



CLALLAM COUNTY AMATEUR RADIO CLUB

QTC
SEPTEMBER
2008

BV Rambles:

We had a great time with the visiting Victoria Shortwave Club. There was delicious food and plenty of rag-chewing. The CCARC presented our visitors with a photo-scrapbook of the 1959 visit to Victoria. We all are looking forward to visiting Victoria next August. Thanks to everyone who made this a success, especially Leah and Paul; David and Susan; and the others who did the setup and cleanup. And a special thanks to the members of the VSWC who made the journey.

At our quarterly CCARC Board meeting (minutes elsewhere in this QTC) it was agreed upon to start down the road to upgrade, expand and improve our 146.76 repeater system. This will be done in small steps: 1) first an upgraded capacity on the repeaters controller; 2) we will toy with the idea of moving the west-end receiver to a new DNR building, which we hope will improve the signals from west Clallam county. *To this end we need volunteers to form a committee to review the goals and requirements for our repeater system.*

Oh yes, volunteers. There is a need for more people to get involved in doing things. The people who have volunteered for office or positions can not do it all. Don't know much about repeaters; well what are you doing to learn? How about jumping on the repeater committee, oh yeah you don't know much; well search on the internet - <http://www.arrl.org/FandES/tbp/radio-lab/RLH%20Unit%206.pdf> (ARRL Amateur Radio Education & Technology Program Unit 6 - Repeater and Remote Operation) and there will undoubtedly be some members who either have their own repeater up now or have done so in the past. This is how knowledge is passed on.

One of the things that tends to get lost in this hobby of ours is just that – it is a hobby - based on learning. Without knowledge of the hobby and a basic understanding of things you're probably not going to be much help when the going gets tough. What are you going to do if your hand held radio goes dead during an extended power outage, do you have a small backup battery to use, do you have jumper cables made and hanging on the back of your radio room door to connect up that battery? Do you have some extra coax and connectors/adapters to make an outdoor VHF antenna (or connect to your mobile antenna on your vehicle)? Do you have trouble working simplex or hitting the repeater, do you need an outdoor antenna, or do you need to know exactly which spots within your house can be heard? Have you tested the difference in reaching the repeater on low power so you can conserve on batteries during an emergency?

Another thing to think about is a number of people who have been part of the backbone of this club for the past few years are slowing down or actually having health problems, so the need for newer hams/members to step up is growing. ***SO STEP UP.***

Thanks for the time and space.

Chuck N7BV



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NET CHECK INS

Congratulations to those who checked in 100 % for August:

- KE7EVS Leah Benadum
- WB8BVK Paul Benadum
- KI6HCW Stan Cowen
- W7YLV Al Dawson
- KE7TTY Lee Diemer
- K5MTW Donald Dillard
- W7DTG Theron Gallauher
- KE7TTT David Hannon
- W6IAM Paul Honore
- N7BV Chuck Jones
- KE7DRT Nita Lyman
- K7NIA John Moore
- W7RJW Becky Winters

Also a big welcome to guests checking in to the net on Aug 28th:

Visiting us from Culver City, California were:

- KG6QFL Elaine and
- W1MJH Marty

New Format.....

A number of people have indicated they would be willing to help with the club newsletter but did not have the Microsoft Publisher program, soooo, this is our first attempt at using MS Word to format the newsletter in lieu of MS Publisher. It also feels like the newsletter is too long to print and I know I don't like reading documents on the computer screen. Some previously included information is being removed. Club officer information, net times and frequencies are, as an example, removed but are available on the club web page.

Comment

Last month I wrote an article about west end club repeater expansion as asked if members had interest in such expansion. Just for information, there were two responses. A resoundingly positive comment came from KE7TTT and the other a suggestion to consider North Point in lieu of Ellis from KI7ZC. With such little interest I was willing to let any thoughts of expansion drop, however, our President believes the **club has a responsibility** to consider coverage expansion. He is correct and we will go forward and develop an expansion plan for presentation the club membership.

Bob K6MBY



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The Ten Commandments of Electrical/Electronic Safety

- I. Beware of the lightning that lurketh in seemingly uncharged capacitors lest it cause thee to bounce upon thy buttocks in an unseamanlike manner and cause thy hair to stand on end, therby exceeding regulation length.
- II. Cause thou the switch that supplieth large quantities of juice to be opened and thusly tagged, that thy days may be long in this earthly vale.
- III. Prove to thyself that all circuits that radiateth and upon which thou worketh are grounded and thusly tagged, lest they lift thee to radio frequency potential and causeth thee to radiate with the angels.
- IV. Tarry thou not amongst those fools that engage in intentional shocks, for they are not long of this world and are surely unbelievers.
- V. Take care thou usest the proper method when thou taketh the measure of high voltage so thou dost not incinerate both thee and thy test equipment. For verily, though thou hast no NSN (National Stock Number) and can be easily surveyed, the test equipment has one, and as a consequence, bringeth much woe to thy supply officer.
- VI. Take care thou tamperest not with interlocks and safety devices, for this incurreth the wrath of thy department head and bringeth the fury of thy Commanding Officer on thy head.
- VII. Work thou not on energized equipment without proper procedures, for if thou dost so, thy shipmates will surely be buying beers for thy widow and consoling her in ways not generally acceptable to thee.
- VIII. Verily, verily, I say unto thee, never service equipment alone, for electrical cooking is a slow process, and thou might sizzle in thine own fat upon a hot circuit for hours on end before thy maker sees fit to end thy misery and drag thee into his fold.
- IX. Trifle thee not with radioactive tubes and substances lest thou commence to glow in the dark like a lightning bug and thy wife be frustrated and have no further use for thee except thy wages .
- X. Commit thou to memory all the words of the prophets which are written down in the 300th chapter of thy bible which is the 'Naval Ship's Technical Manual' and giveth out with the straight dope and counseleth thee when thou hast suffered a ream job by thy division LPO (Leading Petty Officer).



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Cell Phone Info fro July 2008 QTC

I tried that 800Free-411. It did work, but I was then besieged by advertising spam. The trouble and airtime cost to pick up all the advertising messages (voice and text) was definitely not worth saving the buck for regular 411.

73s Kline
W7CNN

Olympic Mountain Bike Race

We had a little pre-rain photo op prior to the beginning of the race. It rained non-stop for the 5 or so hours we were there. There were a few spills but no one was seriously inured, which amazed me considering how slippery-muddy it got. KE7DRT-Nita and I were at FINISH as net control, K7INA-Russ- was at START, KA7CSZ-Marsha- was at ACCESS 1, WA7NBF-Neil- and WX7RIK-Rik- were at "Petticoat" JUNCTION. My son, Jeffrey, helped us at FINISH. Near the end of the event, fog started rolling in and the wind kicked up while it continued to pour buckets on us. Nita and I liked it so much we want to do it again next year! I'd like to pass along to those hams mentioned above what one biker said to me- "It is the ham radio operators that make this event so successful".

Until next year friends.

W7RJW Becky



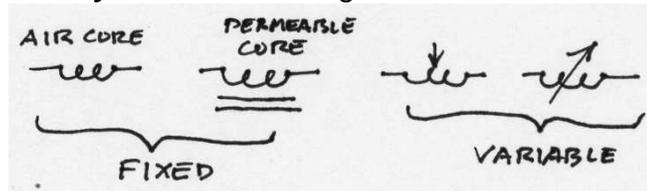


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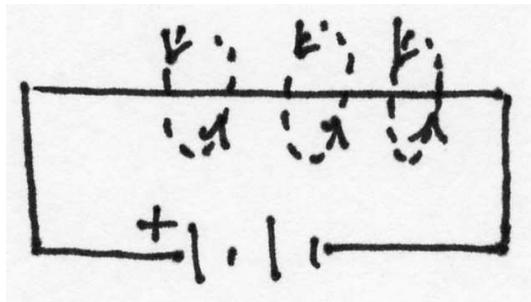
Electronic Fundamentals (Unit-6) Inductance

Last time, we examined capacitors and capacitive reactance. Now, let's take a look at inductors. Again, these components come in many sizes and shapes. They can be air-wound or they can be wound on cores of various dielectric or permeable materials. They can be variable, either by insertion of a movable core or by a movable tap along their length. The unit of inductance is the **Henry**. Schematic diagrams for inductors look like this.



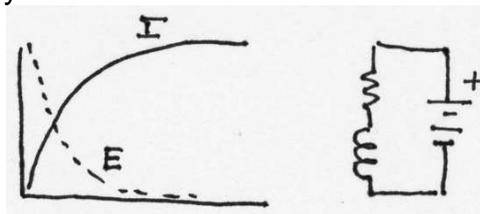
(Fig-1)

If a current of electricity is passed through a wire, it causes a magnetic field to build up around the wire and extend a short distance into space. The field strength decreases inversely in proportion to the square of the distance from the wire. The magnetic lines of force, **flux lines**, circle the wire in a specific direction, depending on the direction of current flow.

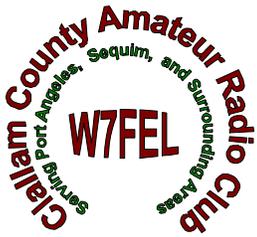


(Fig-2)

This brings us to **Lenz's Law**. Lenz's Law states that *a magnetic field produced by a current in a conductor, opposes the current that produced it*. The opposition is exponential, exactly as it is with the capacitor, but with the current and voltage curves reversed. In an inductive circuit, current **lags** voltage by 90°.



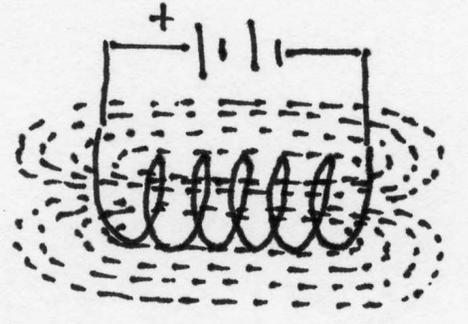
(Fig-3)



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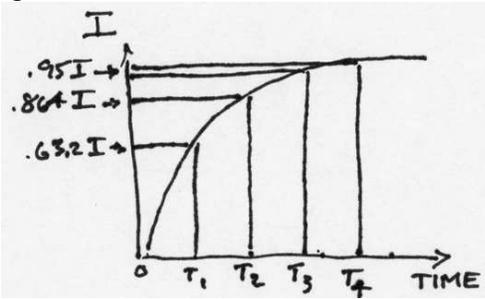
Now, let's wrap the wire into a coil . When current is passed through the coil. A magnetic field is produced about the wire as before but the fields around adjacent turns add together to produce a strong overall magnetic field that extends the whole length of coil. The field can be strengthened and the flux lines concentrated in the core by inserting a permeable material, such as iron.



.(FIG-4)

A coil has a certain amount of inertia. It tries to oppose the flow of current but once current is flowing, it doesn't want it to stop. When the source of current is removed, the magnetic field around the coil starts to collapse but in doing so, it induces a current of it's own in the coil, causing a continuation of the current flow. Another way of looking at it is to consider an inductor as a kind of flywheel, storing energy during a charging cycle and returning it during a discharging cycle. This is an important concept and we'll deal with it further in the unit on resonance.

As with capacitors, inductors in series with resistance exhibit a time constant -- the time it takes the current flowing in an inductor to reach 63.2% of maximum.



(Fig-5)

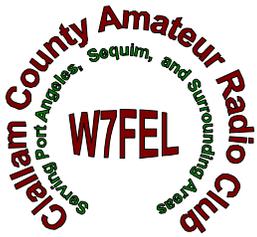
The formula for this is $T = L/R$ where T equals time in seconds, L equals inductance in henries, and R equals resistance in ohms.

Inductors can be placed in series or in parallel. In series, their inductances simply add.

$$L_{\text{result}} = (L_1 + L_2 + L_3, \text{ etc})$$

The formula for inductors in parallel is

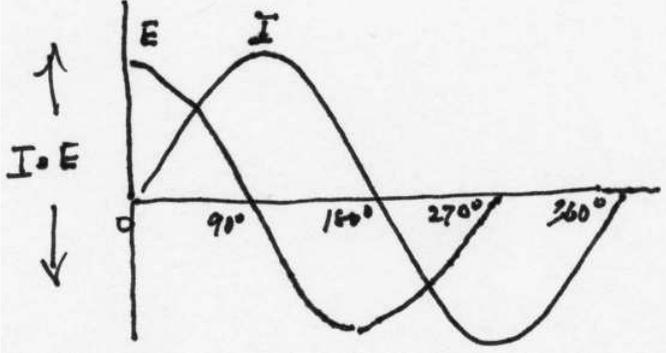
$$1/L_{\text{result}} = (1/L_1 + 1/L_2 + 1/L_3 + 1/L_4, \text{ etc.})$$



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Now let's see what happens when AC is applied to an inductor. Since current in an AC circuit is constantly changing, the magnetic lines of force, (**flux**) in the coil are also changing -- alternately trying to oppose and continue the flow of current in such a way that *current in the coil lags the applied voltage by 90°* This is called **Inductive Reactance**.



(Fig-6)

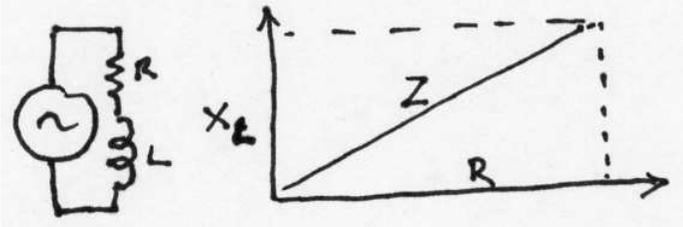
Without going into a lot of mathematical proofs, let me say that inductive reactance is dependent on a number of variables such as the coil diameter and number of turns; the nature of the core and the frequency of the applied voltage, The formula for inductive reactance is $X_L = 2\pi FL$ where X_L = inductive reactance, F = frequency in cycles per second, and L = inductance in henries. From this, you can see that everything else being equal, the reactance becomes greater as frequency increases. Let's take an example. Suppose we have an inductor of .01 henry and a frequency of 25 KHz.. What is the inductive reactance?

Answer: $X_L = (2 \times 3.14 \times 25000 \times .01)$, $X_L = 1570\Omega$

What will the reactance be if the frequency is increased to 100KHz?

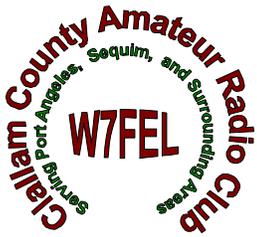
Answer: $X_L = (2 \times 3.14 \times 100000 \times .01)$, $X_L = 6300\Omega$

As always, there is some resistance associated with an electronic circuit or component, so the formula for impedance in an inductive circuit is $Z = \sqrt{R^2 + X_L^2}$. where Z = impedance in ohms, R equals resistance in ohms and X_L = inductive reactance in ohms. The impedance of a circuit consisting of an inductor and a resistor in series can be plotted in a vector diagram, just as we did with a capacitor.



(Fig-7)

Notice that the plot is a mirror image of the plot for capacitance you saw in unit-5. This is because of the phase difference between the currents flowing in the capacitive and inductive

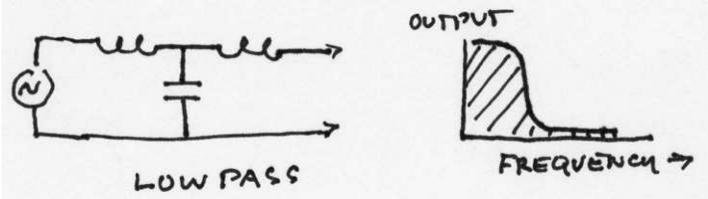


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circuits. In either case, current and voltage are in phase for a pure resistance, so resistance for either a capacitor or an inductor is always plotted on the same horizontal line. This is the universal custom for plotting reactances. It will become clearer when we combine the two in the unit on resonance.

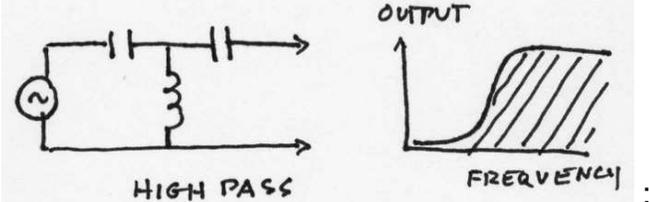
Some useful circuits can be made by combining the reactive characteristics of inductors and capacitors. For instance filters to shape and limit bandwidth can be constructed using just a few carefully chosen inductors and capacitors. A simple **low-pass filter** can be made like this.



(Fig-8)

In this case, the inductors pass low frequency currents but tend to block the flow as frequency is increased. The capacitor behaves in the opposite way, blocking low frequencies but readily passing high frequencies. The result is a filter that passes all frequencies **below** a certain point and blocks higher frequencies.

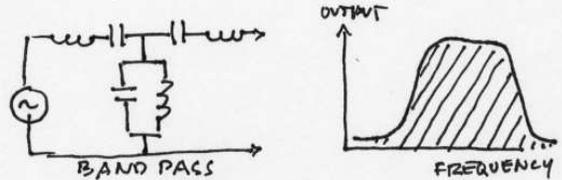
By reversing the position of the components, we can create a **high-pass filter**. In this case, all signals below a certain cutoff frequency are rejected and all frequencies *above* it are passed.



(Fig-9)

As you can see from the discussion above, the capacitors will reject low frequencies but pass higher ones easily. The inductor does the opposite, resulting in a filter that passes only frequencies above a certain value.

By carefully choosing capacitors and inductors and combining them into series/parallel circuits, we can also build a **band-pass filter**.



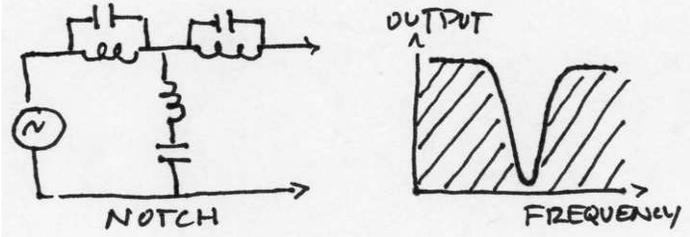
(Fig-10)

By re-arranging the components, we can make it into a **band reject (notch) filter**.



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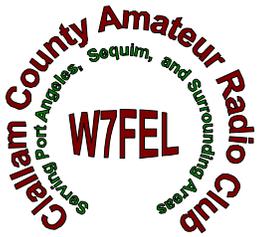
(Fig-11)

In this unit we introduced **inductors** and **inductive reactance** and showed how inductors and capacitors can be combined to produce simple AC filter circuits. In the next unit, we'll explore the concept of **resonance**.

Terms to remember

<p>Inductor Current Flux Henry mH μH Time constant of maximum X_L</p>	<p>Blocks AC, passes DC Lags applied voltage by 90° Magnetic lines of force Unit of Inductance (H) Milihenry Microhenry The time it take for applied current to reach 63.2% Inductive reactance in ohms (Ω)</p>
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Paul Honore' W6IAM

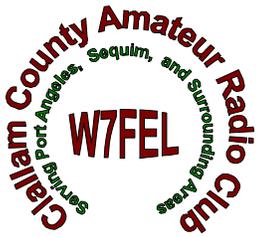


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Field Day 2008 at the Clallam County Fairgrounds... approximately 24 members, family, friends and visitors that turned out at the fair grounds for the 2008 Field Day festivities. The club's Claimed Score was QSO 1360 pts plus 800 bonus pts = 2160.

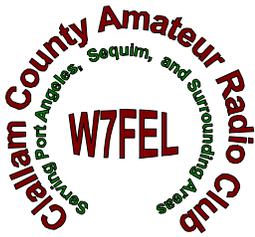


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Annual Pot Luck with Canadian Sort Wave Club from Victoria, BC... Eighteen Canadian friends joined us for our pot luck this year. If you were not there you missed meeting a great group of ham's and their wives and friends.



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Club Spectrum



For 52 years, the Clallam County ARC of Washington and the Victoria Shortwave Club in Victoria, British Columbia, Canada, on Vancouver Island, have celebrated their annual picnics together, each hosting the event in their respective areas on alternate years. The Clallam County ARC is 20 miles south of Victoria, just across the Straits of Juan de Fuca, on the Washington State Olympic Peninsula.

On August 25, 1991, the Victoria Shortwave Club hosted the picnic, which also celebrated its 57th year of activity, and during this festive occasion, members of the Clallam County ARC had the opportunity to visit the Victoria home of Ken McNaughton Raynor, VE7GN, who's celebrating his 80th active year in Amateur Radio and is 94 years old.

Gil Welcker, KL7W (l), and Don Woods, N1ØY (r), of the Clallam County (Washington) ARC presented a lifetime membership award and club cap to Ken McNaughton Rayner, VE7GN, acknowledging his contribution and devotion to Amateur Radio over the years.

Ken, who is originally from England, began hamming in 1911 and received his license in 1912, and has been active since. He operates on 2 meters and on HF QRP with two watts, using 12-volt battery power and a G5RV dipole antenna; he enjoys working DX on SSB. Ken was a member of the Royal Air Force during WWI and served as a fighter-bomber pilot and airborne radio operator. He has a wealth of stories to relate about his experiences in the early days of Amateur Radio. When Ken isn't hamming, he's active with yard work and gardening. (Thanks, Clallam County ARC President Don Woods, N1ØY, Port Angeles, Washington)

98 QST-

The article to the left is a reprint from the October 1992 QST. The annual picnic with the Canadians has been held since 1939.

Please pass this info on to anyone of interest:

Anyone interested in earning an entry level Technician class (Level 1), or a General class (Level 2) Amateur radio license is invited to attend three classes on successive Saturdays, starting Saturday, September 13th and continuing on September 20th at 8:45 AM in the training room at Port Angeles Fire Department, at 5th and Laurel in Port Angeles. The classes run until 5 PM with an hour off for lunch.

On September 27th there will be a review in the morning; the Exam session at 1pm is for all classes of Amateur Radio licenses.

Students will learn Rules and Regulations, Basic Electricity, Operating Amateur Radios, and Radio Frequency Safety.

There is no cost for the class, which is presented by volunteers from Clallam County Amateur Radio Club. The students must purchase an American Radio Relay League "Ham Radio License Manual Level I or The ARRL General Class License Manual at a cost of \$24.95. These books are available from Tom Newcomb, who may be reached at 360-452-8228. The test session costs \$14.00.

Those earning their license will be allowed to communicate with other hams world



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wide, and to participate in the Amateur Radio Emergency Service, an important part of Homeland Security.

For more information, or to *register for the class*, call *Chuck Jones, N7BV*, at 452-4672 or *Tom Newcomb* at 452-8228.

Members of Search and Rescue, The Washington Pilots Association, Neighborhood Watch Community Emergency Response Team (CERT), and other emergency groups are especially invited to attend these classes and earn their ham radio licenses.

Treasures Report

As of August 31st, 2008:

First Federal Savings & Loan of Port Angeles Balance is: \$ 2,308.95

Outstanding

Cheques:

- 0.00

Current Book

Balance:

\$ 2,308.95

CD at WestSound Bank (6-month, 2.50% APY): + 1,025.04

CD at WestSound Bank (18-Month, 5.13% APY):

+ 3,000.00

Total Cash

Assets:

\$ 6,333.99



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Birthdays for September and the first week of October:

Cowen, Stan & Ravel	KI6HCW	Sep-06
Metz, Chuck	W5RFL	Sep-16
Wilson, Kline & Jan Baker-Wilson	W7CNN	Sep-24
Barello, Larry	KC7PLK	Sep-25
Wilson, Robert C. & Doreen (KL1HG)	AL7KK	Sep-28
Fontaine, Maureen	KH6MF	Sep-29
Mabbutt, Gail A.	N7GAM	Oct-03
Lapin, Allen & Lyndee	KD7JTH	Oct-05

YL's Birthdays:

Sampson, Cathy (& Robert F.)	K6MBY	Sep-11
McCarty, Patricia (Michael)	N7MLM	Sep-21



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CLALLAM COUNTY AMATEUR RADIO CLUB Minutes of the General Meeting August 13, 2008

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

The Pledge of Allegiance was given; then introductions were made around.

Chuck announced that our annual get-together with the Canadian Hams is this Sunday, August 17th. We are to meet them at the 12:30 ferry, and take them to St. Andrews Episcopal Church for lunch, and then to the Port Angeles Fine Arts Center's "Arts in the Park."

Chuck reported that at the Seaside Hamfest, Gil W7LG was recognized as the longest continual Ham in the Northwest Region, and he was also recognized for his efforts in Ham radio.

It was also reported by Chuck that the Northwest DX Convention "hopes to do better with clubs".

The Washington State Convention will be held in Spokane.

There was discussion about having the Club's General Meeting minutes available sooner than when published in QTC. No change will be made.

There was discussion about the desirability of having a repeater to link the West End and Port Angeles more directly than what is available.

George KI7JJ, US Coast Guard Auxiliary representative, advised that the local Base Communications Liaison Officer is setting up a response team, and would like to have six Hams to join in and help set it up.

Al W7YLV advised that October 1st, there will be a mass casualty drill, and ARES will be heavily involved. Also, the SET (State Emergency Test) will be held on October 4th.

Chuck N7BV talked about Hams who might want to participate (in emergency responses), encouraging them to volunteer and registering with ARES ahead of any need.

It was announced that a Technician and General level license class will start Sept. 13th, continuing on the 20th and 27th, with testing for all license classes on the 27th.

Johan KO6I wants to have a class started for interested Hams, especially new ones, to do hands-on projects, building kits, etc; likely in Nov. or Dec. Contact Johan if interested.

It was moved and seconded that last months meeting minutes be approved as published. Motion carried.

Matt KC7EQO presented the program, which was a video tour of the MFJ Company facilities, which showed some of their manufacturing methods and other interesting things.

Chuck N7BV explained that some of the programs at the meeting are not necessarily Ham related, due to the difficulty in getting enough presenters, etc. A show of hands indicated that members were OK with continuing on as the Club has been doing.



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After a break, Bob AC7RK said he will start a CW group (possibly a net) doing slow CW on 7030 KHz, Fridays at 10 AM so Hams can learn and grow together.

Another video, showing the Ameritron plant tour was shown by Matt.
Al W7YLV cautioned that high voltage amplifiers can burn out computers in new cars.
At 8:50 it was moved and seconded that the meeting be adjourned. Motion passed.

There were 31 members and guests in attendance.
Minutes by Rich, N7NCN

**CLALLAM COUNTY AMATEUR RADIO CLUB
BOARD OF DIRECTORS MEETING SEPTEMBER 4, 2008**

Board members and officers present: Tom Newcomb KE7XX, Rich Golding N7NCN, Chuck Jones N7BV, and David McCoy KE7JEJ. Bill Carter W7WEC participated by speaker phone. Visitor present: Shirley Newcomb.

The meeting was called to order at 1:52 PM by Tom Newcomb, Board President.

Batteries are needed for the backup system for the Club's Web Server. Funds had been approved previously.

There was discussion about upgrading the Club's repeater capabilities at Striped Peak, possibly linking W7FEL with other repeater(s) in the future. A controller with more ports would be needed. It is felt we should look into the possibilities and costs. It was also noted that Dean Wilson at DNR suggested the club think about using a new (future) DNR installation at Ellis or North Point.

A motion was made: Moved that the club research the cost of an upgraded controller for the Striped Peak repeater. Motion was seconded and carried.

Another motion: Moved that we contact DNR and do further research concerning additional access and possible site rental at a new DNR installation at North Point or Ellis, and if necessary, spend up to \$200 dollars to reserve space.
Motion was seconded and carried.

It was suggested that a committee be formed to deal with these repeater matters. This will be brought up at the next General Meeting and volunteers asked for, and/or appointments made.

It was moved, seconded and passed, to adjourn the meeting. Adjourned at 2:13 PM

Minutes by Rich Golding

National Weather Service "SKYWARN"

WEATHER SPOTTER CLASS



Wednesday, December 3

Port Townsend Fire Station
Lawrence & Harrison, Port Townsend

6:30 pm to 9:00 pm

Skywarn weather spotters are needed in Jefferson county, particularly in rural areas. The National Weather Service will train new or veteran spotters, including interested citizens, amateur radio, CERT, neighborhood preparedness groups, law enforcement, fire/EMS, Emergency Management, etc. on **how to look for, recognize, and report significant weather events**. Training includes video demonstrations and instruction by NWS experts.

If you are planning to attend this class, **please RSVP** so an appropriate number of handout materials can be on hand. Class is limited, so please sign up early.

TO RSVP: Email jcdem@co.jefferson.wa.us
or call 360.385.9368



Presented by:
National Weather Service
Sponsored by:
Jefferson County Emergency Management

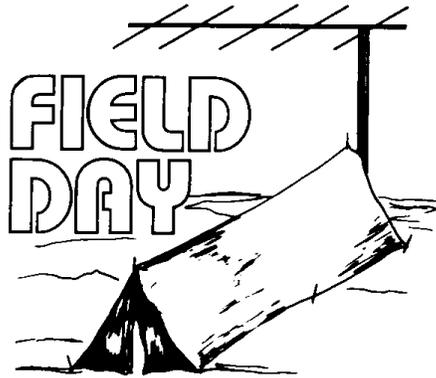


Become a weather spotter - There is no charge for this class

For more information about SKYWARN go to www.jeffcoeoc.org

S.P.A.R. *Society for the Preservation of Amateur Radio*

www.spar-hams.org



WINTER FIELD DAY 2009

January 24th & 25th

12 Noon Saturday until 12 Noon Sunday

Field Day is perhaps the most popular of the many activities enjoyed by Amateurs. Every June the bands come alive with improvised signals proving the ability to respond to emergencies. The event also offers an opportunity for camaraderie and a chance to test ourselves in less than ideal circumstances, however, emergencies and natural disasters don't always happen in the summer. Winter winds, icy limbs and bitter cold replace the thunderstorms and blistering heat of summer. To test our abilities to operate in the winter, in 2007 SPAR established a Winter Field Day event and invited all Amateur Radio operators to participate. The event was enjoyed by many and considered a success. Therefore it is time to issue the invitation for the Third Annual SPAR Winter Field Day!

The official rules can be found at [the SPAR web site](#). The event is open to all amateurs, although we encourage everyone to join in the discussions and other activities sponsored by SPAR. Information about SPAR can be found on the [SPAR Home Page](#). Membership is free and open to all amateurs who want to encourage technical and operating skills. You can register by going to the [SPAR Forum](#) and registering, using your amateur callsign as your user name.

Please join with SPAR in promoting amateur radio and keeping our bands alive!