



Sinewaves



STONEWALL JACKSON AMATEUR RADIO ASSOCIATION

Meetings: 3rd Thursday of each month, 1930 hrs at Saint Marks Lutheran Church RT19/98 Clarksburg
SJARA Tuesday Night Net

*This net meets each Tuesday evening at 2100 hours utilizing the N8FMD Repeater on
147.210 Mhz with PL Tone of 103.5*

October 17, 2011

<u>Net Control</u>	<u>Date</u>
1. K8TPH.....	September 20, 2011
2. K8WWW.....	September 27, 2011
3. K8TPH.....	October 4, 2011
4. WD8NSC.....	October 11, 2011
5. KD8FDD.....	October 18, 2011

Meeting Minutes September 15, 2011

The SJARA meeting was called to order at 19:30 by the President KD8FDD at the St Marks Lutheran Church. Minutes were accepted as read. The Treasurer's report was read by K8TPH with a balance of \$1361.76. Old Business: Reservations have been obtained for the Christmas dinner at Raymon's. New Business: There was no new business. Discussion: KD8FDD will try to get a SKY Warn Class set up for October. He also reported on the role amateur radio in a recent road rally near Elkins WV which took place on private roads. Net Controls were assigned for next month and the meeting was adjourned by the President KD8FDD.

Next meeting Thursday October 20, 2011



Christmas Dinner

Christmas Dinner will be at 19:00 on December 15th 2011.

RAYMON'S RESTAURANT same as the other years: choice of 4 to 7 main dishes which include vegetable, salad and beverage for about \$14.

The main dishes can be whatever we want: spaghetti, rigatoni, Pastas or chicken parmesan or fettuccini or chicken Alfredo. NY Strip Steak with potatoes vegetable and salad would be \$20 Tilapia fish with potato, vegetable and salad would be \$18



ARRL Briefs White House Staff on Amateur Radio's Capabilities During Emergencies

On September 12, at the invitation of [White House Cybersecurity Coordinator Howard A. Schmidt, W7HAS](#), the ARRL briefed several members of the

National Security Staff on the capabilities of the Amateur Radio Service to communicate in emergencies. "The White House is looking for ways that the great work of Amateur Radio operators can continue to support emergencies in the future with particular attention to increased use and dependency on internet based technologies," Schmidt said. The ARRL presentation, conducted by Emergency Preparedness Manager Mike Corey, W5MPC -- along with President Kay Craigie, N3KN, and Chief Executive Officer David Sumner, K1ZZ -- focused on Amateur Radio's current and evolving capabilities to provide Internet messaging connectivity.



Protect your operating privileges!

Since 1996 when Little Leos presented a threat to Amateur Radio, ARRL has been mounting

an annual campaign to inform radio amateurs about the vital role they can play in protecting Amateur Radio's frequencies. Defending and enhancing radio amateurs' access to radio spectrum has become the most important mission of ARRL.

Each year radio amateurs respond generously to support ARRL and become key members of the spectrum defense team. ARRL board, staff and volunteers join ARRL members to work on behalf of Amateur Radio every day, addressing issues that affect access to Amateur Radio frequencies.

With constant vigilance and decisive action Amateur Radio has enjoyed many successes:

Your contribution to the Spectrum Defense Fund ensures that ARRL will have the resources to meet future challenges when they appear and to protect your operating privileges.

If you would like to support the Spectrum Defense Fund with pledge of \$10 or more a month on your credit card, please contact the Development Office by phone at 860-594-0397 or by e-mail to mhobart@arrl.org to arrange a billing schedule.

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### **New satellite could revolutionize battlefield communications**

The *National Journal* reports that the Naval Research Laboratory plans to launch an experimental \$75 million satellite this week that U.S. ground forces can use for on-the-move communications with standard military handheld or

backpack radios.

The Tactical Satellite-4 (or TacSat-4) will zoom around Earth in an elliptical orbit at altitudes ranging from 435 miles to 7,470 miles, keeping the spacecraft far closer to the ground than the 22,000-mile orbit of geostationary communications satellites, according to the Operationally Responsive Space Office at Kirtland Air Force Base, N.M., which funded the launch and first six months of use.

Michael Hurley, head of spacecraft development for the Naval Research Lab, said in an e-mail from the TacSat-4 launch site in Kodiak, Alaska, that the low orbits will allow ground forces for the first time to communicate with a military satellite using omnidirectional antennas on their radios while on the move, rather than stopping to set up a satellite antenna.

TacSat-4, Hurley said, will support troops in Afghanistan equipped with AN/PRC-148 and AN-PRC-152 handheld radios, manufactured by Thales and Harris respectively, and the Harris AN/PRC-117 backpack radio, as well as the AN/PSC-5 portable satellite terminal from Raytheon used by special-forces units.

Hurley said that all these radios communicate with TacSat-4 in one of 10 channels in the 240-318 MHz band, which is also used by the Defense Department's geostationary ultra-high frequency satellite constellation.

Read the full *National Journal* article *New Satellite Could Revolutionize Battlefield Communications*

<http://www.nationaljournal.com/nationalsecurity/new-satellite-could-revolutionize-battlefield-communications-20110927>

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CQ to add digital editions to all magazine titles

CQ Communications, Inc., will launch multi-platform digital editions of all of its magazine titles before the end of 2011, Publisher **Richard Ross, K2MGA**, announced today.

Those titles include *CQ Amateur Radio* (CQ magazine), *CQ VHF*, *Popular Communications* and *WorldRadio Online*. Many CQ book titles are already available in digital form on CD.

"The digital editions will supplement, not replace, current print editions, and will feature enhancements not possible in the print medium," said Editorial Director **Rich Moseon, W2VU**.

"Versions will be available for a variety of online and mobile platforms* and will be hosted by Zinio, one of the top names in the e-magazine hosting business. This will assure that our magazines will always be able to take advantage of new technology when it becomes available."

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### **New GPS Satellites**



Every day, we rely a little more on GPS satellites for both work and pleasure. Along with items like your car GPS navigation system, many items in Google Earth (such as these ships, real-time air traffic

or following Frank) require GPS to enable us to see their current location.

Last week, the U.S. Air Force launched a new satellite (the GPS IIF SV-1), the first in a series of launches aimed at replacing all 24 existing satellites over the next 10 years.

These new satellites offer a variety of enhancements over the existing ones. The most important part of this project is to simply replace them. Numerous reports are concerned that the existing network may begin to fail due to age. This will obviously remedy that.

In addition, these new satellites will provide a stronger, more accurate signal. Rather than the roughly 20 foot accuracy that you currently receive, the new ones will allow for accuracy down to about 3 feet. In addition, the stronger signal will help more GPS units to function properly indoors, which could be a big boost for various augmented reality tools that are beginning to find their way into the marketplace.



### Basic types of modulation

There are three main ways in which a radio communications or RF signal can be modulated:

- **Amplitude modulation,**

**AM:** As the name implies, this form of modulation involves modulating the amplitude or intensity of the signal. It was the first form of modulation to be used to broadcast sound, and although other forms of modulation are being increasingly used, amplitude modulation is still in widespread use. AM is basically used for voice or fone. Although it can be used

for other types of transmissions such as CW.

- **Frequency modulation,**

**FM:** This form of modulation varies the frequency in line with the modulating signal. It has the advantage that, as amplitude variations do not carry any information on the signal, it can be limited within the receiver to remove signal strength variations and noise. As a result is form of modulation has been used for many applications including high quality analogue sound broadcasting. Normal used for different types of digital (TTY, Packet, etc used on higher bands for voice transmissions)

- **Phase modulation,**

**PM:** As the name indicates, phase modulation varies the phase of the carrier in line with the modulating signal. Phase modulation and frequency modulation have many similarities and are linked - one is the differential of the other. However phase modulation lends itself to data transmissions, and as a result its use has grown rapidly over recent years. Normally used for several digital modes but can be incorporated in any type of transmissions.

Each type of modulation has its own advantages and disadvantages, and accordingly they are all used in different radio communications applications.

In addition to the three main basic forms of modulation or modulation techniques, there are many variants of each type. Again these modulation techniques are used in a variety of applications, some for analogue applications, and others for digital applications.



### The Cost of Education

A guy noticed that his buddy was troubled and asked what was wrong.

"Ohhh, it's my girlfriend." "Oh yeah? What's the problem?"

"When I asked her if she could learn to love me," he said, "she asked me how much I was willing to spend on her education."



### T32C Christmas Island DXpedition

The plan is to commence operations at midnight local time today here in Christmas, which is 1000 UTC Friday 30th September. We expect to be active on several bands from the start. We remain committed to maximizing band openings to Europe, but expect the number of callers in the first few days to make this difficult if not impossible. But bear in mind that we will be active for 3 weeks and four weekends, so there should be plenty of opportunities (propagation permitting) for a QSO. We will continue to send out news and photographs when the opportunity arises - our website is being regularly updated by webmaster G3WPH and those of who you who use Twitter can follow us on G7VJR's Twitter feed (@G7VJR).

