



**BV Rambles**

Field Day planning has kicked off with a meeting of those who will participate in feeding us. Leah KE7EZZS, Burt, KN7R, Joyce (Bruce W7DNA's wife) and myself met to lay the groundwork for food and support items. Unable to attend was Janet Paris. Janet has information the Red Cross will practice their Disaster Response by doing lunch Saturday. There will be several signup sheets Wednesday night. Volunteers for all aspects of Field Day will be needed. Field Day is June 27/28/29 this year.

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It is official sunspot cycle 24 has started. Most are happy, ask Theron and Jody about the DX they have been working recently. However, a Canadian researcher, Kenneth Tapping in February 2008, reported no change in the sun's magnetic field so far this cycle (23) and warns that if the sun remains quiet for another year or two, it may indicate a repeat of that period of drastic cooling of the Earth, bringing massive snowfall and severe weather to the Northern Hemisphere. The *Maunder minimum* is the name given to a period of extreme solar inactivity that occurred between 1645 and 1710. Of particular interest is that this period of inactivity corresponds closely to one of the coldest periods of the so-called "Little Ice Age" in Europe, a time of long, cold winters that caused severe hardships in the pre-industrial revolution world. This has led scientists to extensively study the possible influences of solar activity on terrestrial climate, as well as examine other stars for evidence of activity cycle behavior similar to the Sun's. To read the full article go to <http://ibdeditorial.com/IBDArticles.aspx?id=287279412587175> (This topic jumped out at me in the latest issue of CQ Magazine, page 91, leading me to do some Googling. Wikipedia.org is a great free encyclopedia.) Kind of like the media, it cannot be good unless it bleeds!

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Do you know about the Reply All feature in Email programs? This feature is usually right next to your reply button. What it does is send your reply to all the addressees of the Email you are replying to. This is a very useful feature in that the entire committee or group of the original Email will get your reply, instead of someone in the group have to relay your response to the rest of the group.

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This year, for the first time, the ARRL has put together a Station Locator to help amateurs or those interested in Amateur Radio find a Field Day site near them. According to ARRL Field Day Manager Dan Henderson, N1ND, many amateurs have been asking for something like this for many years. So if you are going to be traveling over Field Day weekend see <http://www.arrl.org/contests/announcements/fd/locator.php> for help in finding a location if you desire.

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Lastly, from the ARRL Contest Rate Sheet (originally posted on Towertalk reflector): Laptop too hot? Rig too hot? Bill KC4PE posted a link to a series of "laptop coolers" <http://tinyurl.com/2n8dxh> that sit under the equipment to be cooled. Fans pull air through the equipment into the cooler, where it is, um, cooled. It seems to work well on radios large and small.

Thank you for the time and space.

Chuck N7BV

## Get Your License Here!

The Clallam County Amateur Radio Club will hold Technician and General level classes April 12, 19, and 26th at the Port Angeles fire station on 5th & Laurel.

On April 26th at 1300 an open testing session be given.

Books are available from Tom, KE7XX.

Please spread the word to anyone of interest.

Thanks!

Contact: Chuck Jones, 452-4672 or Tom Newcomb 452-8228

## EXTRA EXTRA READ ALL ABOUT IT

The Extra class (Element 4) was released December 1, 2007 and will become effective July 1, 2008.

The current Extra Pool will be valid until June 30, 2008.

## Electronics Fundamentals class

Session 1	15 March
Session 2	5 April
Session 3	10 May
Session 4	19 June

Paul Honore' W6IAM

## PROGRAM FOR 9 APRIL 08

Scott Kennedy, Medical Director for the Olympic Medical Center, will talk about hospital operations.

A ham is driving up a steep, narrow mountain road, his antennas flapping in the breeze and flopping into the other lane. A YL is driving down the same road. As they pass each other, the YL narrowly missed them and leans out of the window and yells "**PIG!!**" The ham immediately leans out of his window and replies, "**WITCH!!**" They each continue on their way, and as the man rounds the next corner, he crashes into a pig in the middle of the road.  
**If men would only listen!!!**

We need articles for the QTC newsletter. This is after all your newsletter.

Tell us how you became interested in Ham Radio. What did you do over the summer (just like school) huh!

The more you submit the better our newsletter will be.

Thanks, the staff!

## 2 METER NETS

### **CCARC :**

Every Thursday 7:00 pm on the W7FEL Repeater.

### **ARES/RACES:**

Every Tuesday except 1st Tuesday of the month at 7:00 pm on W7FEL Repeater.

W7FEL Repeater: 146.76 MHz., offset down 600 KHz. with a tone of 100 Hz.

77Hz tone for Carlsborg Receiver and 186.2 Hz tone for the Ellis Receiver.

### Memories of a Visit to W6AM

While studying for the Extra exam the other night, three questions on rhombic antennas brought back mental images of a memorable visit made to the station of W6AM more than forty-five years ago. Little did I know at the time that I was witness to the end of an era.

Don Wallace W6AM was originally licensed about 1912 as 9ZT. He later formed Wallace & Wallace, Manufacturers Representatives. His role in amateur radio is legendary.

He was able to purchase 120 acres on the Palos Verde Peninsula from Howard Hughes. On this he created one of the most fantastic antenna farms ever owned by a private citizen. When I visited in 1962 there were at least fourteen rhombic antennas set up on wooden poles from one hundred to one hundred-forty feet tall.

The taller poles were comprised of two seventy-foot utility poles spliced together with two 2" thick angle irons bolted to each side of the poles. Keep in mind that each leg of a rhombic is one wavelength long at its lowest operating frequency. These things were massive.

The ham "shack" was the size of a modest home complete with kitchen and bathroom.

There were several operating stations behind which was a rats nest of wires and cables.

As I recall the open wire lines came in through one wall and were then distributed to each position.

I remember the feeling of disbelief as I walked under those wires and feed lines. In one area there was a large multiple stacked array of 2-meter yagi's I think mounted on a trailer. In the late sixties or so, Don had to sell ninety-five of the acres to pay property taxes and he received about \$100k for the acreage. That property today is covered with hundreds of million or more dollar homes.

Don served as the lead radioman for President Wilson at the end of WW1. He copied CW at 45 wpm. He is reputed to have run 1000W CW mobile driving at 60 mph. He won every possible ham radio award.

In his late eighties he was still climbing those poles to work on his antennas.

Don passed away about 1985. A book was published in 1991 called *Don Wallace, W6AM*, of which I'm trying to get a copy.

The station is no more but it was a privilege to

have been in the midst of those poles and wires and to sense a bit of the history of ham radio.

Note: The technical details were obtained from several sources by Google searching under "W6AM station" on the net.

Dennis Tilton WA6QWK

### Trip to Las Vegas

In late March Cathy and I ventured south to some warmer weather in Las Vegas, Nevada. Actually the warmer weather was not the real reason to visit Las Vegas as it was the location for one of our granddaughters 21st birthday celebration. Another reason was to visit Amateur Electronic Supply (AES) in Las Vegas. We were in a hotel less than a mile from AES and I never made it to the "candy store" (sniff) Another reason was to visit Roger and Priss Steelman in their new home in Mesquite, NV. Mesquite has never been much more than a gas stop about 80 miles east of Las Vegas on Hwy 15. Now, however, it is the home of a new Del Web 4500 home development with a beautiful club house, golf course(s), swimming pool, and of course a huge WallMart superstore. The Steelman's 1500 foot home feels more like 2200 feet as the design is very open and comfortable. Cathy and I enjoyed the tour of the area and it was quite clear that both Roger and Priss were a part of the in crowd as they were known everywhere we toured. The 16 flag pole is an "approved" antenna with four 20 foot radials and a SGC tuner. We hope to hear Roger on the air soon. As it heats up in Mesquite (which it will) we hope to see Roger, Priss and Chester (the

beagle) in Sequim this summer.

Bob  
K6MBY



**CLALLAM COUNTY AMATEUR RADIO CLUB**  
**Minutes of the General Meeting March 12, 2008**

The meeting was called to order at 7:00 P.M. by club president, Chuck, N7BV.

The Pledge of Allegiance was given.

Introductions were made around.

Chuck N7VB made some CDs available (for newer members); the CDs have some club newsletters, Ham software, etc. He also showed the new Mike and Key Club booklet, and a few copies were available for interested members. He asked folks to submit articles for QTC, especially if you don't like it when all you see is CW articles. (Hint, hint!)

He reviewed quickly what is in the latest issue of QTC, and advised that the piece of missing phone number in the ad for an Icom 745 package is "71". (683-8771)

Mike KE7EZO announced that Dave Hull KD7TFP will present the ARES meeting program next month (April 1), on FEMA damage assessment. Also, at the May ARES meeting, Jamye will present information on WEBEOC software.

The YL luncheon is this Friday, 11:30, at Gordy's Pizza.

The program was presented by Dennis WA6QWK and Bob AC7RK. They demonstrated PSK31, a digital mode, which runs through the sound card of a computer.

After a break, the raffle drawing was held, and the program was continued, with a demonstration of Software Defined Radio (SDR), operating in CW mode. This gave a waterfall display on the screen, where one can see the CW signals, allowing the monitoring of several frequencies simultaneously. Also demonstrated was a program that decoded the signals into text.

Dennis offered, along with Matt KC7EQO to start a group to develop and work with SDRs  
It was moved, seconded and passed to approve the minutes of the previous meeting as published in QTC.

Chuck WA7EBH donated several used sealed batteries for the club to sell as a fundraiser.

It was moved, seconded and passed to adjourn the meeting. Meeting adjourned at 8:45 PM.  
There were 28 members and guests in attendance.

Minutes by Rich N7NCN

CLALLAM COUNTY AMATEUR RADIO CLUB  
BOARD OF DIRECTORS MEETING March 20, 2008

Board members and officers present: Tom Newcomb KE7XX, Bob Sampson K6MBY, Rich Golding N7NCN, Chuck Jones N7BV, Bob Kennedy AC7RK, David McCoy KE7JEJ, and Bill Carter W7WEC.

Visitors: Shirley Newcomb KC7ZQA.

The meeting was called to order at 1:50 PM by Tom Newcomb, Board President.

The meeting was called to address the issue of club members not paying their dues. There was discussion about what needs to be done about it, resulting in two motions, both of which reinforce Art. IX, Section 1 of the Bylaws.

\*\* Moved, to move members from the active list and QTC list, to an inactive list if dues are not paid by March 31<sup>st</sup>.  
Seconded and passed.

Moved, if (members are) inactive for a year, their names will be removed from all mailings and all current records.  
Seconded and passed.

Bob Sampson put forth a suggestion from an unnamed member that perhaps Paul Honore's course text could be copyrighted and sold by the club. The Board was agreeable to this, so Bob will approach Paul on the matter.

A letter was received from DNR regarding an insurance-related contract requirement for the repeater site lease. Rich Golding was assigned to follow up and take action.

David McCoy gave the treasurers report, noting that after a reminder, several dues checks were received. Also, some dues overpayments were refunded. The overpayments were the result of inadvertent misinformation. The bank account checking balance is \$3149.86. The club has CDs, also, as previously reported.

There was discussion about becoming aware of any Silent Keys in the club, and how the club might respond. A motion was then made.

Moved, that when a member (becomes an SK), the club will take action to ask the family if they want the club to notify the FCC and ARRL. The action is assigned to the Secretary.  
Seconded and passed.

Moved, that the Secretary write DNR to change the repeater trustee of record. Seconded and passed.

Regarding programs, Bob Kennedy inquired if guest speakers have been sent a thank-you letter. Dave McCoy suggested that a thank you be sent on club letterhead. Discussion was unresolved.

There was discussion on teaching time and materials for the upcoming Tech and General license classes. Also, it was noted that some members were not receiving QTC for unknown reasons. That will be corrected.

David McCoy will send out email to all members in an effort to locate and identify club property so that it can be inventoried.

Moved, seconded and passed, to adjourn the meeting. Adjourned at 2:45 PM

Minutes by Rich Golding

\*\* It was noted after the meeting that this motion is not in accordance with the CCARC By-Laws. The motion is being reviewed by the board and the minutes will likely be amended to indicate removal of this motion. Rich

**Harold Berry, KL7HAY, SK**

Hal was a Life Member of CCARC. He died at the age of 96 on 25 June 2006 of age related causes with complications from diabetes. but his wife of 60 years survived him until Sept 2007.

He was born in Seaside OR where he started working for Pacific P&L before serving as a diesel mechanic with the Navy from 1942-1945.

After he married Betty, they moved to Alaska where he was a diesel mechanic for the Alaska Railroad and at a power house for the Dept. of the Interior. They retired to Sequim in 1992. Mr Berry was a member of the Carlsborg Post of the Veterans of Foreign Wars.

We regret to remove his name from our membership Roster.

Thanks to Peninsula Daily News.

John Moore K7NIA

**Clallam County Amateur Radio Emergency Service (CCARES)**

The Clallam County ARES is organized in two levels; as an affiliate of ARRL/ARES and as the recognized RACES organization by the Clallam County Division of Emergency Management. Membership in CCARES is open to all licensed Amateur Radio Operators that are residents of Clallam County, who first register with ARRL/ARES through the Emergency Coordinator. They are not required to attend training meetings and function as a second response unit in emergencies.

CCARES members in good standing may register in the RACES program with the Clallam County Division of Emergency Management (CCEM) and serve as a primary responder during emergencies. RACES members are the core of the organization and are expected to attend training meetings and participate in drills and other events.

**CCARC Web Page**

The club's web page at <http://www.ohyham.com> has a slightly new look in case you have not visited the site lately. The frequency list on the left side of all pages has been updated and additional information added. A field day page with pictures has been added. Many individual pages were updated with more current information and corrected links. On the bottom left you will see a new "counter" which counts (duh) the visits to the web site. It only counts a visitor once per visit, not once per page visited.

If you have any corrections to items on the club web pages or have suggestions for content on the pages please contact me direct.... not through the CCARCQTC mail box. Thanks.

73,

Bob  
K6MBY

**COMING EVENTS**

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**April 12th** Yakima Hamfest  
Yakima Amateur Radio Club (W7AQ)  
<http://www.w7aq.org/>  
Talk-In: 146.660 (PL 123.0)

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**April 5-6** Communications Academy 2008  
See ARES QTC pages for details

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**May 10** 17th Annual Hamfest  
Stanwood Camano ARC  
<http://www.scarcwa.org>  
Talk-In: 145.19- (PL 127.3) Lyman Hill repeater  
KG7HQ

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## ARES Program for May 6<sup>th</sup>, 7 pm *sharp* at the Clallam County EOC

The presentation for the May ARES training meeting will be given by **Jamye Wisecup** of the Clallam County Emergency Management Division. The topic will be the **WebEOC** which is the new software installed on the Emergency Operation Center (EOC) computers. She will have four computers set up with Web EOC access, so anyone who wishes can have hands-on experience.

Additional info on the software can be found at this site: [www.esi911.com/home](http://www.esi911.com/home) , and to see what they say about its use in Washington State, check it out at [emd.wa.gov/telcom/telcom\\_webeoc.shtml](http://emd.wa.gov/telcom/telcom_webeoc.shtml)

WebEOC is the original web-enabled crisis information management system and provides secure real-time information sharing to help managers make sound decisions quickly. Originally developed for public safety and emergency management officials, WebEOC is now also used also for routine operations in private corporations, public utilities, domestic and international airlines, healthcare associations, and universities, as well as by government at every level--city, county and state agencies nationwide and NASA, EPA, and other federal agencies within the Departments of Defense, Energy, Agriculture, and Health & Human Services.

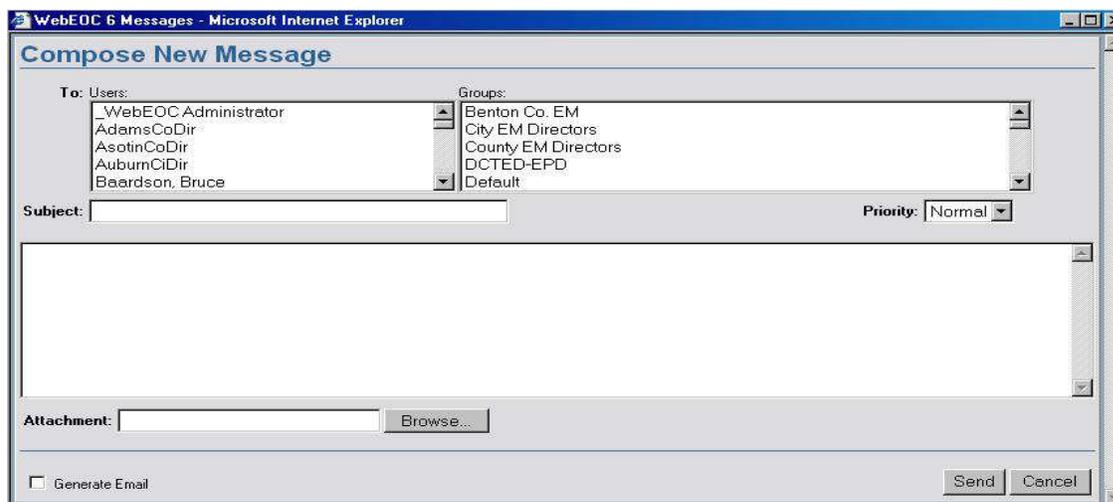
WebEOC provides the state of Washington cost-effective, real-time information sharing by linking local, state, national sources together, WebEOC helps facilitate decision-making in emergency situations.

Here is an example of one of the functions WebEOC we might encounter as ARES workers at the EOC:

### Creating a Message

The Messages plugin allows you to send messages to other WebEOC users. You can address messages to an individual, selected individuals or a group/role.

- Click **Messages** in Plugins area
- Click the **Compose** button



The screenshot shows a web browser window titled "WebEOC 6 Messages - Microsoft Internet Explorer". The main content area is titled "Compose New Message". It features a "To:" field with two columns: "Users" and "Groups". The "Users" column lists: WebEOC Administrator, AdamsCoDir, AsotinCoDir, AuburnCIDir, and Beardson, Bruce. The "Groups" column lists: Benton Co. EM, City EM Directors, County EM Directors, DCTED-EPD, and Default. Below the "To:" field is a "Subject:" text box and a "Priority:" dropdown menu set to "Normal". A large text area for the message body is below that. At the bottom, there is an "Attachment:" field with a "Browse..." button, a "Generate Email" checkbox, and "Send" and "Cancel" buttons.

Click on **User** or **Group**; for multiple users/groups hold the [CTRL] key and click

- Type **Subject**
- Type **Message**
- Choose **Priority**
- Click **Send**

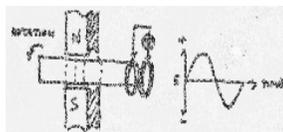
**(submitted by Janet Parris, WA7JEP)**

## Electronic Fundamentals (Unit-2)

### Alternating Current;

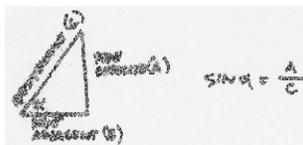
Thomas Edison built his hopes for mass distribution of electric power on the DC generator, (Dynamo). Early on, he realized its shortcomings and he hired the Serbo-Croat engineer and inventor, Nikola Tesla, to improve the efficiency of his Dynamo. Tesla had already patented alternating current equipment in Europe and he tried to convince Edison to switch to AC, demonstrating its efficiency by powering a whole community with an AC distribution system. Edison wasn't having any of it and the two got into a snit over the issue, going so far as to electrocute cats in an effort to show which was the more humane method of execution. Tesla ended by quitting Edison to work for George Westinghouse and Edison lost control of his enterprise to General Electric. Both G.E. and Westinghouse went into the AC distribution business and, with a few exceptions, the whole world has adopted AC as the preferred method of powering its factories and households.

In its simplest form, the AC generator is a slightly modified version of Edison's Dynamo. Substitute continuous "slip rings" for the commutator segments in the DC generator and you get alternating current.



(Fig-1)

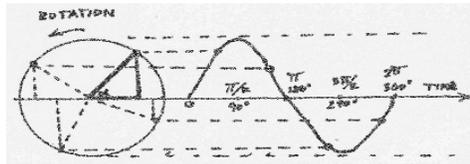
A plot of voltage output vs. time produces a **sine wave**. In trigonometric terms the **sine** of an angle, ( $\alpha$ ), in a **right triangle**, is the relationship between the **side opposite** the angle and the longest side of the triangle, called the **hypotenuse**.



(Fig-2)

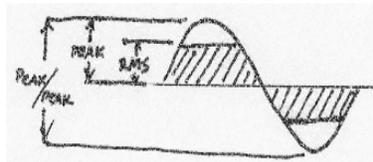
Now, think of a circle representing the rotating armature of an AC generator. The radius of the circle is the hypotenuse of a right triangle with one point starting at the center of the circle. As the armature rotates, the angle at the center and the length of the side opposite the angle are constantly changing. The hypotenuse, being the radius of the circle, is constant. Let's give it a value of 1 for convenience. You can see from the diagram that at  $0^\circ$  rotation, there is no dimension to the side opposite so the sine of the angle is:  **$\sin \alpha = 0/1$ ,  $\sin \alpha = 0$** . There is no voltage output from the generator. As the armature rotates, the side opposite gets longer and longer until it reaches maximum length at  $90^\circ$ . At this point it equals the length of the hypotenuse so  **$\sin \alpha = 1/1$ ,  $\sin \alpha = 1$** . At this point, we have peak output from the generator. Notice that for all angles between  $0^\circ$  and  $90^\circ$  the side opposite is less than 1, therefore the sine of the angle and the output voltage are less than peak value. As the armature continues to rotate, the sine of the angle, and the output voltage track exactly and we produce a sine-wave output.

The circumference of a circle can be expressed in degrees of rotation or in radians. (**360° of rotation or  $2\pi$  radians**), so you can expect to find AC expressed in either of the two systems of measurement.



(Fig-3)

There are three ways of measuring AC voltage. The first is the **peak-to-peak** voltage, measured from the 90° to the 270° points. The second is **peak** voltage, measured at the 90° point. The third is called **Root means square or RMS** voltage. This is the most useful of the three as it represents the average power available in the waveform. It is obtained where the angle of rotation is exactly 45° forming an **isosceles triangle**. At this point the sides opposite and adjacent to the angle are equal in length. For convenience, we'll make them each "1". For this kind of triangle, the square of the hypotenuse is equal to the sum of the squares of the sides  $c^2 = a^2 + b^2$ ,  $c = \sqrt{a^2 + b^2}$ ,  $c = \sqrt{1^2 + 1^2}$ ,  $C = \sqrt{2}$ ,  $c = 1.414$ . This number is worth remembering. In many applications, you'll find AC called out in terms of RMS voltage. To calculate peak voltage, simply multiply the RMS voltage by 1.414. Use the reciprocal, .707, to get the RMS value from the peak voltage,



(Fig-4)

There are many ways to generate alternating current but all AC calculations are based on degrees of rotation. One complete, 360°, turn of the armature is called one **cycle** and the number of cycles per second is called **frequency**. In the United States, all commercial generators, regardless of how they are powered, rotate at the rate of 3600 rpm. The frequency of alternating current in the transmission lines everywhere in the country is 3600 cycles per minute or 3600/60 seconds = 60 cycles per second (**60 Hz**). Just to be different, the Europeans and much of Asia use a rotation rate of 3000 rpm for their generators. This means the frequency of their AC systems is 3000/60 = 50 Hz.

Tesla wanted to eliminate wires altogether and light cities using RF radiation. He invented the fluorescent light and lit a bank of them with an RF transmitter 20 miles distant. Imagine living and working inside the equivalent of a microwave oven! Not a good idea! He was right about one thing though. Transmitting DC power over long distances is not practical. The more current supplied, the larger the wires needed to carry it. Remember Ohm's Law?

Watt's law, on the other hand, gives us a way out.  $P = IE$  says that for any given power, voltage and current are interchangeable. Suppose we want to deliver 100 watts to a load. We could use 10 volts at 10 amps to get 100 watts or we could use 100 volts at 1 amp. We could even use 1000 volts at a tenth of an amp. Any combination of voltage and current, whose product yields 100 watts would do. All we need to make the transformation is -- what else? -- a **transformer!**

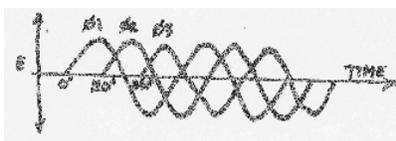


(Fig-5)

Transformers, like every electronic component, come in different sizes and configurations but they have some basic elements in common. Most contain a core of magnetically permeable material, such as iron, to concentrate magnetic fields, and one or more windings of copper or aluminum wire are wrapped around the core. In general, transformers are used to step up or step down voltages; to isolate parts of a circuit from each other, or to match one circuit to another. Regardless of usage, the input winding is always labeled the *primary* and the output as the *secondary*. For now, let's limit our discussion to the class of transformers called **power transformers**.

In the national "grid" of power distribution, transformers are used to step a generator output from a few hundred volts to several thousand volts for long distance transmission via relatively small wires. At its destination another transformer steps the voltage down to the nominal 115V we rely on to power our ham equipment. Now this brings up an interesting point. Due to the long distances involved and the constantly changing load, the voltage you can expect to get from that convenient wall outlet may vary from a low of 90V to as much as 135V. It wouldn't do for things like electric motors or clocks to change speed every time we flipped a light switch or the bread popped out of the toaster. Because AC motors operate on the principle of magnetic induction, they track the **frequency** of the supplied voltage. That's why AC motors designed for use in the United States produce 3600 rpm or multiples of 3600 rpm regardless of the applied voltage.

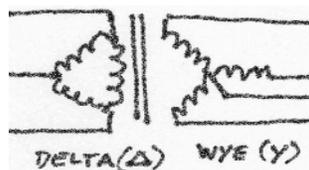
So far, we've only seen the simplest form of AC generation, **single phase** power. For transmission on the National power grid, **three phase** generators are used. In this type of generator there are three sets of windings on the armature, spaced 120° apart.



(Fig-6)

As the armature rotates from 0°, the first winding begins to produce an output voltage. At 120° rotation, the second winding begins to produce an output and at 240° the third winding starts. The output of the first winding is considered to be Phase 1, ( **$\Phi_1$** ), the output of the second winding, Phase 2, ( **$\Phi_2$** ), and the third, phase 3 ( **$\Phi_3$** ).

There are two ways to connect a three-phase transformer, Wye (**Y**), and Delta ( **$\Delta$** ). Transformers may have all Wye, all Delta, or combinations of Wye and Delta windings,



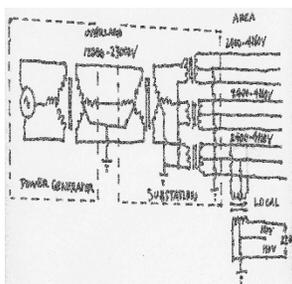
(Fig-7)

For a delta connected transformer, the voltage across each of the windings will be the same but for a Wye connected transformer, there are two ways to connect a load to the windings. The voltage across individual windings will be the same but, if any two windings are connected in series to obtain a higher output, the sum of the voltages will not be twice that of a single winding because of the phase differences in their respective outputs. Instead, it will be equal to the square root of 3 or **1.73 times the voltage across an individual winding**.



(Fig-8)

A typical overland distribution system works like this. 3 Phase power from the generator is transformed upward to 2000 to 34000 volts for transmission, depending on how far it has to travel. When it arrives at a point near it's destination, it is transformed down and broken into three single phase lines for regional distribution. These are much lower in voltage, usually from 2400 to 4200 volts. From there, neighborhood power pole transformers reduce the voltage to the 120/240 volts we've all come to know and love. This is distributed about the household in a manner calculated to equalize the load somewhat.



(Fig-9)

In this unit, we've seen how AC power is generated and transmitted over long distances using transformers to exchange voltage and current. We've also shown AC voltage measure-

ments and defined frequency. In the next unit we'll discuss resistance.

**Terms to remember**

<b>Cycle</b>	<b>One complete wave or 360° of AC</b>
<b>Frequency</b>	<b>Cycles per second (Hz)</b>
<b>Peak</b>	<b>Voltage at 90° or 1.414 X RMS (P)</b>
<b>Peak to Peak</b>	<b>Total of voltages at 90° and 270° (P/P)</b>
<b>Phase</b>	<b>Time relationship between events (<math>\phi</math>)</b>
<b>Root Means Square</b>	<b>.707 X Peak (RMS)</b>
<b>Sine wave</b>	<b>AC output vs. time</b>

**Paul Honore' W6IAM**

## ~ Field Day is upon us~

The ARRL Field Day {FD} gets more amateurs out of their cozy shacks and into tents on hill tops, or in our case, to the fair grounds, then any other event of the year. You may not be operating from a tent after a disaster but the training you will get from FD is invaluable.

In the ARRL Field Day, a premium is placed on sharp operating skills, adapting equipment that can meet challenges of emergency preparedness and flexible logistics. Amateurs assemble portable stations capable of long-range communications at almost any place and under varying conditions. Alternatives to commercial power in the form of generators, car batteries, windmills or solar panels are used to power equipment to make as many contacts as possible. Windmills, solar panels, you say? Not yet at our FD, but we have some mighty fine minds in our midst, so these just may be in our near future.

Field Day is held on the forth full weekend in June, but enthusiasts get the most out of their training by keeping preparedness programs alive during the rest of the year. These programs are alive each and every month at our club meetings, where there are guest speakers bringing in their ham knowledge to teach and share, and also at the monthly ARES meeting. Being an ARES member is where most of the preparedness training takes place. Amateur Radio operators need training in operating procedures and communication skills. In an emergency, radios don't communicate, but people do. Because radio amateurs with all sorts of varied interests participate in FD, many of those who offer to help may not have the experience in public service events. FD is NOT an emergency operation function, it does however help prepare us in emergency operations. Proper training replaces chaotic pleas with smooth, organized communications. Well trained communicators respond during drills or actual emergencies with quick, effective and efficient communications.

If you want to take a course to learn gourmet cooking, specialty gardening, engine repair, you usually only have to look so far as our local college, or a class being taught by the local gardener, or chef. But where does a ham go to learn more about our hobby? We are so very fortunate to have dedicated hams in this neck of the State who give of their time selflessly, teaching the basics of becoming a licensed amateur, helping each and every step along the path. For our VE's , SALUTE! Once in a while we have specialty classes, such as the electrical class some of us are in, trying our best to know more about how it is our radios work, why they work, and how NOT to get zapped to kingdom come. The importance of learning the basics of our trade is an invaluable tool for all hams. Getting that Technician license was only the first baby step. This isn't an electrician course where we'll earn college credits, {is it Paul?}..hi..but it is structured, and we feel lucky and honored to be taught by another unselfish ham. Training. We can never stop absorbing the latest technology, as it never stops evolving. Never overlook the experience of your fellow hams. There is nothing they like better then to share the vast wealth of knowledge they have in their hobby, our hobby. A general question on a particular area of operation to a ham who has experience in that area is likely to bring all sorts of data. For a new {or potential ham}, the problem may not be in asking the proper questions, but in finding another amateur of whom to ask the questions. That's where radio clubs and ARES participation play an important role. What better source of information for the newly licensed, or soon to be licensed then a whole club full of experienced hams?

Lets all get ready for the one greatest learning opportunities of the year, FIELD DAY.

Do you know how to handle traffic? Have you participated in a simulated emergency drill? Have you ever been a net operator? Ever handled a 'formal message' traffic? Played with Packet radio, IRLP? Have you offered your talent to public service events, such as Safety Days, parades, sports events, like helping with communications during one of our many local marathons, or bicycle races, the boat races? Each one of these events bring some of the best "on the job training" you can get. You are stationed at a particular spot, learn tactical call signs, and call in to Start/Finish of participants who are lead runners, {what ever the event is}, help those in need if there's an emergency, all by communicating on your radio. What a great way to learn how to handle traffic during a stressful time.

Now, not all of these will be a part of FD. However, getting involved with the CCARC and becoming a part of the emergency operations through ARES will teach all the different areas that will help build on our hobby. Are you ready for a disaster, whether it be man-made or natural? After 9/11, Amateur Radio communicators mobilized within minutes. MINUTES. On that day and in the times since, radio operators have demonstrated their readiness, perhaps as never before. Hams were among the first to volunteer their stations, their skills and themselves. Providing emergency communications tops the list of reasons that validate Amateur Radio in the eyes of the FCC. Given the ubiquity of cellular phones these days, some may have predicted this particular mission would evaporate. After 9/11, commercial systems, wired and wireless, were severely compromised. All jammed, totally overwhelmed. Nature relentlessly concocts severe weather and natural calamities that can cause human {and animal} suffering and create needs which victims cannot alleviate without assistance. Our hobby as Amateur Radio operators specializing in communications, need to be involved, but we must also be trained in what to do next.

Field Day is a great start to the wonders of how it all works, outside the comforts of our homes, our shack, our familiar

comfortable surroundings. Are you ready to step outside the box, give more of your time to the CCARC, to ARES, to public service functions? Is there cause for alarm that Amateur Radio may not have a future in public service communications? In many rural parts of this great country, it will be a long time before sophisticated telecommunication systems become available to the public safety and related agencies we deal directly with. In others, new technology is here now and our role has already been diminished as a result. It is clear that the new telecommunication tools will ultimately affect *continued from previous page..*

the needs of all our served agencies in the not-too-distant future. We cannot become complacent. We must adapt to meet their evolving needs or face reductions in opportunities to serve. That translates to less relevance, and a weakened position when it comes time to defend our spectrum needs in the face of increasing pressure from other interests.

If we all work together, at Field Day, with emergency operations, with community events, with our agency's new needs, and keep up our public service record established more than 85 years ago intact, we can continue to count on the valuable returns. Support your local Ham Club. Support ARES. Don't wait for 'someone else' to volunteer. Get the training you need. Offer your services. Learn more about that radio you talk into. Know why that antenna works. Ask questions. Such support from our local masters of the hobby is just one QSO away. Now that's priceless to me.

See you all at Field Day!!  
73, Nita Lyman KE7DRT

## Latest ARRL Propagation Bulletin

PROP @ ARL \$ARLP015  
ARLP015 Propagation de K7RA

ZCZC AP15  
QST de W1AW  
Propagation Forecast Bulletin 15 ARLP015  
From Tad Cook, K7RA  
Seattle, WA April 4, 2008  
To all radio amateurs

SB PROP ARL ARLP015  
ARLP015 Propagation de K7RA

The past few days have had very stable geomagnetic conditions. After unsettled to active geomagnetic indicators on March 26-28, conditions quieted down dramatically. Combined with the nearly two-week run of sunspots and the Spring season, this makes for good HF conditions.

There were actually three sunspots, beginning on March 23 with the first one and a sunspot number of 14. March 24 and 25 each brought one new spot, and the sunspot number rose to 35 and 52 on those days. Activity peaked between March 26-29, with daily sunspot numbers of 63, 57, 63 and 50.

On Thursday April 3, the sunspot number was back to 14 again, as one-by-one, the three spots drifted from view.

Today's sunspot number may be back to 0, and it may stay that way until April 18-20.

### Thursday Night Club Net

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Congratulations to the following for  
100% CCARC Net checkins for March

N7BV	Chuck	KE7DRT	Nita
W7DTG	Theron	W6FEH	Bob
KE7JEJ	David	WA7LDM	Jim
K5MTW	Don	KN7R	Burt
K7NIA	John	KE7RFO	John
W7RJW	Becky	K7VQF	Ray

Good job!

John K7NIA NC Coordinator

\*\*\*\*\*

### **WANTED:**

Older lap top computer, (any brand,) that is still serviceable and will accept Windows XP. I want it for field day logging programs, and other amateur related programs only. Bruce Thompson W7DNA

5" Motorola, GE or other communications speaker and enclosure. Bob Sampson K6MBY

### FROM OUR TREASURER:

As of April 04th, 2008:

First Federal Savings & Loan of Port Angeles Balance is: \$3,200.11

Outstanding Cheques: 0.00

Current Book Balance: \$3,200.11

CD at WestSound Bank (6-month): \$1,000.00

CD at WestSound Bank (18-Month): 3,000.00

Total Cash Assets: \$7,200.11

David R. McCoy,  
KE7JEJ

### **FOR SALE OR TRADE**

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I am looking for work on weekends and after school (2:30) to make money to pay for my Drivers Ed. I can be reached at (360)452-6614 or ke7lka@yahoo.com Thanks, Jody

~~~~~

2m/440 dual band J-pole antenna. Excellent antenna and price \$20. Similar to <http://arrow-antenna.com/j-pole.html> Made by KN7R. Proceeds to ARES. Chuck, N7BV or Burt, KN7R

~~~~~

M F J Deluxe Versa Tuner II MFJ-949E  
Used very little. Price \$100.00  
Ten Tec Model 228 Antenna Tuner / SWR Bridge Price \$55.00  
Tom Newcomb KE7XX Ph: 452 8228

~~~~~

▶ ICOM IC-746 transceiver with power supply and speaker  
▶ includes CT-17 interface  
▶ MFJ-259B Antenna analyzer  
▶ MFJ-986 Differential tuner  
▶ Heil microphone and cable for ICOM radio  
I would like to sell it complete, as a bundle, asking \$1450. The radio has been boxed since 2003 due to our move. All are in great shape with no issues.  
Scott, NF7Y, 683-8771



*April and early May Birthdays*

Dawson, Al	W7YLV	Apr-13
Golding, Julia	KB7SBB	Apr-16
Uhden, Carl	KG6EI	Apr-25
McPherson, Nancy	KE7RFM	Apr-26
Lawson, Brenda K.	KE7HZC	Apr-26
Ray, Jody	KE7LKA	May-07
Falls, Darlene	KD7TFL	May-07

**YL LUNCHEON**

11 April  
Oak Table  
292 W. Bell, Sequim  
Time: 11:30 a.m.

**2008 - CCARC Ladies Luncheon Schedule**  
Reservations are made for 11:30 – 2<sup>nd</sup> Friday of each month

- April – Oak Table – 292 W. Bell – Sequim
- May – Downriggers – 115 E. Railroad Ave. – Port Angeles
- June – Danny’s - JC Penny Plaza – Next to Police Sta. – Sequim
- July – Michaels – 117 – 1<sup>st</sup> St. – Port Angeles
- August – Tarcisios – 609 W. Washington – Sequim
- September – Sergios – 205 E. 8<sup>th</sup> – Port Angeles
- October – Fortune Star – 145 E. Washington - Sequim
- November – Chestnut Cottage – 929 E. Front – Port Angeles
- December – Paradise – 703 S. Sequim Ave. - Sequim

**Find us on the web at  
www.olyham.com  
Check it out. Lots of  
information about ham radio  
in Clallam County!**

Description	Time/Date	Location	Contact
Clallam County ARES/RACES meeting	7 pm, first Tue of every month	Clallam County Courthouse EOC, 223 E. 4 <sup>th</sup> St., PA	Chuck Jones N7BV 360-452-4672
Clallam County Amateur Radio Club general meeting	7 pm, second Wed of every month	Port Angeles Fire Station 5 <sup>th</sup> & Laurel Streets, PA	Tom Newcomb KE7XX 360-452-8228
Clallam County Amateur Radio Club social breakfast	8 am, first Sat of every month	Joshua’s Restaurant Hwy. 101 & Del Guzzi Dr.	Tom Newcomb KE7XX 360-452-8228
Clallam County Amateur Radio Club YL social lunch	11:45 am 2d Fri of every month	Rotates - announced on Thursday night Net	

**CLUB OFFICERS For 2008**

- President:** Chuck Jones N7BV      360-452-4672      n7bv@yahoo.com
- Vice President:** Bob Sampson K6MBY      360-582-9116      k6mby@olyphen.com
- Secretary:** Rich Golding N7NCN      360-683-9309      n7ncn@myfam.com
- Treasurer:** David McCoy, KE7JEJ      360-461-5470      mccoy.d.r@olyphen.com
- Chairman of the Board:** Tom Newcomb      360-452-8228      ke7xx@arrl.net
- Board Member:** Bob Kennedy AC7RK      360-457-6177      ark@tenforward.com
- Board Member:** Bill Carter W7WEC      360-681-4375      bcarter@olyphen.com