

CLALLAM COUNTY Amateur Radio Club



DRT's Shack:

Hi Members,

With June here, and Field Day in just a few short weeks, it's been quite surprising at all the activities we've been busy with to make it a fun, productive week end, so plan on coming out to the Fair Grounds on 26 June, 11AM, to help get this once a year contest set up and on the air! The ARRL Field Day gets more Amateurs out of their cozy shacks and into tents then any other event all year. It's always so nice to see those who can't come to the monthly meetings or social breakfast, so hopefully we'll be graced with your presence. You may not be operating from a tent, hospital, or even the EOC after a disaster, but the training we all receive is invaluable.

Friday morning, we move onto the Fair Grounds with a vengeance, setting up the tents, pounding in ground rods, laying out coax, wires, testing antenna's, radios, and there's plenty for all to help with. I have pink ribbon, just in case we may need it...By the time we're ready to test that first transmission, PIZZA shows up, with a much needed break awaiting us. Again, we'll be having Ernie's famous pizza, W7EWG, from BBQ garlic chicken pizza to the whole 9 yards. Can't miss Friday night. Saturday as well. THX Ernie!

Matt, KC7EQO, is our Field Day Committee Leader, who has held several meetings to work out all the wrinkles, and I'm sure he'll find a few yet. He and Brenda, KE7HZC, and AI, KE7TFK, have worked hard with his team in bringing this all together. Still some obstacles, like needing tents, a pair of trailer jacks, generators, painting signs, so if you think you can help him find what he needs, please give him a call or an e-mail, as I'm sure there's something to do to help make this one very fun and exciting Field Day.

His plan is to be a 3A. The GOTA tent is needing operators, so new members, here's your chance to start easy, to chase after your first FD contact. Tom, KE7XX and Rik, WX7RIK, will be manning this, and training others as well. This is a fun one for the younger generation to make a contact on, earn a pin, moving into the Ham world in an easy, comfortable way. If you're looking for that first "contest", this is a great station to be in.

Then it's time...11AM Saturday morning. The clock starts ticking, and we go fast! New York, Florida, Tennessee, Texas, the Dakota's, all the way we follow that band, changing frequencies as needed, and stop only if we have to. It's fun, fast, friendly and our future, to a Club that just keeps growing, because it's what we do. Communicate. Our past time. Our hobby, our passion. As President, I hope all come out to enjoy this very special time.

73, and thank you for the space...where have I heard that?? See you on the air!! Nita~KE7DRT

Get Your License Here!

Our next planned Training classes and Exam is in September.

If you know of someone, or want to upgrade before then please call Chuck, N7BV 360-452-4672 or Tom, KE7XX 360-452-8228.

Thanks, Chuck, N7BV VE-L

The Pacific Northwest DX Convention has been held each summer since 1955 with the sponsorship rotating between the Willamette Valley DX Club (WVDXC), British Columbia DX Club (BCDXC), and the Western Washington DX Club (WWDXC). The Spokane DX Association (SDXA) was added to the rotation in 2007. The privilege of hosting the 54th annual DX Convention rests with the Spokane DX Association.

The convention will be held the weekend of August 7-9, 2009 in Spokane Valley, WA at the Mirabeau Park Hotel and Convention Center. The convention has been approved as an ARRL Operating Specialty Convention under the sponsorship of the Spokane DX Association. See more detail at our website:

http://mysite.verizon.net/rbfoltz/sdxa/index.htm

We need articles for the QTC newsletter. This is 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 less we have to think of.

Thanks, the staff!

CCARC QTC Newsletter

Just a little back round on the QTC.

We use ccarcqtc@yahoo.com as a repository for information for the newsletter. So if you have something for the QTC, please send it to the yahoo address. Do not sent it to one of the editors as they will just have to turn around and resend it to the yahoo address.

Please make sure the article or information is complete. As we rotate editing the newsletter you cannot be sure which editor will be piecing the newsletter together.

Please remove as much formatting from within whatever program you are using (MSword, edit, clear, formatting) if you know how, before sending it to ccarcqtc. If you feel the creative urge to design a document—please open a design shop, but don't do it and then send it to us expecting to see your creative work transferred to the newsletter.

We do not edit, except to change fonts to a standard nonserf font (Arial which is easer to read than Times Roman). We will run a spell checker.

When first conceived the editors were given free license, it still is that way. It was understood they would endeavor to include everything submitted, within reason. For instance, off color jokes etc are not going to be printed.

Thanks, Chuck, N7BV & Bob K6MBY

PROGRAM FOR <u>10 June</u>

Field Day 2009

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.

ARRL FIELD DAY TIPS AND TECHNIQUES THAT EVERYONE CAN USE

From The ARRL Letter, Vol 28, No 21 (Friday, May 29, 2009)

"Many amateurs treat ARRL Field Day (June 27-28) as a contest, even though it isn't one http:// www.arrl.org/fieldday. But if your idea of Field Day fun is to go for the highest score possible, ARRL Contest Branch Manager Sean Kutzko, KX9X, offered the following suggestions at the ARRL Field Day Forum at the 2009 Dayton Hamvention.

1) You will get many more stations in your log by calling CQ than by tuning the dial and answering CQs; however, if you're calling CQ and not getting any replies, keep calling. Most major contesters call CQ for several minutes at a time before giving up. Giving up after three or four CQs is giving up too soon.

2) Keep your CQs short and to the point: "CQ Field Day, CQ Field Day, Whiskey-One-Alfa-Whiskey, Field Day." Wait about 5 seconds between CQs -- this gives stations enough time to answer you.

3) Use standard phonetics. "Cute" phonetics don't always get through and they can confuse newer operators.

4) When working a station, you should give your exchange information only once and keep it simple. "Whiskey-One-Alfa-Whiskey, copy three Foxtrot Connecticut, QSL?" If they didn't get all of the exchange, they will ask for a repeat.

5) If you are running a pileup: Once you have pulled a call out of the pileup, give your exchange information first. Here's an example: "Whiskey-One-Alfa-Whiskey, copy 3F Connecticut, QSL?" Don't ask for the calling station's information first -- this will reduce any sense of rhythm and timing in the pileup.

6) If you get a pileup of stations and can't make out an entire call, listen for one letter and ask for it specifically: "The station with Delta only, go ahead."

7) When you get the other station's information, keep your acknowledgment simple. "QSL, thanks, QRZ Field Day from Whiskey-One-Alfa-Whiskey."

8) Find a comfortable pace for you and maintain that pace. You will tire quickly if you are screaming into the microphone or trying to work stations too quickly. This leads to inefficiency.

9) Use a headset with a boom microphone and a foot switch -- this frees up your hands to log QSO's. Writing or typing with a mike in your hand slows you down.

10) Go for as many bonus points as you possibly can. Numerous opportunities exist, from copying the Field Day message to sending traffic to using natural power for QSO's.

These tips should help maximize your score on Field Day. Remember: No matter how you choose to enjoy Field Day, maximize your fun, however you define it."

Submitted Chuck N7BV

Electronic Fundamentals, Part-1 (Analog Circuits) Unit-15 The oscilloscope

Oscilloscopes vary from model to model and from manufacturer to manufacturer but regardless of make or model, oscilloscopes are among the most useful of test instruments. They can graphically display and measure AC and DC voltages and the timing and frequency of events and waveforms. In short, they can tell you a lot about what is going on in a circuit and whether or not it is working "up to snuff."

There are so many different oscilloscopes on the market that I can't begin to describe them all. Tektronix is the standard against which all others seem to be compared so I'll use the model 503 as an example. Your scope may or may not have the same features as the 503 but the basic operation is similar.



(Fig 15-1)

A CRT oscilloscope uses an electron beam to energize the atoms in a phosphorescent screen to produce a dot of light. By electrostatically deflecting the electron beam between horizontal and vertical "plates" within the CRT, the dot of light can be made to trace a waveform and present it as a visual image. To this end, the dot must be focused on the phosphor and it's brightness controlled so as to produce a discernable image without burning the screen. The two knobs at the upper left hand corner of the 503 control the beam **focus** and **intensity**. It's best to start with the intensity control at minimum and then gradually increase it until the dot is visible but not too bright. Don't allow he spot to remain in the same position on the screen for long and NEVER allow the intensity to become so bright that the spot "blooms" into a halo. Under these conditions phosphor damage is certain to occur.

The **scale illumination** knob just to the right of the intensity control adjusts voltage to a pair of lamp bulbs at the edge of a plastic **graticle** on which a grid of 1 cm squares is etched. The grid is a reference by which voltage and time measurements can be made.

The remainder of the controls to the left of the screen affect the vertical deflection of the electron beam. The **position** knob determines the point on the grid that will be the reference for voltage or waveform measurements. For instance, If you place the dot of light on the bottom-most grid line, that will be the zero or reference line from which signals are displayed. The **DC balance** control is used, along with the **sensitivity** control to zero out any offset in the vertical amplifier. The primary function of the sensitivity control is to set the gain of the vertical amplifier. It is cali-

brated in **volts per cm.** For instance, at a setting of 10 mV per cm, a signal of 10 mV will deflect exactly 1 cm on the graticle.

To zero the amplifier offset, set the **sensitivity** control to it's most sensitive setting and note the position of the beam. Next, set the **sensitivity** control to the least sensitive setting and use the **DC balance** control to return the beam to its original position.

The 503 has two vertical inputs, (+) and (-). They can be selected for AC or DC coupling or individually grounded when not in use.

At the far right, are an identical set of controls for the horizontal amplifier. This allows independent inputs for vertical and horizontal signals, for instance to create a lisijous figure to zero beat signals. Not every scope has this feature but you'll find it useful if yours has it.

The two large **sweep time** and **horizontal display** knobs between the screen and the horizontal amplifier controls determine the time it takes for the beam to sweep from left to right across the screen, allowing you to view waveforms in detail and to measure events with respect to time. The controls grouped at the upper right hand corner of the "scope" determine how the sweep will be triggered -- **internally**, from the saw tooth generator that initiates the sweep, or from an **external** source. This allows you to decide at which precise point on a waveform the sweep time will begin.

Now, let's see how all this can be used in practice. The first step is to set the beam **intensity** control to minimum and the trigger controls to **internal** and **free-run**. Switch on the "scope" and let it warm up for a few minutes, then gradually increase the beam intensity until it becomes visible but not over-bright. With these settings, it should appear to sweep horizontally across the screen at a rate determined by the **sweep time** control. For initial setup, it's best to use a fast sweep so the beam appears as a continuous line across the screen. **Focus** the beam and use the **DC balance** control to zero out any vertical amplifier offset as described earlier. Use the vertical **position** control to place the beam at the center of the graticle.



(Fig 15-2)

You are now ready to observe a signal on the oscilloscope. Let's suppose you want to check the linearity and frequency response of an audio amplifier. Begin by connecting the amplifier output to the vertical **input** of the "scope". Initially, the input should be switched to AC so that the signal is capacitively coupled to the "scope". Either input will do but be sure to ground the unused input to prevent stray signals from affecting your measurements. (I'm assuming, also, that the amplifier is connected to a normal load -- a loudspeaker or equivalent so that it behaves the way it is designed to.)



(Fig 15-3)

Connect a signal generator to the amplifier input and set it for a sine-wave output of about 1000 Hz as a reference. Adjust the generator output so that the signal does not overload the amplifier. You should now see a visual representation of the sine wave on the oscilloscope screen. Adjust the **sweep time** control so that at least two complete waves are visible on the screen and adjust the vertical **sensitivity** control to obtain an image that is within the limits of the graticle. You may have to adjust the trigger **level** to provide a stable, jitter free picture.

To measure amplifier gain, compare the peak-to-peak signal output to a peak-to-peak signal at the input. For instance, if the vertical amplifier sensitivity is set to 1V/ cm and the peak-to-peak signal reads 3cm on the graticle, it represents an amplifier output of 3V. Now, without changing anything, connect the scope to the amplifier input. If the input signal only reaches 1.5 cm peak-to-peak, the amplifier has a gain of 2, (or 3dB).

To measure frequency response, vary the signal generator from a few Hz to several Khz and note the low and high frequency points where the signal amplitude begins to decrease.

To check for linearity, increase the signal generator output until the waveform at the amplifier output begins to distort. A perfectly linear amplifier should reach saturation and cutoff at about the same time.



(Fig 15-4)

Harmonic distortion and the like, can be checked by substituting a square-wave for a sine wave at the amplifier input.

To measure the frequency of an unknown signal, simply display at least one full waveform on the screen and see how many cm it covers on the graticle. For instance, a display showing 12 full wavelengths from end-to-end of the graticle with the sweep time set for 0.2 second per cm would measure 0.2X10X12= 24Hz. In the same way, rise and fall times of pulses and shaped waves can be measured.

To measure DC voltages, switch the trigger to **auto** and the sweep time to a high rate in order to produce a continuous sweep of the beam. Switch the input to **DC** and connect the **input** to the voltage you want to measure. The beam will be deflected upward or downward depending on the voltage polarity. The amount of deflection, in cm, on the graticle can be measured directly by the setting of the vertical **sensitivity** control. For instance with a sensitivity setting of 2V per cm, a downward beam deflection of 3.5 cm would read 2X3.5 = -7V. An upward deflection of 4 cm would be 4X2 = +8V.



(Fig 15-5)

So you see, a well calibrated oscilloscope can double for a whole shop full of test instruments and is well worth the investment. Even an un-calibrated low cost oscilloscope can be useful as it can display a great deal of graphic information about what is going on in a circuit.

All this, pre-supposes you are using an analog oscilloscope to make your measurements. If you are using a digital oscilloscope, you will experience a time delay between the event being measured and the presentation on the screen. This can not only be annoying but it can radically affect your measurements. On the other hand, a digital scope will allow the image to be stored and replayed and it's ideal for "capturing" extremely short duration events for analysis. Another factor in favor of a digital 'scope is low cost, and the fact that many digital 'scopes use a laptop or PC for their visual presentation. This puts the digital oscilloscope within reach of almost everyone and I highly recommend one as an indispensable tool for your ham shack.

In this unit, I've described the operation and use of the oscilloscope. In the next unit, we'll look at transmitters and modulation techniques.

Paul Honore' W6IAM (rev-2 May '09)

Date: Sat, 30 May 2009 09:54:33 -0400 (EDT) Subject: [TowerTalk] Solar Cycle Peak Forecast for May 2013

The latest forecast by an international panel lead by NOAA's Space Weather Prediction Center (SWPC) revises its 2007 prediction.

According to the new forecast, the sun should remain generally calm for at least another year. The solar cycle is now in a deep valley -- the deepest of the past century. In 2008 and 2009, the sun set Space Age records for low sunspot counts, weak solar wind, and low solar irradiance. The sun has gone more than two years without a significant solar flare.

The panel predicts that Solar Cycle 24 will peak in four years on May 2013 with a sunspot number of 90, the lowest of any cycle since 1928 when Solar Cycle 16 peaked at 78.

Meanwhile, the sun pays little heed to human committees. There could be more surprises, panelists acknowledge, and more revisions to the forecast. "Go ahead and mark your calendar for May 2013," says Dean Pesnell of the Goddard Space Flight Center, NASA's lead representative on the panel, "But use a pencil..."

In recent months the sun has begun to show timid signs of life. Small sunspots and "proto-sunspots" are popping up with increasing frequency. Enormous currents of plasma on the sun's surface ("zonal flows") are gaining strength and slowly drifting toward the sun's equator. Radio astronomers have detected a tiny but significant uptick in solar radio emissions. All these things are precursors of an awakening Solar Cycle 24 and form the basis for the panel's new, almost unanimous forecast.

http://science.nasa.gov/headlines/y2009/images/noaaprediction/prediction_strip2.jpg http://science.nasa.gov/headlines/y2009/29may_noaaprediction.htm?list69914

Safety Fair At Roosevelt School-Port Angeles











Photo's courtesy of Becky, W7RJW

Electronic Fundamentals Part-2 (*Digital Circuits*) Unit-4 (Shift Registers)

So far, we've shown the basic building blocks to handle individual **bits** of information but we can cascade these devices to build **shift registers** to store very large numbers. Digital circuits use two different methods of routing information. They are **serial** and **parallel**. To route information serially, numbers are transmitted sequentially along a single line. In parallel routing, a separate line is used to transmit each individual bit of a character. We'll see how this works in later units but, for now, let's concentrate on the **shift registers** themselves. There are four basic types. **serial in-serial out, serial in-parallel out, parallel in-serial out,** and **parallel in-parallel out.**

We can cascade D flip-flops to build a serial in-serial out shift register. We'll need one flip-flop for each bit of information. For instance, to handle a four bit "nibble" (1001), for the decimal number 9 (we'll need four flip-flops.



Fig 4-1

They are arranged so that data is input to the first flip-flop in the row. The output of the first flipflop is fed to the input of the second flip-flop, and so on. For each successive clock pulse, the data is shifted down the line until all four flip-flops are "filled". with the binary number 1001



Fig 4-2

If the clock pulses are interrupted, the binary number will remain in the shift register. When the clock pulses resume, the number is transferred out of the string, one bit at a time, the same way it was input.

Clallam County Amateur Radio Club QTC June 09



A signal to the **CLEAR** the flip-flops will destroy any memory and reset them to "0". A similar cascade of flip-flops will produce a serial in-parallel out register.



Fig 4-4

Data are input in serial format as before but output is on a separate line for each bit of data. Once all four flip-flops are "loaded", the entire binary number is available on the output lines.

For a parallel in-parallel out register, the flip flops are simply used independently to store individual bits of information.



Fig 4-5

Making a parallel input-serial output register is a bit trickier. Flip-flops are still used as the storage elements but data input must be routed through NAND gates to affect a serial loading of the data.

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Fig 4-6

In this application, a WRITE/SHIFT line is set at zero VDC. Parallel data is loaded directly into the first flip=flop and through NAND gates to the remaining flip-flops. The WRIE/SHIFT line is then raised to 5VDC and, upon receipt of clock pulses, the data shifts to the right, one step for each pulse.

There is no end to the possible variations and circuits can get quite complicated but, not to worry. Silicon Valley has come to the rescue with a huge variety of standard off-the shelf shift registers that can be applied to any conceivable application. For example, here's a commercial 74f575 16-bit chip that can be used as a serial input-serial output or a serial input-parallel output register with all necessary gates included. It measures just over an inch in length and a half inch across.



Fig 4-7

Pins 12 and 24 are for DC power to operate the chip. Pin 1 (CS) is a "Chip Select" input, used to address data to a specific chip in an array. Pin 2 (SHCP) is a clock input that triggers the chip on the falling slope of the clock pulse. Pin 3 (STCP) is another clock input that triggers on the leading slope of the clock pulse. Only one of these inputs is used, depending on the timing requirements of the application. Pin 4 (SI) is the serial data input. Pin 6 (SO) is the serial data

output. Pins 7 through 11 and 13 through 23 are parallel data outputs.

In this unit we've seen how data are stored using shift registers. In the next unit we'll see how the data are transferred within a circuit or between digital devices using serial and parallel bus lines

Terms to remember

Clock Master timing pulse generator Parallel data Individual bits of binary data transmitted simultaneously via dedicated lines Serial data Bits of binary data transmitted sequentially via a single line

Paul Honore' W6IAM

(Rev-1 April '09)

Am I covered with rue! Dennis, AD7TV, informs me that the diagram, (FIG 3-6) in Electronic Fundamentals, Part-2, May QTC, is wrong and won't work. Instead of AND gates, as shown, the circuit should be made from NAND gates, and should look like this -- (Fig 3-6 rev-1). It just goes to show that techno-fossils like me should tread carefully through the minefield of this new fangled digital stuff!

Paul Honore' W6IAM

FOR SALE OR TRADE

FOR SALE: ICOM IC-211 Synthesized Xceiver 2 Mtr SSB, FM, CW 10W. Jim Cloud WA7LDM 457-9299

Your Ad Could Go Here

FROM OUR TREASURER:

As of May 31st, 2009:

Current Checkbook Balance:	\$ 7,648.61
Outstanding Cheques:	- 537.50
First Federal Savings & Loan of Port Angeles Balance:	\$ 8,186.11

The CD's at WestSound Bank matured on May 17th and 18thand were closed out. The interest yielded was \$54.81 and \$230.79, respectively for the 6-month and 18-month instruments. The total Interest Earned on these was \$285.60. Both the Principal and Interest were deposited in to the FFSL checking account until a further investment decision is made by the Board.

David R. McCoy, KE7JEJ --- . ---- . .---CC-ARC Treasurer



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COMING EVENTS

1 Jul 2009 Swap meet & Auction Chehalis Valley Amateur Radio Society http://www.cvars.org

HAMFEST: 8 Aug 2009+Radio Club of Tacoma http://W7DK.org

> 7-9 Aug 2009 54th Annual Pacific Northwest DX Convention Spokane DX Association http://www.sdxa.org

CLALLAM COUNTY RADIO CLUB Minutes of the General Meeting May 13, 2009

The meeting was called to order at 7:00 P.M. by club president, Nita, KE7DRT.

The Pledge of Allegiance was given.

Self introductions were made by those present.

UPDATE ON FIELD DAY from Matt Lawson, KC7EQO:

We had a meeting on Sunday to get everything in order. I am going to the Fairgrounds to measure the exact site and make a more accurate map than we had last year. We ran 5 alpha last year which was the biggest we have ever done. Typically we do 2 or 3. This year we are going to focus on what we do well. I have a full satellite tracking station that can run all the time and not count toward the total. We do not have a CW station yet and we also still need VHF and UHF. That's what we have at the moment.

DISCUSSION:

Rik Scairpon, WX7RIK, and Tom Newcomb, KE7XX, will do the GOTA station. We will try to set up for non-interference by having dipoles end to end. Matt wants to put up a 160 meter dipole for night time to take advantage of the propagation. Chuck Jones, N7BV, gave Matt a list of club property at the last meeting. The only club tent at the last Field Day was the GOTA tent. All the others were private property.

Friday and Saturday nights the food will be pizza. Ernie. W7EWG, is OK with both nights. We will have some food during the day; maybe make food runs to fast food places.

We will have signs directing the public to the Fairgrounds and public service announcements on local radio. Inside the Fairgrounds, we will have informational brochures and signs on the individual stations describing what is going on.

The governor has already issued a proclamation of Ham Radio week. We still need them from the county and cities. ROOSEVELT SCHOOL SAFETY DAY: AI Dawson,W7YLV, gave a report: There were a series of demonstrations by public safely agencies held on the football field. In addition to ARES, there were units from the Bomb Squad. Fire, Sheriff, Search and Rescue, and Police Departments, and the Public Utilities Department. Kids came out in groups. The first and second graders were attentive and talked to Tom Newcomb (who was at home) on HTs. Nita made "call sign" stick on labels for the kids who talked on the radio. They all began with RS7 and ended with the kid's own initials. Starting with the 4th graders, there were problems with inattention so we changed format to seminar type presentations which went very well. Next year we will get together and develop a script.

VOTE ON CHANGING THE MEETING PLACE: After the break, it was moved and seconded that we vote on whether or not to change our regular monthly meeting place from the Fire Department to the Linkletter Room. The vote was 15 for making the change and 5 against it. Therefore, the regular monthly business meetings will be held at the hospital, in the Linkletter Room.

SPEAKER:

The speaker was Bob Kennedy who displayed a portable camping antenna he made.

Lee, KE7TTY CCARC Secretary

Clallam County Amateur Radio Emergency Service (CCARES)

Awaiting updated information

Clallam County Amateur Radio Club QTC June 09

NEXT YL LUNCHEON

June 12th Mariner in Sequim

Time: 11:45 a.m.

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

2009 YL Luncheons:

June - Mariner - 707 E. Washington - Sequim July - Joshuas - 113 DelGuzzi Dr. - Port Angeles August - Tarcisios - 609 W. Washington - Sequim September - Sergios - 205 E. 8th - Port Angeles October - Fortune Star -145 E. Washington - Sequim November - Chestnut Cottage - 929 E. Front - PA December - Paradise - 703 S. Sequim Ave. - Sequim

Description	Time/Date	Location	Contact
Clallam County ARES/RACES meeting	7 pm, first Tue of every month	Clallam County Courthouse EOC, 223 E. 4 th St., PA	Dan Abbott N7DWA 360-582-3824
Clallam County Amateur Radio Club general meeting	7 pm, second Wed of every month	Port Angeles Fire Station 5 th & 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 Country Amateur Radio Club YL social lunch	11:45 am 2d Fri of every month	Rotates - announced on Thursday night Net	

CLUB OFFICERS For 2009

President: Nita Lyman KE7DRT 360-457-5022 Nita_lyman@yahoo.com *Vice President:* Dennis Tilton AD7TV 360-452-1217 3tiltons@wavecable.com *Secretary:* Lee Diemer KE7TTY 360-683-5102 pathfindernorth@aol.com *Treasurer:* David McCoy KE7JEJ 360-457-8550 mccoy.d.r@olypen.com *Board Member* (Chairman): Bill Carter W7WEC 360-6814375 w7wec@arrl.net *Board Member:* Johan Van Nimwegen KO6I 360-681-7300 jvn@olypen.com *Board Member:* Al Dawson W7YLV 360-457-0752 adawson@tfon.com