efficiency. SERA decided that one way would be to put the D-STAR repeaters on channels inbetween the analog channels – 10 kHz above and below the channels at the low end of two-meters (where the channel steps are 20 kHz), and 12.5 kHz above and below channels on UHF (where the channel steps are 25 kHz) - along with geographic separation of about 50 miles.

How well will it work? That's a good question. SERA's 50-mile separation rule for the top of the two-meter band - with 15 kHz channel steps for analog repeaters - works pretty well. You rarely hear a complaint. The D-STAR arrangement squeezes the turnip a little harder, though, and mixes modulation schemes. Hams unfamiliar with the sound of digital signals in analog receivers may not recognize the nature of interference. Well, most hams label any kind of FM interference as "intermod" anyway. An on-channel digital signal sounds like white noise, or maybe a buzz-saw. But even I'm not very familiar with what an adjacent-channel digital signal does to an analog receiver.

Interference to a D-STAR signal initially creates garble, but if it gets bad enough, the desired signal just disappears and you hear silence. It can be hard to diagnose signal problems when listening to D-STAR.

We might all find out what D-STAR does to analog. The Charlotte 145.14 D-STAR machine is adjacent to the Greensboro 145.15 analog repeater, and may have some overlapping coverage. Raleigh is slated for a 145.26 D-STAR, which is adjacent to the Greensboro 145.25 analog repeater. Local users won't have a problem, but hams DXing the machines from deep in their neighbor's coverage area may suffer, and cause, some interference.

The Future

Is D-STAR the future of Amateur Radio? Two years ago, when ICOM first rolled out its full line of repeaters, mobile and handheld radios, it was a much bigger gamble. Now we have a lot of repeaters on the air, with a lot of users enjoying them. It's a safer bet for your money, but it's still a bet.

Any given repeater, though, can suffer the same lack of consistent use that their analog neighbors suffer, after the initial surge of activity on the novel system begins to wane. Steve KA4YMY has made that lament about the Charlotte machine once or twice. And Kenwood, Yaesu, Alinco, and any other potential manufacturer have yet to take the plunge and join ICOM in producing radios.

Some knowledgeable hams say that D-STAR isn't the best digital mode we could do. Some of them would like to see the APCO P-25 standard adopted, but I'm told APCO doesn't want see frequency agile P-25 radios in the field, and that's what ham radios would be. Some hams just hold out for something different.

D-STAR has a big head start now. I think we might be better off maximizing the potential of D-STAR for a decade or so, and then looking at what new capabilities the never-ending advance of technology brings us. One thing for sure – things will splinter, and we're not going to see a repeat of the relative compatibility and conformity we've enjoyed for the past half-century. But that's another article.

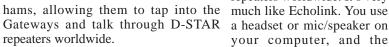
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THE DVDONGLE: HOW TO DO D-STAR WITHOUT A RADIO

by Gary Pearce, KN4AQ Special to the Feed Line

IRLP made repeater coverage worldwide using the Internet as a link. plastic with an AMBE 2000 vocoder chip Echolink extended that capability to inside. That creates a individual hams using their computers

a n d Internet connections. D-STAR began life as an Internet-centric system, with repeaters connected together via Gateways. Now a device called the DVDongle brings Echolink-like functionality on D-STAR to individual



I've written a review of the DVDongle for QST that should appear in the next few months, so I can't take the wind out of that article's sails. But I can tell you that if you find yourself interested in D-STAR, but don't have a radio or a local repeater, the DVDongle may bridge the gap. If you are already on D-STAR, the DVDongle will add significant capability

to your home station operation, functions a radio can do (like low-speed

The DVDongle is a small slab of blue

that

D-STAR compatible t h e Dongle's software. DV

data, GPS data, call sign squelch), and some things the radios can't do (like monitor multiple gateways at once).

A really important consideration is that data stream in order to use Gateways, including via the Dongle, you have to be registered. Radio users register with the administrator of the nearest Gateway (find them at Tool, uses to let www.dstarusers.com). Dongle users who you reach out don't have a local repeater have to find a and touch most willing admin elsewhere to help. Ken t h e KC4YOZ, the Charlotte D-STAR admin, G a t e w a y - has been kind enough to register both



Photos from www.dvdongle.com

radio and Dongle users from other areas of the state. More information is available The current version of DV Tool lets you at www.dvdongle.com. The Dongle is for chat through D-STAR repeaters. Future sale at HRO, AES and several other

enabled D-STAR repeaters worldwide. It's very your computer, and the software, to find, connect to and talk through repeaters. The biggest difference is that Echolink is free. A DVDongle will set you back about 200

versions will add most of the other outlets.

From the President's Shack



Leaves are beginning to drop from the trees, and Fall antenna projects are in the air. Remember to keep safe while doing any antenna work - think the project through before beginning, and remember to have a beer AFTER the work is done.

The new D-Star repeater is working well, and several members are regularly heard on it. We recently held a "D-Star more people get D-Star radios, and as we Users Meeting" at the Guilford County EM training center, and attendance included several hams from Orange and meeting). There will be another D-Star



D-Star useers group meeting October 1

all learn more.

I plan to introduce a motion at the Durham counties, as well as Gary Pierce, upcoming October meeting to expend KN4AQ (who produced the D-Star video funds for our D-Star repeater, which up shown a couple of months ago at our until now has been a "loaner" system. We'll discuss the costs involved and expected. meeting at some point in the future, as Please be there to allow your voice to be heard.

Membership stands at approximately 93 right now, which is the most on the rolls we've had in a number of years. Please help keep the excitement going this increase reflects everyone's participation, in any number of small ways.

As always, keep having fun, and catch you on the repeaters!

Technical Forum Sundays at 7:30

Each Sunday evening at 7:30, Chris Thompson, K4HC, and Rick Mainhart, WB3EXR, host a Technical Forum on the GARA 145.15 repeater.

Chris says this is a great way for Hams to ask technical questions, in which Chris and Rick will try to answer. This is also a great way for the "new ham" to "breakthe-ice" and get involved in a discussion on the air.

If you don't have a question, you're more than welcome to just listen.

Check-in and get involved. Even the old-timers have questions ocassionally.



Estate Sale

The following are items from an estate sale. Ameritron AL-811H, \$500; Kenwood TS870S, \$1300; KWPS52 Power Supply \$80; Kenwood SP 31 Speaker \$45; MFJ Set Headset \$40; Antenna Analyzer \$100; Antenna & Roter 10 meter \$150. If you are interested in any of this equipment, controller. The unit can be upgraded to contact Gerry Miller, at the following: Day accommodate 80m. I'll also throw in DX phone is 336-747-1648; Night phone is Engineering, stainless steel Radial Plate 336-945-2177; e-mail address is: DXE-RADP-1P (a \$54.00 value) gerry.miller@hanescompanies.com More information: www.steppir.com

Tower For Sale

I have a 60 foot tower, antenna, and rotator for sale; Antenna-Hy-gain 3 element 20 meter beam (full size); Tower-came from Western Electric, 60 feet; Rotator-Yaesu G-1000 SDX. All cables, coax, and guy wires included. Make an offer -Contact Lee Wimbs, W1MBS at leewimbs@bellsouth.net or phone 336-288-8595

Fred Blackman, W4FB, High Point, prescribed medications. has a Dentron AT-3K antenna tuner for sale. It may be the last tuner Dentron made. It's in great cosmetic condition. well and suffering from several The price Fred paid for it was 250-dollars. complications due to diabetes. I have reduced the price I was asking NOW to \$150.00. Fred's phone number is 336-841-4338. Cell phone number is 336-906- **Gibson, N4AIG,** who recently underwent 9378.



Deluxe Vertical Antenna & Remote Control Tuning For Sale

Steppir BigIR Antenna for Sale - \$599 Steppir BigIR Vertical Antenna system, (2005 model) 6.0-54.0 MHz Coverage Essentially, this is an adjustable vertical antenna system. The antenna made of copper-beryllium is housed in fiberglass tubing. The antenna is connected to a microprocessor-based controller (via 22 gauge conductor cable) that offers numerous functions including dedicated buttons for each ham band, continuous frequency selection from 40m to 6m⁻all without having to leave your shack. And without traps, coils or linear loading of any kind. So, the antenna is always at the ideal length. Weight: 15lb, Element length: 32ft. ,Power rating: 2000 W PEP 3KW Differential Tuner \$175; Heil Pro Radials are highly recommended! A New Cycle 24

> This antenna comes with the remote Contact: Gerald Donnelly, N4PAX 336-708-1647 or email at n4pax@arrl.net

Upcoming Events

• Nov. 16: JARS Fest, Johnston ARC, Benson, NC • Jan. 10, 2009, Winston-Salem FirstFest, Forsyth Amateur Radio Club, 2100 Reynolda Rd., Summit School, Talk-in 146.64

Get Well ...

Allen Minter, AI4NG, reports his wife, Dentron AT-3K Antenna Tuner Shirley underwent some heart testing and is reported doing very well with the

Our best to GARA member **Ann** solar activity is on line at: surgery.

Sympathy

Our thoughts, prayers and sympathy are with these families.

Jewell Battle, wife of GARA member Dick Battle, AK4RB, passed away October 15 after a long battle with cancer. While details have not been completely finalized, there will be a visitation on October 24th at St Francis Episcopal Church, 3506 Lawndale Dr., Greensboro, NC 27408.

Interment will be on October 25th, at Westminster Gardens Cemetery, 3601 Whitehurst Rd., Greensboro, NC 27410 Followed by a reception again at St Francis Episcopal Church. Times will be passed on once finalized. (See the GARA web site www.w4gs.org for updates) Please keep Dick in your prayers.

Greg Spencer, KG4UQV's Dad Jesse Spencer passed away recently after a long battle with Dementia and a week long bout of pneumonia. Servcies were held Octobeer 1. Please keep Greg and his family in your prayers.

Sunspot Appears

Some encouraging news for DX'ers and any ham who hopes to one day work some distant contacts. Whats being called a 'new-cycle' sunspot belonging to Solar Cycle 24 has shown itself near the stars northeastern limb. The new spot, now designated as SSN 1005 was reported over the weekend of the 12th and 13th making this the third time in as many weeks that a new-cycle sunspot has interrupted the year's run of blank solar activity.

The accelerating pace of new-cycle sunspots is viewed an encouraging sign by astronomers and hams alike. For radio amateurs, it seems to be saying that while solar activity remains very low, the sunspot cycle is unfolding more or less normally.

In other words, we are not stuck in a Tom Hatley, KF4JZD, is not doing prolonged solar minimum. At least we hope its not.

> More about this new sunspot and overall www.spaceweather.com (Southgate, Spaceweather)

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Area Activities

FOURTH MONDAY – at 6:30 PM, the Greensboro Amateur Radio Association have their regular monthly meeting at the Golden Corral, 4404 Landview Dr, Greensboro, NC 27407, off Wendover Ave, near Sam's Club. Please plan to gather at 6:30 PM for dinner. The meeting is scheduled to start at 7:15 PM

CLUB NETS:

SUNDAYS – weekly at 9 PM, the **GARA News and Information Net.** This net features NewsLine and is on the 145.150, W4GSO repeater. Roy Smith, N4BYU is always looking for net controls. Contact him if you would like to help.

THURSDAYS – The **Guilford County ARES Net** meets on the 145.150 repeater (100 Hz. tone) at 9 PM.

TUESDAYS – at 8 PM, the **2 Meter SSB Net** meets on 144.225 Mhz. USB. Chris Thompson, K4HC is the net control station. (Not operational present time)

WEDNESDAYS – **The Guilford Amateur Society** holds their weekly net on the 145.250, W4GG repeater with an 88.5 Hz. tone. Jim Hightower, W4JLH is the net control.

TUESDAYS – at 8:30 PM The Triad SkyWarn Net meets on the 147.225, K4ITL repeater, no tone required.

OTHER ACTIVITIES:

FIRST MONDAY – The Guilford County A.R.E.S. monthly meeting is held at 1002 Meadowood St. off W. Wendover Ave, in the EMS building, beginning at 7 PM.

THIRD MONDAY – at 6:30 PM **The Guilford Amateur Society** holds their monthly meeting at the Golden Corral, 4404 Landview Dr, Greensboro, NC 27407, off Wendover Ave. Refreshments at 6:30 PM and the business meeting begins at 7 PM.

THURSDAY – at 11:15 AM, Greensboro Hams get together for lunch. Thursday lunch group is meeting at the K&W Cafeteria, 300 Forum VI Mall at Friendly Shopping Center. Talk-in is on the 145. 150, W4GSO repeater with a 100 Hz. tone.

EVERY FRIDAY – at 8 PM (approximately) Greensboro Hams get together for coffee at Guilford College (summer location till Daylight Savings time changes)

• Hams at Hams every Friday afternoon, Cone Blvd. restaurant, at 5:30 - Talk-in on 145.150 repeater.

Greensboro Amateur Radio Association P.O. Box 7054 Greensboro, NC 27417



Web: www.w4gso.org

FIRST CLASS MAIL