JANUARY 2017

QTC

CLALLAM COUNTY AMATEUR RADIO CLUB

There will be a board meeting at 6 pm just before the general meeting at 7 pm this Wednesday January 11, 2017
all board meetings are open to the general membership

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A 'Mind Bender'

SUBMITTED BY GLEN, WA6RQW:

Start with a two letter word signifying gender.

Add one letter to change that gender.

Add another letter to change back to the first gender.

Add three letters to change the first gender back to the second gender.

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THE CHRISTMAS DINNER LAST DECEMBER WAS A SUCCESS THANKS TO SHELDON KOEHLER N7XEI WHO IS OUR OUTGOING CHAIRMAN OF THE BOARD, INCOMING TREASURER, AND THANKFULLY REMAINING CAMP COOK. THANK YOU SHELDON!

Mike KC7KVR is taking orders for the Arrow OSJ 1 46/440 2m / 440 dual band J-Pole antenna.
If he can get orders for 1 0 units, we can get them for only $40.50 each, shipping included.
These are exceptionally well built and will last for years. No, they are not flexible, and are really made to mount on a pole or railing.
See: http://www.arrowantennas.com/osj/j-pole.html
If you want one, get in touch with Mike: garagesailor@live.com
73 de Steve N1 SB
(Yes, I am getting one...)

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QRP – What is it and what's it all about?

Steve Baranowski N1SB

You may have heard the term "QRP" in Ham conversations or seen it in articles or advertisements, and yet you may not know where it came from and what it means today.

First of all, the term "QRP" is one of a set of "Q Signals" that have their origin, according to one source, at the Radiotelegraph Convention held in London, 1912. To quote Wikipedia, "The original Q codes were created, *circa* 1909, by the British government as a "list of abbreviations... prepared for the use of British ships and coast stations licensed by the Postmaster General". The Q codes facilitated communication between maritime radio operators speaking different languages, so they were soon adopted internationally. A total of forty-five Q codes appeared in the "List of Abbreviations to be used in Radio Communications", which was included in the Service Regulations affixed to the Third International Radiotelegraph Convention in London (The Convention was signed on July 5, 1912, and became effective July 1, 1913.)"

The specific definition of "QRP?" from all of the charts is "Shall I decrease power?," and without the question mark, means "Decrease Power." You are not likely to hear "QRP" use in either context these days where we routinely set-and-forget the power levels of our transceivers.

The term "QRP" now has a colloquial definition that does come from original meaning and with expanded inferences.

When you see an article or reference to QRP, you are seeing either a discussion of equipment designed or often home-built that has a maximum power output of five watts, or operating practices and activities that involve transmitters limited to five watts or less.

Most commercially built HF transceivers can run at reduced power levels, often without any internal adjustments. Look in your operator's manual and see how easy it is. If your particular rig requires some adjustments beyond your understanding, ask another ham for guidance and assistance. As a side note, there are QRP operators working every day on VHF – better known as 2 meters – Those FM handy-talkies that we carry transmit at less than five watts, so you are already operating QRP! There are other options for running QRP on 2 meters, and yes, hams do use CW and SSB direct for QRP VHF and UHF contacts, too.

There is another category of QRP equipment for the technically inclined, including kits ranging from the simple CW single band transceivers up to some very sophisticated all band all mode radios.
On the simple "kit" end, there is a plethora of options, and rather than repeating them here, I'll point you to http://www.qrptransceiver.com/ which contains more information than you can absorb in a week! The fun part is that these radios can be very inexpensive and at the low end, relatively simple to construct. If you know your way around a soldering iron and can follow instructions, you can experience the thrill of making a radio and putting it on the air and making contacts with something you built with your own hands. Some of the more sophisticated kits actually have some of the soldering of chips and surface mounted parts done for you. Shop around and don't fail to ask your Ham friends for advice and assistance.

There is a large and healthy community of Hams throughout the world who operate QRP in contests and other activities designed around low power operation. These events take place primarily on HF frequencies but often include VHF, UHF and beyond. These Hams enjoy the challenge of working just about anyone they hear with the power level of a nightlight. To be sure, it is not for the faint of heart; when conditions are marginal, QRP operating can be a lot of work. When conditions are good, however, you can get a real kick out of working around the world. Don't fret if you have a Technician license! If you can do CW, you can operate on the standard QRP operating frequencies on 80 meters, 40 meters, and 15 meters. If CW isn't in your toolbox, you can operate QRP CW and Phone and Digital on 10 meters and 6 meters - - and you can have the most amazing results!

Now more about those communities. The web site: http://www.qrparci.org/links/qrp-clubs-and-groups will give you plenty of places to look and web pages to explore. Over the years I have belonged to a few of these groups and some groups that have gone away. Most tend to be very informal and are designed to help and encourage QRP operating and projects. Some have their own publications and sponsor on-the-air events year-round. Many of those events are for CW operators, and for those who are not code operators, there are plenty of options. Just about every big US and International radio contests now have special categories for QRP stations. It's fun to go up against the "Big Guns" with your well-crafted and accurately aimed "Pea Shooter." Many of the QRP operators will tell you that operating skills will outperform power, and it is true that your skills will need to be honed to operate in the major contests.

Yet another endearing aspect of QRP operating to a direct result of low power operating – the radios are small and light and don't require big, heavy batteries or power supplies. Thus, they are perfect for your camping, hiking, RVing, back-packing, and other activities away from your home station. Light weight and simple antennas is another attractive aspect; you can use a small tuner and a piece of wire and work numerous stations around the world. Yes, I've done it from a tent and from campgrounds and I was continuously amazed at how many contacts I was able to make.

I also used QRP and stealthy antennas when I lived in condos in Florida and North Carolina. I was able to make dozens and dozens of contacts and participate in weekly nets without disturbing neither the HOA, nor my neighbors, nor my Ex. There are books and articles on "stealth" operations covering equipment and antennas and if that appeals to you, or if you have external limitations that cramp your Ham Radio operating, take a long look at QRP. It might be your way to stay on the air. If you have no such restrictions, QRP could be a new experience for your Ham Radio life.

Here is a link for current "Q" codes: http://www.kloth.net/radio/qcodes.php#qra

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***The following is a write up from Glen Muir, WA6RQW , as per request, based on his highly informative presentation at the last December 2016 meeting, enjoy*:**

Getting started

Basic test equipment – what to have and how to use it.

The day will come when that annoying little pink – drum playing -- *wabbit* will quit running.

The day will come when you flip the switch on your rig and nothing happens.

The day will come when you will learn to appreciate that VOM that has been gathering dust in a desk drawer.

VOM – 'Old' vs New

By 'old' we are referring to the original analog units with a D'Arsonval type meter movement. ***Caution*** was the word of the day when connecting the test leads to the Device Under Test (DUT) – correct polarity of the test leads and pre setting of the 'Range' and 'Mode' switches were imperative – failure to do so and the precious VOM became an 'electric motor' – and it would be turning in the *wrong direction* ! ! These early mainstays were very simple in theory – a ***D.C.*** micro amp meter in series with a current limiting resistor -- the 'range' switch setting the over all *ohms/volt* for the instrument. Care must be taken in measuring high D.C. Resistance – DCR -- circuits as older VOM's would introduce errors in measurements due to their low internal resistance.

'New' digital VOM's have input impedances up the 100's of Meg. Ohms thus eliminating their loading effects on high Z circuits. The newer instruments also offer many extra measuring capabilities not seen on their predecessors – temp/freq/etc. – they can also be connected to a voltage source without concern for polarity – and will simply indicate polarity (+/-) on the display.

VSWR Bridge

In years past the 'run of the mill' Voltage Standing Wave Ratio – VSWR -- measurement technique was an inline VSWR meter – a simple 'Set for max' or 'Cal' pot. was adjusted in the '*Forward'* direction and the meter would then show '*Reflected Power'* in the revere mode. This all required that a transmitter be *properly tuned* into a known 50 Ohm dummy load and then the 'antenna to be evaluated' connected in its place – a tedious chore indeed. This has all been replaced by what is now commonly referred to as the 'Antenna Analyzer'(*) – a misnomer in this operators opinion. These relatively new to Hamdom instruments contain the necessary circuitry to generate a *legal* low level RF signal at the frequency of interest and then compare the unknown characteristics of the attached antenna to that of known internal values and the results are then

shown on either a graphic display or simple meters. The major advantage of this measurement system is that a transmitter is no longer required – no QRM – and these battery operated units can easily be carried into 'the field'.

(*) A true *'Analyzer'* would have the capability of displaying the characteristics of the antenna – or any other attached component or complex circuitry -- DUT – in many forms – and is referred to as a *Vector Network Analyzer*.

Oscilloscope

The Oscilloscope or 'scope' – is a ***Time Based*** instrument and displays a graphic and calibrated *Vertical* and *Horizontal* representation of a complex alternating current wave. The measuring capabilities are limited only by the upper frequency limitations of the individual scope and its time base speed. It is a relatively high input impedance device -- ~1M. Ohm -- and will not 'load' most circuitry under test – and equipped with a *10:1 probe* it is now a 10M. Ohm device.

The *Vertical* scale displays the amplitude of the signal and is commonly referenced in terms of *'volts/division'* – most likely in a 1-2-5 sequence -- ie:- 1 mVolt/Division – 10 Volts/Div. – etc. and is user selected to display a large enough Vertical pattern to be easily evaluated. Most instruments have a method of 'un-calibrating' the vertical mode as the user deems necessary.

The *Horizontal* scale is shown in terms of *Time/division* – this being user selectable and is adjusted to best match the repetition rate of the wave form being examined – and display the necessary cycles of the waveform. *Sweep speed* (the time the trace takes to travel one screen division) is also shown in a 1-2-5 sequence and depending on the particular instrument can range from full *seconds/division* to mere *micro seconds/div*. Almost all instruments have a switch to 'un-calibrate'/vary the sweep speed for whatever reason the user may deem necessary.

The *Horizontal* display is a *free running oscillator* – its freq. being set by the user selectable *Time/div.*. Depending on the brand/complexity/etc of each individual scope the synchronizing of the sweep speed to the input signal under investigation is user selectable. The 'bare bones' and lesser quality instruments do not have sophisticated 'sync' circuitry and will consequently have more difficulty properly displaying – 'syncing' -- very complex (multiple frequencies) wave shapes.

Spectrum Analyzer –

The Spectrum Analyzer is a ***Frequency Based*** instrument and although similar in outward appearance to the Oscilloscope it is a vastly different measuring device. It is a *low impedance* device – typically 50 or 75 Ohm input impedance and as a result – *extreme caution* must be used in connecting it to a DUT.

The calibrated *Vertical* scale displays the amplitude of the signal under investigation – *somewhat* similar to that of the scope – but it is more commonly calibrated in terms of dBm or variations thereof.

The calibrated *Horizontal* scale is shown in terms of *Frequency/Division* – and is user selectable. It can be shown as 'Start Freq./Stop Freq.' – or 'Center Freq.' with a selected 'Span' frequency. As with the scope -- it sweeps from left to right and the 'Start Freq' would be at the left edge of the screen and the 'Stop Freq' would be at the right end of the screen. If a 'Center Freq' mode is used the assigned freq is shown at the center of the screen and the 'Span' would dictate the left and right extremes of the signal swing. If the signal of interest was the carrier deviation of an HT one would more than likely select the 'Center freq' mode so as to view the carrier freq and then the overall pattern when fully modulated. If one were evaluating the overall spectrum of the same HT one might select the 'Start' Freq'/'Stop Freq' mode so as to check for harmonic and spurious emissions further displaced from the carrier Freq. Again – it is important to note that proper care must be taken to ***not*** connect any transmitter directly to the input of the Spectrum Analyzer as it is low impedance device – and would end up dissipating the full power of the transmitter – ***only for a very short period of time ! ! ! ! ! ! ! ! ! ! !***

A Spectrum Analyzer equipped with a built in *Tracking Generator* can be used to examine the characteristics of filters and the response of an amplifier – and with an external *Return Loss Bridge* – show a graphic display of your antenna.

A full description of the operation of this instrument is not possible in a few paragraphs – it is only intended to give a rough outline of the measuring capabilities of the instrument.

The above mentioned instruments represent just a smattering of the total compliment needed to fully service/repair a piece of Ham Radio gear. There are Audio and RF Signal Generators – Frequency Counters – Dummy Loads – Component Value measuring devices -- countless adapters and test cables – soldering/unsoldering aids – hand tools galore.

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Reports and Notes:

CCARC General Meeting 2016-12-14

1900 Call to Order

Pledge of Allegiance
Introductions all around
Secretary - reading of minutes from previous meeting
minutes accepted as printed in the QTC, MSC
Chairman - Board report
Elections:
Nominees are

Pres	AD7TV
VP	K7MAE
Treas	N7XEI, N7BV
Sec'y	KF7VZZ
Chairman of the Board	KG7WMZ
Board 2nd year	K7PAX
Board 1st year	WA6RQW

Voting, motion:
all unopposed seats filled by
candidates so nominated, MSC
Ballots cast for Treasurer
N7XEI 14
N7BV 11

2017 lineup:

Pres	AD7TV	Dennis Tilton
VP	K7MAE	Mark Ellington
Treas	N7XEI	Sheldon Kohler
Sec'y	KF7VZZ	C. Mike Rice
Chairman of the Board	KG7WMZ	Herm Halbach
Board 2nd year	K7PAX	Paula Johnson
Board 1st year	WA6RQW	Glen Muir

Table at Hamfest, organized by K7MAE
Presentation, How to Diagnose a Problem by Glen WA6RQW

1840 Adjourned

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For Sale Items are listed at http://www.olyham.net/privatesales

If you have items to sell, contact Mike kf7vzz@gmail.com for details on listing items.

6:22 PM
01/05/17
Accrual Basis

Clallam County Amatuer Radio Club
Balance Sheet
As of December 31, 2016

	Dec 31, 16
ASSETS	
Current Assets	
Checking/Savings	
Checking Account	4,475.58
Savings Account	3,026.87
CD - Sound Bank	1,013.36
Total Checking/Savings	8,515.81
Total Current Assets	8,515.81
TOTAL ASSETS	**8,515.81**
LIABILITIES & EQUITY	
Equity	
Opening Balance Equity	7,565.39
Net Income	950.42
Total Equity	8,515.81
TOTAL LIABILITIES & EQUITY	**8,515.81**

73, Chuck Jones N7BV
2016 Treasurer

2017 YL Luncheons:
Reservations 11:30 2nd Friday of each month
January - to be announced at meeting and Thursday net

Clallam County ARES/RACES meeting,
7 pm, 1st Tue of every month, 223 E. 4th St., PA
Clallam County Courthouse EOC
Bill Carter 360-681 -4375

Clallam County Amateur Radio Club general meeting
7 pm, 2nd Wed of every month
Port Angeles Fire Station
5th and Laurel, PA
Chuck Jones N7BV 360-452-4672

Clallam Country Amateur Radio Board Meeting
7 pm, 1st Wed of every month
Port Angeles Fire Station
5th and Laurel, PA
Herm Halbach KG7WMZ 360-504-2226

Clallam County Amateur Radio Club social breakfast
8 am, 1st Sat of every month
Joshua's Restaurant
Hwy. 101 & Del Guzzi Dr.
Chuck Jones N7BV 360-452-4672

Clallam Country Amateur Radio Club YL social lunch
11:45 am 2nd Fri of every month
Rotates - to be announced at meeting and Thursday net

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

2METER NETS
on the W7FEL Repeater:

CCARC :
Every Thursday 7:00 pm

ARES /RACES :
Every Tuesday at 7:00 pm except 1 st Tuesday of the month

W7FEL Repeater:
1 46.76 MHz, offset down 600 KHz with a tone of 1 00 Hz.

CLUB OFFICERS For 2017

Officers:
President: Dennis Tilton AD7TV 360-452-1217 ad7tv@wavecable.com
Vice President: Mark Ellington K7MAE gossamer765@gmail.com
Secretary: Mike Rice KF7VZZ (360) 912-2395 kf7vzz@gmail.com
Treasurer: Sheldon Koehler, N7XEI (360) 457-3029

Board Members:
Chairman: Herm Halbach III, KG7WMZ (360) 504-2226 hermhalbach@centurylink.net
2nd Year: Paula Johnson, K7PAX hamette@hushmail.com
1st Year: Glen Muir, WA6RQW glendmuir@msn.com