ARES COMMUNICATOR

Information for Scott County Amateurs

May, 2008 | **Accurate, Reliable Emergency Communications** | *Volume 8, Number 5*

Appeals Court Sends BPL Rules Back to FCC

A federal appeals court has told the Federal Communications Commission it must reopen its rulemaking proceeding establishing rules for Broadband over Power Lines (BPL), and specifically that it must make the full content of five internal studies available for public review and comment and that it must explain why it chose to use a more liberal measurement technique for determining interference potential from BPL.

The U.S. Court of Appeals for the District of Columbia ruled in a case brought against the FCC by the American Radio Relay League (ARRL), challenging parts of the Commission's BPL decision as arbitrary and capricious and in violation of the federal Administrative Procedures Act.

The court found that the FCC had relied heavily in its decision on five internal studies but then impermissibly refused to release those studies in full for review and comment. Pages that had been deleted, or "redacted" from portions made public, according to the court, "show staff summaries of test data, scientific recommendations, and test analysis and conclusions regarding the methodology used in the studies." The ruling continued, "It would appear to be a fairly obvious proposition that studies upon which an agency relies in promulgating a rule must be made available during the rulemaking in order to afford interested persons meaningful notice and an opportunity for comment" and "It is one thing for the Commission to give notice and make available for comment the studies on which it relied in formulating the rule while explaining its non-reliance on certain parts. It is quite another thing to provide notice and an opportunity for comment on only those parts of the studies that the Commission likes best."

BPL Rules *cont'd on page 2*

The ARES COMMUNICATOR is published for the benefit of Amateur Radio Operators in Scott County and other interested individuals.

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Hurricane Season

June-November

The Hurricane Watch Net on 14.325 MHz, is one of several key players during hurricane season. It serves either the Atlantic or Pacific during a watch or warning period and coordinates with the National Hurricane Center (NHC) in Miami. Frequent, detailed information is issued on nets when storms pose a threat to the US mainland. In addition to hurricane spotting, local communicators may announce that residents have evacuated from low-lying flood areas. Other amateurs across the country can help by relaying information, keeping the net frequency clear and by listening. See <http://www.hwn.org/>. The net works closely with the hams at the NHC station WX4NHC <http://www.wx4nhc.com/>

National Hurricane Center Director Bill Read, KB5FYA, praised Amateur Radio at the National Hurricane Conference in Orlando, Florida, in early April. "Ham radio has always played a critical role in emergencies," Read said.

Hurricane Season *cont'd on page 2*

ARES Activities

Weekly Net Monday 7 PM 146.535 mhz (s)
Breakfast Saturday, May 10th

SELECTED TRAFFIC NETS

Designator	Freq.	Local Times	
MN Phone	3.860Mhz	Noon, 5:30pm	Daily
MN CW	3.605Mhz	6:30pm, 9:50pm	Daily
ARES			
Scott ARES	146.535 S	7:00pm	Monday
Carver ARES	147.165+	8:30pm	Sunday
Bloomington	147.090+	9:00pm	Sunday
Neighboring Nets			
North Dakota	3.937Mhz	6:30pm	Daily
South Dakota	3.870Mhz	6:00pm	Daily
Wisconsin	3.985Mhz	5:30pm	Daily

BPL Rules - *cont'd from page 1*

Accordingly, the court "remanded" the rules to the FCC with instructions to make the full texts of the studies available for comment. In addition, the court ruled that the FCC had not adequately explained why it chose to take a statistical approach to interference likelihood based on a signal decay factor of 40 dB/decade when other information was presented suggesting that a factor of 20 dB/decade might be more appropriate. The court did *not* tell the FCC that it had to adopt the tighter standard, but rather that it could not reject it out of hand without sufficient explanation.

There is no indication at this time as to when the FCC might reopen the proceedings and/or whether it will appeal the ruling to the United States Supreme Court.

BREAK - OVER

"Everybody keeps saying that women are smarter than men, but did you ever see a man wearing a shirt that buttons down the back?"

Ella Quince

Hurricane Season - *cont'd from page 1*

"What goes out when you have a high wind event or major flooding is the communications system, so you lose even cell phones, landline phones, commercial radio and TV. In those cases, ham radio operators that can put up emergency transmitters and antennas in the wake of a storm can give us reports that are valuable. They also help in the search and rescue efforts in the aftermath." The NHC has a dedicated amateur station on-site — WX4NHC — and has worked closely with hams for decades.

BREAK - OVER

Minnesota Fishing Opener May 10th

Scott County ARES Contacts

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Savage, MN 55378
952-440-1878
N0PI@arrl.net

May Events
2008

6 Eta Aquarids Meteor Shower
8 Harry S. Truman B'day
10 Fishing Opener
10 AFD Crossband Contacts
11 Mother's Day
16 -18 Dayton Hamvention
17 Armed Forces Day
26 Memorial Day
29 JFK B'day

Armed Forces Day 2008 Crossband Contacts

Saturday, May 10, 2008

The Army, Air Force, Navy, Marine Corps, and Coast Guard are co-sponsoring the annual Military/Amateur Radio communications test in celebration of the 58th Anniversary of Armed Forces Day. Although the actual Armed Forces Day is celebrated on Saturday, May 17, 2008, the Armed Forces Day Miliary/Amateur crossband communications test will conducted one week earlier on May 10, 2008. The reason is so that the AFD Military/Amateur crossband communications test will not conflict with the Dayton Hamvention (16-18 May 2008) which is on the same weekend as the actual Armed Forces Day.

The annual celebration features traditional military-to-amateur crossband communications SSB voice test and the Secretary of Defense message receiving test. These tests give amateur radio operators and shortwave listeners an opportunity to demonstrate their individual technical skills and receive recognition from the Secretary of Defense and/or the appropriate military radio station for their proven expertise.

QSL cards are available to those making contact with military stations. Special commemorative certificates will be awarded to anyone who receives and copies the digital Armed Forces Day message from the Secretary of Defense.

Participating military stations will transmit on selected MARS frequencies and listen for Amateur Radio stations in Amateur bands indicated. Military station operators will announce specific amateur frequencies being monitored. Duration of each voice contact should be limited to 1-2 minutes. Some stations may not operate the entire period, depending on propagation and manning.

Transcripts of the RTTY, PACTOR, AMTOR, PSK-31or MT63 receiving test should be submitted *as received*. No attempt should be made to correct possible transmission errors. Provide time, frequency and call sign of the military station copied, and include the name, callsign, and complete address of the individual submitting the entry. This information must appear on the sheet containing the test message. Each year a large number of acceptable entries are received with insufficient information, or necessary information was not attached to the transcriptions and was separated, thereby precluding issuance of a certification.

BREAK - OVER

AAZ:1400Z 10 May to 0300Z 11 May
LSB: 4038.9 (80M), 6913.0 (40M)
USB: 7424.0 (40M), 14402.0 (20M), 13996.0 (20M), 18211.0 (17M), 18639.0 (17M)
RTTY: 13509.5 (20M), 7639.5 (40M)
MT-63: 13512.5 (20M), 7578.5 (40M)
Point Of Contact: Mr. Dwayne Smith
Location: Fort Huachuca AZ
Address: COMMANDER NETCOM/9TH ASC
ATTN: NETCOM-OPE-M (MARS) (31)
2133 CUSHING STREET
Ft. Huachuca, AZ 85616-7070

AAC: 1300Z 10 May to 0100Z 11 May
LSB: 3348.5 (80M), 7363.0 (40M)
USB: 13910.0 (20M)
Point of Contact: Barry Jackson
Address: HQ 1st BDE, 100th Div (IT) MARS STATION
Barrow Army Reserve Training Center
1051 Russell Cave Pike
Lexington, KY 40505

ABH: 1600Z 10 May to 2300Z 11 May
LSB: 3195(80M), 3360(80M), 4440(80M), 4466(80M), 7360(40M), 7720(40M), 8040(40M), 8094.5(40M)
USB: 14483.5(20M), 14489.5(20M), 17443.0(17M), 17592.5(17M), 20978.0(15M), 20559.0(15M)
Point of Contact: CPT Maribel Ostergaard
Address: Commander, 396th Signal Company
30th Signal Battalion, 96857

ALM: 1600Z 12 May to 2300Z 13 May
LSB: 4003.5 (80M), 7317.0 (40M)
USB: 13741.5 (20M)
Point of Contact: CW4 Roderick Mitchell
Location: Fort Wainwright
Address: Commander, 507TH SIG CO
Fort Wainwright 99703

WAR: 1200Z 10 May to 2400Z 11 May
LSB: 4020.9 (80M), 7504.0 (40M),
USB: 13512.5 (20M), 20518.5 (15M)
Point of Contact: Rick Low
Location: Arlington VA
Address: PO Box 2322
Arlington VA 22202

WUG-231: 1300Z 11 May to 0200Z 11 May
LSB: 4032.9 (80M), 6826.0 (40M), 7360.0 (40M)
USB: 14486.0 (20M), 14663.5 (20M), 20973.5 (15M)
Point of Contact: Jim Pogue
Location: Memphis, TN
Address: USACE Memphis District Office
ATTN: Jim Pogue
Public Affairs Office Room B-202
167 N. Main St
Memphis, TN 38103-1894

Air Force Stations
AIR: 1200Z 10 MAY to 2400Z 11 May
USB: 4517.1 (80M), 6996.1 (40M), 13985.1 (20M), 20737.6 (20M)
Point of Contact: Mr. Vincent Macanaynay
Location: Andrews AFB, DC
Address: 89th CS/SCOR
Andrews AFB, DC 20762-6116

AFD *cont'd pg. 4*

AFD *cont'd from pg.3*

AIR-2: 1200Z 10 May to 2400Z 10 May
USB: 4590.1 (80M), 7540.1(40M), 13993.1 (20M)
Point of Contact: Mr. Al Eiermann
Location: Scott AFB
Address: AFCA/AF MARS
203W Losey St.
Scott AFB, IL 62225

Navy-Marine Corps Stations

NAV: 1200Z 10 May to 2330Z 11 May
LSB: 4010.0 (80M), 7348.0 (40M)
USB: 14478.5 (20M), 20994.0 (15M)
Point of Contact: Bo Lindfors
Location: Williamsburg VA
Address: HQ NAVMARCORMARS Radio Station NAV
Cheatham Annex Bldg 117
108 Sanda Ave
Williamsburg VA 23185-5830

NAV-3: 1200Z 10 May to 0400Z 11 May
LSB: 4014.0 (80M), 7394.5 (40M)
USB: 13974.0 (20M), 20997.0 (15M)
Point of Contact: ITSC(SW) Brown
Address: NAVMARCORMARS Radio Station NAV3
9035 Ocean Drive Suite 3A
Corpus Christi TX 78419-5234

Stations copying **AAZ** or **WAR** send entries to:
Armed Forces Day Celebration
Commander NETCOM/9th ASC
Armed Forces Day Celebration
ATTN: NETC-OPE-MA

NAV-4: 1200Z 10 May to 0400Z 11 May
LSB: 4011.5 (80M), 7376.5 (40M)
USB: 14467.0 (20M), 21758.5 (15M)
Point of Contact: ITC(SW/AW) Anderson
Location: Great Lakes IL
Address: NAVMARCORMARS Radio Station NAV4
615 Preble Ave
Camp Barry, Bldg 153
Great Lakes, IL 60088-2850

NBL: 1200Z 10 May to 0400Z 11 May
LSB: 4041.5 (80M), 7371.5 (40M)
USB: 14391.5 (20M), 20623.5 (15M)
Point of Contact: ITC(SW) Dever
Location: Groton CT
Address: NAVMARCORMARS Radio Station
PO Box 161 Naval Submarine Base
Groton, CT 06349-5161

NPL: 1500Z 10 May to 0400Z 11 May
LSB: 4003.0 (80M), 7351.5 (40M)
USB: 14463.5 (20M), 20936.0 (15M)
Point of Contact: ITC(SW) Thomason
Location: San Diego CA
Address: NAVMARCORMARS Radio Station
937 North Harbor Drive
San Diego, CA 92132-5100

NUW: 1500Z 10 May to 0400Z 11 May
LSB: 4044.0 (80M), 7381.5 (40M)
USB: 13528.5 (20M), 20952.5 (15M)
Point of Contact: Mr. Digger O'Dell
Address: NAVMARCORMARS Radio Station
260 W. Pioneer FSC Bldg
NAS Whidbey Island WA 98277

Stations copying **NAV, NAV-3, NAV-4, NBL, NPL or NUW** send entries to:
Armed Forces Day Celebration
Chief, Navy-Marine Corps MARS
Cheatham Annex Bldg 117
108 Sanda Ave
Williamsburg, VA 23185-5830

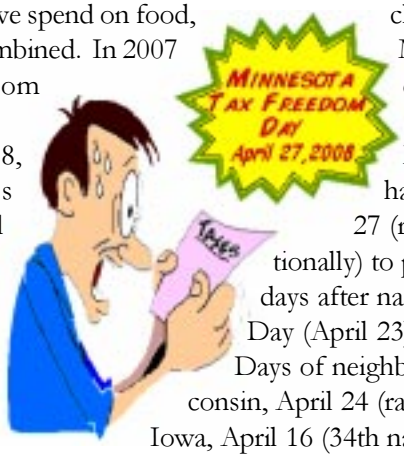
Freq	Mode	Date/Time	Freq	Mode	Broadcast	Freq	Mode	Broadcast
AAZ			**NAV**			**NBL**		
6988.0	RTTY	11 May/0110Z	7346.5	RTTY 75 Baud	10 May/2340Z	7370.0	RTTY	10 May/2340Z
	PACTOR FEC	11 May/0130Z		AMTOR FEC	11 May/0010Z		PACTOR FEC	11 May/0010Z
	MT63	11 May/0220Z		MT63	11 May/0040Z		AMTOR FEC	11 May/0040Z
	PSK-31	11 May/0250Z	14480.0	RTTY 75 Baud	10 May/2340Z	14393.0	RTTY	10 May/2340Z
14402.0	RTTY	11 May/0110Z		AMTOR FEC	11 May/0010Z		PACTOR FEC	11 May/0010Z
	PACTOR FEC	11 May/0130Z		MT63	11 May/0040Z		AMTOR FEC	11 May/0040Z
	MT63	11 May/0220Z	**NAV-3**			**NPL**		
	PSK-31	11 May/0250Z	7393.0	RTTY	10 May/2340Z	7350.0	RTTY	11 May/0240Z
WAR				AMTOR FEC	11 May/0010Z		PACTOR FEC	11 May/0310Z
6988.0	RTTY	13 May/2300Z		MT-63	11 May/0040Z		AMTOR FEC	11 May/0340Z
	PACTOR FEC	13 May/2315Z	13975.5	RTTY	10 May/2340Z	14465.0	RTTY	11 May/0240Z
14440.0	PACTOR FEC	13 May/2330Z		AMTOR FEC	11 May/0010Z		PACTOR FEC	11 May/0310Z
	AMTOR FEC	13 May/2345Z		MT63	11 May/0040Z		AMTOR FEC	11 May/0340Z
AIR-2			**NAV-4**			**NUW**		
7381.1	RTTY	10 May/1930Z	7375.0	RTTY	11 May/0240Z	7380.0	RTTY	11 May/0240Z
	MT63	10 May/2030Z		AMTOR FEC	11 May/0310Z		PACTOR FEC	11 May/0310Z
	MFSK	10 May/2100Z		MT63	11 May/0340Z		AMTOR FEC	11 May/0340Z
			14468.5	RTTY	11 May/0240Z	13530.0	RTTY	11 May/0240Z
14877.1	RTTY	10 May/2130Z		AMTOR FEC	11 May/0310Z		PACTOR FEC	11 May/0310Z
	MT63	10 May/2230Z		MT63	11 May/0340Z		AMTOR FEC	11 May/0340Z
	MFSK	10 May/2230Z						

Tax Freedom Day 2008

April 27, 2008

Tax Freedom Day is the day on which Americans have earned enough money to pay all their federal, state and local taxes for the year. On Tax Freedom Day, we have earned enough to pay the government and we can finally start keeping our paychecks for ourselves and our families. It's a great way to illustrate how much the nation as a whole pays in taxes. We also calculate a Tax Freedom Day for each state.

This year the national Tax Freedom Day fell on April 23, which means Americans worked from January 1 until April 23—nearly a third of the year—just to pay taxes. That's more than we spend on food, clothing and housing combined. In 2007 Minnesota Tax Freedom day was May 3rd.



In 2008, Minnesota taxpayers had to work until April 27 (ranked 8th highest nationally) to pay their total tax bill, four days after national Tax Freedom Day (April 23). The Tax Freedom Days of neighboring states were: Wisconsin, April 24 (ranked 14th nationally); Iowa, April 16 (34th nationally); North Dakota, April 12 (39th nationally); and South Dakota, April 12th (41st nationally).

The past three decades Minnesota's state and local tax burden has consistently been among the nation's highest. Estimated at 11.5% of income, Minnesota's state/local tax burden percentage stands at 11th highest nationally, above the national average of 11.0%.

Minnesota ranks 42nd in the Tax Foundation's State Business Tax Climate Index. Neighboring states ranked as follows: North Dakota (30th), South Dakota (2nd), Iowa (45th) and Wisconsin (39th). Minnesota levies a 6.5% general sales or use tax on consumers, which is above the national median of 5.4 percent.

Minnesota taxpayers receive less federal funding per dollar of federal taxes paid compared to the average state. Per dollar of Federal tax collected in 2005, Minnesota citizens received approximately $0.72 in the way of federal spending. This ranks the state 46th highest nationally and represents a decrease from 1995 when Minnesota received $0.78 per dollar of taxes in federal spending (44th highest nationally).

BREAK - OVER

We walked among the crosses
Where our fallen soldiers lay.
And listened to the bugle
As TAPS began to play.

The Chaplin led a prayer
We stood with heads bowed low.
And I thought of fallen comrades
I had known so long ago.

They came from every city
Across this fertile land.
That we might live in freedom.
They lie here 'neath the sand.

I felt a little guilty
My sacrifice was small.
I only lost a little time
But these men lost their all.

Now the services are over
For this Memorial Day.
To the names upon these crosses
I just want to say,

Thanks for what you've given
No one could ask for more.
May you rest with God in heaven
From now through evermore.

ARES Toolbox

Sound Card Interface

The newly developed sound card modes offer expanded options for emergency communications. There are sound card based programs to handle teletype (RTTY), slow scan television (SSTV), a packet engine, and several PSK options. The sound card modes are generally simple to operate and provide good communications.

One vital piece of equipment vital to this is the interface between the computer sound card and the transceiver. All of the sound card modes require some interface to the computer. The interface performs three basic functions; connect received audio from the receiver to the computer, connect transmit audio from computer to transmitter, and switch the transceiver between transmit and receive as needed. The transmit/receive (T/R) switching is always under hardwire control. Voice operated (VOX) T/R switching is NEVER used in emergency communications.

There are a number of commercial products available that will interface computer and radio with varying options and bells and whistles. The basic interface schematic is shown below.

You can roll your own interface for under $25 or choose from many commercial units. One option for a basic interface is the RASCAL, found at http://www.buxcomm.com/catalog/. The cost of the RASCAL interface in kit form is $39.95. A wired version is available for $49.98. The RASCAL includes your choice of transceiver connection cables. There are several commercial computer interfaces, the Rig-Blaster group, for example, are available at http://www.westmountainradio.com/index.html with prices ranging from $60 to $250.

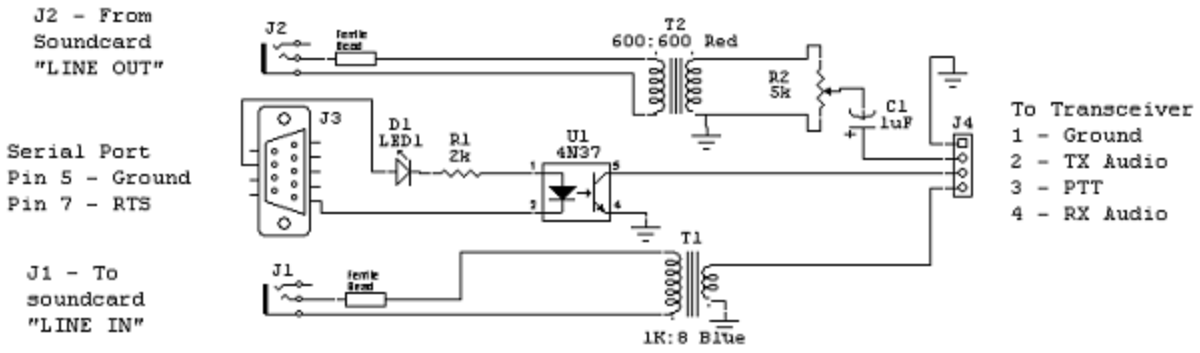
The interface you choose is up to you. The best one is the one that gets you active on the sound card modes!

Now that you have that interface ready to go you'll need some software. DigiPan was the original PSK soundcard program. DigiPan is available at no cost at http://www.digipan.net/.

There are a number of other pieces of software available, some for free and others available for a trial period before requiring a purchase, that do a good job with PSK31. DigiPan is an excellent place to start to learn the basics of PSK31. The software Scott ARES will be using in an upcoming exercise is NBEMS, Narrow Band Emergency Messaging System. This software was developed to provide an emergency communications tool that utilizes the various soundcard modes. The NBEMS software is available at no cost from http://www.w1hkj.com/NBEMS/.

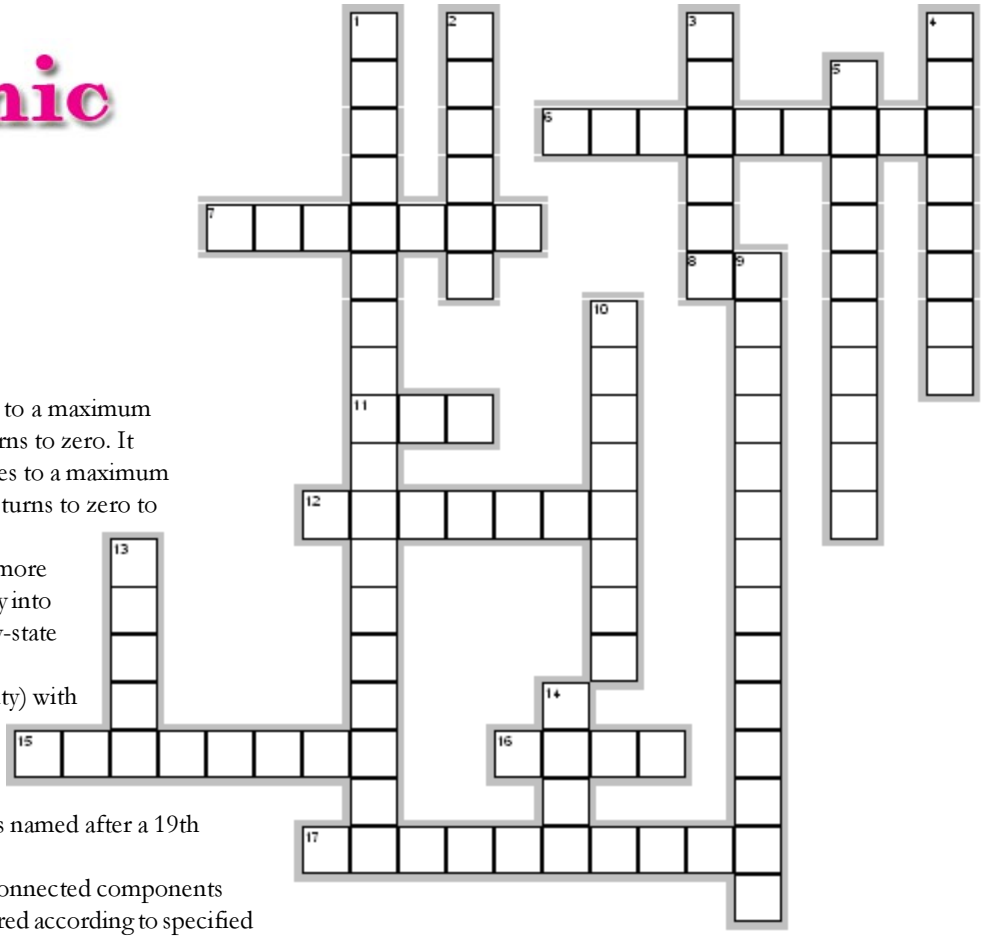
BREAK - OVER

June 28 - 29 , 2008
Canterbury City Park
Savage, MN



Basic Soundcard Interface

Electronic Terms



Across

6. Voltage that varies smoothly from zero to a maximum value in one direction, or polarity, and returns to zero. It then reverses its direction (polarity) and rises to a maximum value in the opposite direction, and then returns to zero to complete the cycle.
7. An electrical device consisting of one or more cells which converts chemical or solar energy into electrical energy. Provides a source of steady-state DC voltage.
8. Voltage with a constant direction (polarity) with respect to a fixed reference. Can be either positive or negative.
11. The unit of measurement of resistance symbolized by the Greek letter, omega. It is named after a 19th century German physicist.
12. A single component or group of interconnected components powered by a source of voltage and configured according to specified rules.
15. A metal (zinc) oxide over-voltage protective device.
16. A device, component, appliance, system, or machine to which an electrical force (voltage) is applied.
17. The electrical characteristic of a component, material, circuit, or system which acts to limit current in a circuit. It is measured in ohms and designated with the letter R.

Down

1. The electrical force that exists across the terminals of an electrical generator, or battery. When connected to a load in a closed circuit, this force produces a voltage across the load and causes current to flow in that circuit.
2. The unit of measurement of electrical current flow, named after a 19th century French physicist.
3. The part of a circuit or system that is the reference for the voltages existing in that circuit or system.
4. Considered to be the smallest unit of electrical charge.
5. The physical distance between the beginning and the end of a cycle in a periodic wave as it travels through space or through a conductor. It is measured in meters
9. An automatic, magnetic, or bimetallic device that will open a current-carrying circuit causing the circuit to become inoperative. This device is used to prevent circuit damage under a condition of excess current.
10. Maximum time required for a fuse to open after being subjected to an excess of the device's rated current. Classified as slow, normal, or fast.
13. The rate at which work is done and measured in watts (W). In electrical and electronic circuits, Power (P) = Supply Voltage (E) x Supply Current (I).
14. The unit of measurement of electromotive force necessary to produce one ampere of current in a circuit having a total resistance of one ohm. It is named for an 18th century Italian physicist.

"The best way to cheer yourself up is to try to cheer somebody else up."
Mark Twain

April Crossword Solution
Soundcard Modes

Across

2. PASSBAND—The range of frequencies that your transceiver can receive when on a single frequency; typically around 3000 Hz wide.

4. VARICODE—A streamlined coding system that uses letter codes that are shorter than those of the ASCII or Baudot coding systems

6. SIGNAL TO NOISE—A comparison of the signal levels to the relative noise level. Ideally, a perfect signal would have no noise, but realistically, you'll want this ratio well within the tolerances of the mode you're using. PSK31 tolerates a ratio of about 10 dB.

8. WATERFALL—A visual display of radio signals (and other sounds) found on the tuned frequency.

11. AUTOMATIC GAIN CONTROL—The ability to reduce signal strength on-the-fly, giving you more level audio reception on stronger stations.

13. OVERDRIVE—Turning the volume of your radio up so high that you risk damage to the sound card, or cause signal "splatter." Similar to maintaining your ALC levels.

14. INTERMODULATION DISTORTION—The ratio, in dB, used to determine the quality of your transmission. Unwanted modulation products or signals will reduce this level. More power does not mean better copy!

Down

1. READABILITY STRENGTH QUALITY—Much like the familiar "RST" reports, using a 599-type reporting scheme. Instead of "Tone" (Morse code), use "Quality." 95%+ readable, with a very strong waterfall trace and a clean (no splatter) signal would warrant a 599 report.

3. AUTOMATIC LEVEL CONTROL—A voltage adjustment or reading, indicating your transmit signal levels. This level control is designed to control voice and carrier signal levels, not digital modes.

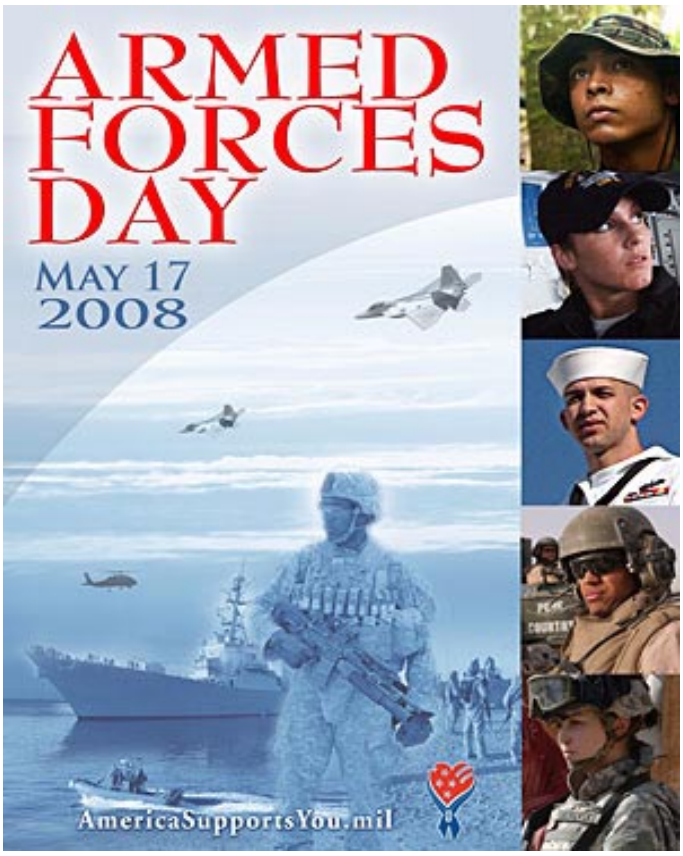
5. RF ATTENUATION—A suppression of signals received. You'll often see a noise level reduction, with a minor sacrifice to the desired signal reception.

7. PHASE SHIFT KEYING—A form of modulation that shifts the phase of the transmit signal in order to carry more information. PSK31 is a digital mode, created in the 1990s by Peter Martinez, G3PLX, which has a 31.25 Hz bandwidth on your waterfall display

9. DUTY CYCLE—The total time during a transmission period that the transmitter is delivering power to the antenna. Transmitting at a 100% duty cycle indicates that you are using 100% of your radio's power, 100% of the time.

10. SOUNDCARD—piece of hardware in your computer that acts as an analog-to-digital or digital-to-analog converter of audio frequency signals. A microphone input is often included.

12. VFO—An oscillator whose frequency is controlled by varying the value of either the capacitance or inductance of its tuned circuit.



"Opportunity is missed by most people because it is dressed in overalls and looks like work".

Thomas Edison

ARES Breakfast
Saturday May 10th
7:30AM
Perkins Restaurant
Savage, MN

NECOS Schedule - May 2008

5 May	KB0FH Bob
12 May	KC0YHH Tony
19 May	N0PI Dan
26 May	W0NFE Bob
2 Jun	KB0FH Bob
9 Jun	KC0YHH Tony