

## CLALLAM COUNTY AMATEUR RADIO CLUB

QTC  
APRIL 04

### DRT's Shack:

Happy Spring to all!

The last day of March certainly went out like a lion with the high winds and rainy days, so I hope every ones antennas stayed upright, or held tight to their swaying trees. Looks to me like my mast has a little more easterly bend in it. Roof time soon for me! Any bidders?

This time of year opens the doors and windows of our homes to the fresh air of the season, as chilly as it still may be, but it opened the windows of our hearts also, to our dear friend and fellow ham, our very own Vice President, Dennis, AD7TV, and his family, in the medical emergency they encountered. No one can ever expect such an ordeal, especially we hams, who are so very active in many different directions at one time. But happen it did, which brought an abundance of well wishes and prayers for a speedy recovery. Dennis, Welcome Home.

I would say yes, our well wishes and prayers, combined with your determination and endurance certainly did bring you home to PA. We missed you!

Without getting too deep into our Secretary's submission, please read the minutes of the March meeting carefully, as this will be a topic at our next meeting, 08 April. We'll be discussing whether the Club moves from its current location to a larger facility, or stay where we are. Many options. Pros and Con's. Last months meeting, members in attendance voted to put this possible change out to ALL CCARC members, so everyone can be involved in this important decision. I couldn't agree more.

Things are changing, our Club is growing. We can only look to the future, seeing more hams come into our Club.

Try to make this meeting if possible, as we need your input. Only then will we move forward, vote on this possible change, or stay and make the Fire Department comfortable for all attending.

Please put some thought into this, bringing your ideas, questions and comments, so we can decide where we'll call 'home' for the CCARC meetings.

Hurry and get well Dennis, and again, welcome home. We know you'll be back in full swing soon, so please let us know how we can help in any way you may need.

73. See you at the meeting!

Nita~KE7DRT  
Club President

**Get Your License Here!**

The CCARC Amateur Radio License Classes will be **April 18 and 25 and May 2**.

If you know of anyone who would be interested in a Technician or General Class license please have them call Chuck, N7BV 360-452-4672 or Tom, KE7XX 360-452-8228.

Thanks, Chuck, VE-L

**CCARC QTC Newsletter**

Just a little back round on how the QTC works.

We use ccarcqtq@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 ccarcqtq. 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 non-serif font (Arial which is easier 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  
March 11th**

Meeting Location Discussion

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!

**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.

### New Meeting Location?

It has been proposed that the Ham Club's monthly meeting location should be changed. I won't go over the arguments pro and con. That will be discussed and decided by the membership. The Olympic Memorial Hospital Linkletter conference room was selected as the only viable alternative to the PA Fire Station. The picture below is of the Conference Room.

Access to this room is via the Hospital Emergency Entrance on the West end of the building. When you go through the Emergency door you go down a long hallway and take the West Elevator down one floor. You then follow the clearly marked signs to the Linkletter Conference room. There is a stairway down but it probably will be secured in the evening.

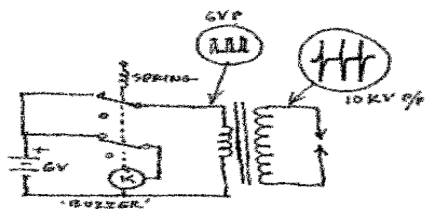
73, Bill Carter, W7WEC



## Electronic Fundamentals, Part-1 (Analog Circuits)

### Unit-13 High voltage oscillators; Switching mode power supplies

In 1908, Henry Ford cast about for a simple way to generate a source of high voltage for his Model-T spark plugs. The answer was elegantly simple, if not altogether reliable - the "Ford spark coil", modern replicas of which can be obtained by experimenters and antique car buffs. It consists of a wooden box, containing a high voltage transformer and what amounts to a common doorbell "buzzer"

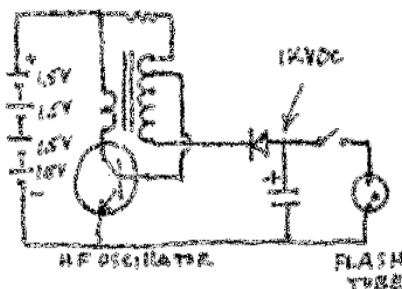


(Fig 13-1)

A spring holds a movable contact in the normally closed position to energize a relay coil. Magnetic flux from the energized coil pulls the contact open against the spring tension, interrupting current to the coil. The spring pulls the contacts closed again, re-energizing the coil - a simple mechanical oscillator. A second set of contacts "make and break" current through the primary winding of a step-up transformer. The result is a continuous string of high voltage pulses resulting in an ignition spark.

Modern electronic devices often require very high voltages -- devices such as medical defibrillators, oscilloscopes, photographic flash units and television sets. The generation of very high voltages is beyond the capability of conventional power supplies but well within the capability of the simplest oscillator.

Let's take the portable photographic flash unit as an example. In this case, small size, light weight, and low power consumption is the goal. A typical flash tube requires a 1000V pulse for a few milliseconds to fire it, and it must be able to operate repeatedly from a 6VDC power source, usually four type AA batteries. The solution is simple -- a return to the Ford spark coil.

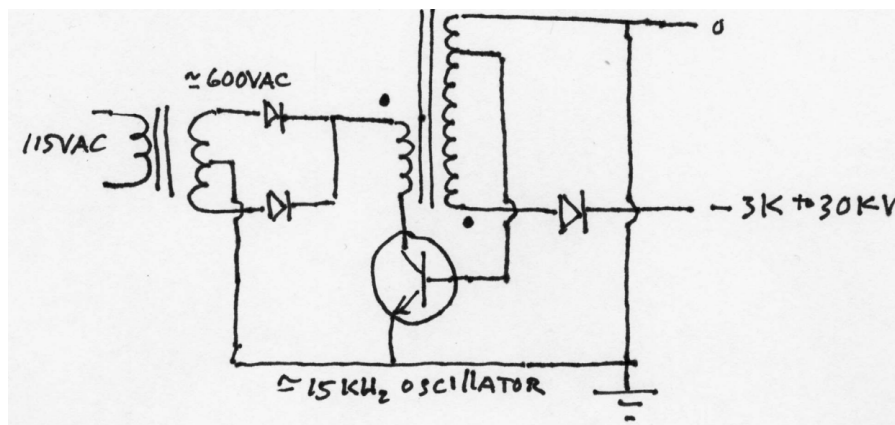


(Fig 13-2)

The batteries power a high frequency oscillator -- approximately 15KHz. A transformer steps the output to 1000V peak. It is rectified and used to charge a capacitor. The capacitor is then discharged through the flash tube. The frequency of oscillation is low enough to make construction of the device simple and non-critical but high enough so that the step-up transformer can be made small and light weight. There is a few seconds recovery time for the capacitor to re-charge before it can power the flash again but it is a small price to pay for simplicity and re-

liability.

The same approach is used to generate the high voltage needed to accelerate an electron beam in an oscilloscope CRT or television monitor. The ballpark voltages needed are about 3KV for a typical oscilloscope CRT, 15KV for a black-and-white video monitor and 30KV for a color monitor. A typical power supply for these applications looks something like this.



(Fig 13-3)

It's essentially the same power supply used for a camera flash but it's a bit more substantial. To begin with, the supply must sustain a continuous current drain. The circuit looks a bit odd, being AC to DC and back to AC again but it is necessary to provide some semblance of DC for the transistor. The DC is not filtered. The half-wave rectified waveform provides the needed buildup and collapse of the magnetic flux in the transformer. The transformer is usually wound on a high efficiency ferrite core with a voltage input of about 600V and an output of 3KV to 30KV. A 15KHz oscillator is used for oscilloscopes and black-and-white TV. Color TVs and computers may use anything from 30KHz to 150KHz. No filtering is required because the frequency is too high to cause noticeable ripple. Note that the output of the supply is negative. That's because, for safety considerations, it is desirable to have the face of the viewing screen at ground potential. The required voltage can be achieved by simply attaching the positive supply output to ground and allowing the negative lead to "float" several thousand volts below ground. Special pains must be taken to insulate everything associated with the CRT filament, cathode, and electron gun and their associated components from ground. Special care must also be taken with wiring to avoid corona discharge and eventual circuit breakdown from the high voltage.

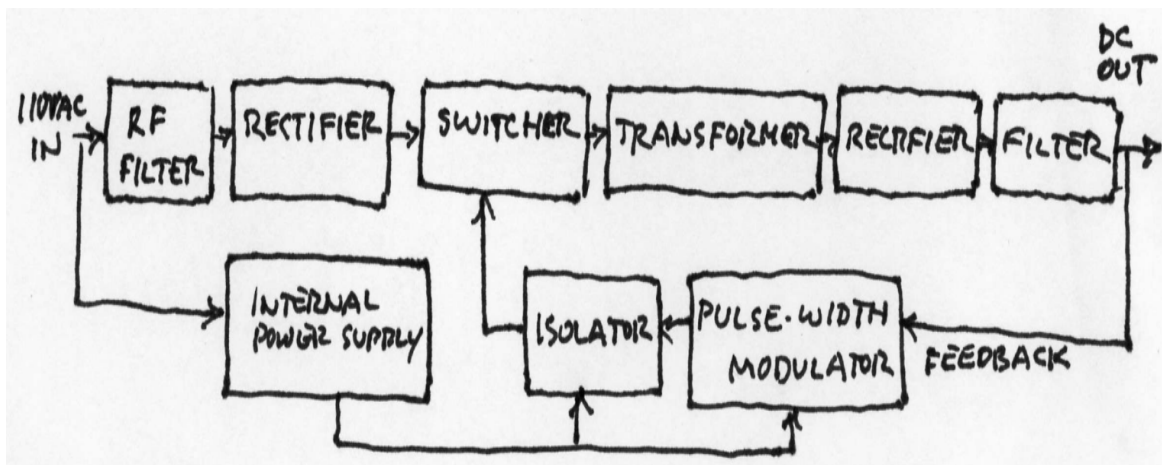
A word of caution. Unless you know exactly which components in a video circuit carry high voltage, don't even think about trying to troubleshoot this type of circuit. The currents involved are small but they can still be lethal. Have someone standing by to disconnect power and to administer CPR if needed.

In recent years, there has been a shift away from linear power supplies toward smaller, lighter weight switching power supplies. The transition has not been smooth. Earlier units put out considerable "hash" and RF interference and some manufacturers, such as *Elecraft*, caution against the use of switching power supplies with their products. Newer supplies seem to have minimized the problem however, and should not pose much trouble for anyone choosing to use one.

The switching mode power supply, **(SMPS)**, is a hybrid, using a high frequency oscilla-



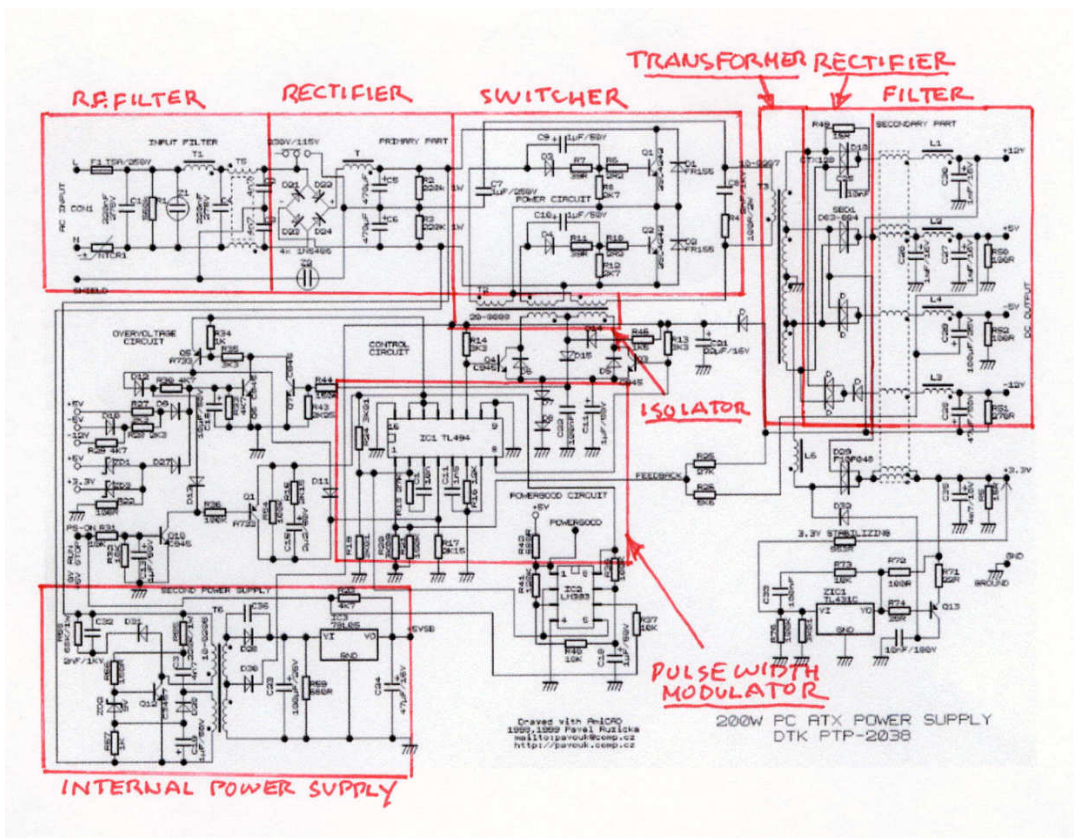
tor and pulse-width modulation to achieve near 100% efficiency with good line and load regulation.



(Fig 13-4)

Typically, there is no input transformer. The full 110VAC is rectified, filtered and used to power a **switcher**. The switcher is a variable frequency oscillator running at a frequency of 200KHz or better and driven to saturation and cutoff to produce a square-wave output. The switcher oscillator drives a transformer, much as it does for a high voltage supply. The transformer output is rectified and filtered. Due to the high frequency of the power supply ripple, filters with a very low internal resistance must be used. Output voltage is sampled and used to control a **pulse width modulator (PWM)**, used to control the duty cycle of the switching transistors, which determines the voltage output of the supply. Here's the schematic for a commercial computer power supply that uses pulse-width switching. It can operate from 110VAC, 60 Hz or 220VAC, 50Hz and has outputs of +3.3V, +/- 5V, and +/- 12V. I've outlined the circuits that correspond to those in the block diagram.

Continued on next page.....



(Fig 13-5)

In this unit, I've described some methods of generating very high voltages and introduced the switching mode power supply. Next, We'll explore function generators.











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

## Electronic Fundamentals Part-2, (*Digital Circuits*)

### Unit -2 (Binary code)

Regardless of use, all digital circuits are based on a binary system of logic -- ones and zeros -- voltage and no voltage. In other words, on-off switches. This can be done mechanically or electrically. If you want to represent a number digitally, you can do it like this. Take a row of single-pole-single throw switches and assume the right hand switch in the row represents the least significant digit. Assume also that if any switch is closed (admitting current to flow) it is in the **on** or "1".state. If the switch is open (blocking current flow) it is in the **off** or "0" state. For now, it doesn't matter what the switches are connected to, let's just see how numbers are "generated" by the open or closed positions of the switches.

With only four switches, we can generate any number from 0 to 15. .If all the switches are in the open position, no current will flow in any of them and they can be said to represent the digit "0". We can generate the number "1" by closing only the right hand switch and the number "2" by closing just the 2<sup>nd</sup> switch from the right. To make a number "3" we can add 1 and 2 by closing both right-hand switches. To make a number "4" we have to move over another switch in the row. "5" can be made by adding 4 and 1, etc.

DECIMAL		BINARY	
0		0000	(0)
1		0001	(1)
2		0010	(2)
3		0011	(2+1)
4		0100	(4)
5		0101	(4+1)
6		0110	(4+2)
7		0111	(4+3)
8		1000	(8)
9		1001	(8+1)

**Fig 2-1**

And so on until all the switches are closed, yielding the equivalent number "15"

If we want larger numbers, we must add more switches but, as you can see, using this binary approach, we can build vary large numbers from just ones and zeros

A common application of the binary approach is **binary coded decimal** or (**BCD**). Using BCD, we can encode very large numbers by simply representing each digit from 0 to 9 by its binary equivalent. For instance the number 250 would be represented as three four bit groups for the numbers 2, 5, and 0.



2 = 0010  
 5 = 0101  
 0 = 0000

Therefore 250 = **0010 0101 0000** in BCD notation. Ordinarily, there would be no spaces between the groups but I've included them here so you can see the representation more clearly.

A third system of encoding in common use is **Hexadecimal** or simply **HEX**. This code came into being by the development of 16 bit microprocessor chips. Some additional characters are needed to fill the gap between 9 and 15, Instead of numbers, letters A through F are used. A table of Hexadecimal numbers looks like this. From 0 to 9 the table is identical to the one used for simple binary code but it extends to the number 15 as follows

	Decimal		HEX
0	0	0	00000000
1	1	1	00000001
2	2	2	00000010
3	3	2+1	00000011
4	4	4	00000100
5	5	4+1	00000101
6	6	5+2	00000110
7	7	4+3	00000111
8	8	8	00001000
9	9	9	00001001
10	<b>A</b>	8+2	00001010
11	<b>B</b>	8+3	00001011
12	<b>C</b>	8+4	00001100
13	<b>D</b>	8+4+1	00001101
14	<b>E</b>	8+4+2	00001110
15	<b>F</b>	8+4+2+1	00001111

These are the three encoding methods we'll be dealing with in ham radio. Regardless of what method of encoding is used, all digital code is divided into groups of "switches" in multiples of 1 (**bit**), 4 (**nibble**), 8 (**byte**) and 2 or more bytes (**word**).

Unlike analog circuits which can display an infinite number of points on a waveform, digital circuits are limited to discrete points or "steps" along a waveform. No matter how finely we divide the numbers, we can only achieve discrete fractions. With digital circuitry it is not possible to interpolate between steps. This won't bother us much but be aware that it is a limitation of digital circuitry. Another limitation and one of real concern to us is how fast the "switches" can be opened and closed, called **rise time**,

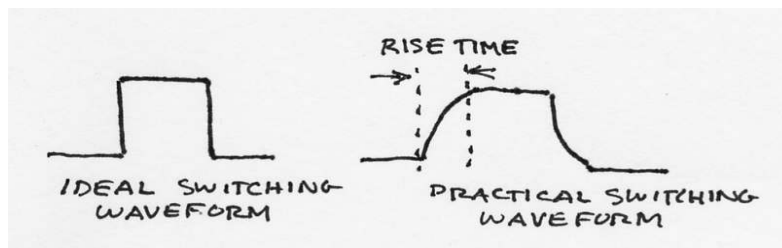
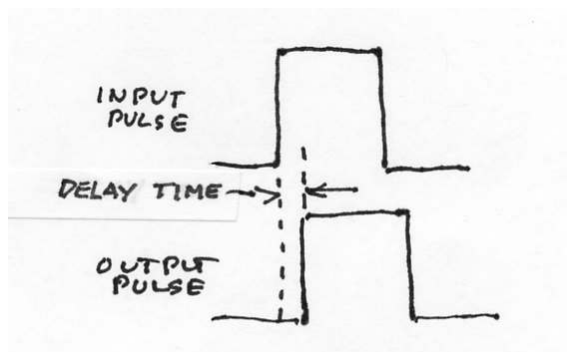


Fig 2-2

and how much delay there is between the time we tell it to change states and the time it actually begins to change, called **delay time**.



**Fig 2-3**

These times are not much bother in a pocket calculator or a digital multimeter but they can become quite significant as we apply them to RF circuits.

With few exceptions, digital circuits used in ham radio are concerned only with on-off switching and not with actual “number crunching” For the most part, we let desktop PCs and sound cards do the hard work for us. All we have to do is create an interface between our radio and the PC to allow them to communicate with each other, and unless you’re interested in programming computers, you’ll be using pre-programmed software almost exclusively.

In this Unit, I’ve shown the three basic digital encoding methods used in ham radio applications. In the next unit, we’ll examine some of the standard microchip circuits used to generate and route digital signals.

### Terms to remember

<b>BCD</b>	<b>Binary coded decimal</b>
<b>Bit</b>	<b>Single “1” or “0”</b>
<b>Byte</b>	<b>Group of 8 Bits</b>
<b>HEX</b>	<b>Hexadecimal</b>
<b>Nibble</b>	<b>Group of 4 Bits</b>
<b>Word</b>	<b>Group of 2 or more Bytes</b>

Paul Honore' W6IAM  
(Rev-2 Feb 09)

### Interesting Near-Vertical Incident Skywave (NVIS) article

The following link is to an interesting article about NVIS which might be appropriate for the QTC. It was sent to the Virgin Valley ARC (Mesquite, NV) by W7AOR. coordinator for the Nevada Repeater Ass'n. in Las Vegas.

The information comes from several ARRL Antenna Handbooks, The Army Field Manual, numerous QSTs and web site articles.

<http://www.athensarc.org/nvis.asp>

73, Roger, W7GRS

### HF Propagation.....

For those of you with a new found interest in HF propagation here is a report from

[http://science.nasa.gov/headlines/y2009/01apr\\_deep solar minimum.htm](http://science.nasa.gov/headlines/y2009/01apr_deep solar minimum.htm)

about low sunspots being with us for another year.

73, Chuck, N7BV

### Washington SB 5655

The bill requiring cities and counties to allow amateur radio antenna structures up to 70 feet has died for this year. It will not doubt resurface next year.

Nita KE7DRT

### 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.

### ARES/RACES News

#### Clallam County's Skywarn Support Program

The local Skywarn program, which has been comprised of National Weather Service trained and registered Skywarn volunteers is being changed. Many have asked about volunteering to assist when weather conditions warrant, and to relay to Bob Martin in the Emergency Management Division. This has been somewhat limited due to infrequent presentation of the NWS training.

It is apparent that we need additional weather reporting here, and we will accept anyone who has the interest to gather pertinent data. This is strictly voluntary, and possession of a weather station is not mandatory but helpful. You will be added to the Skyward Phone Tree after completion of training in September. This is not to intend that this will certify you as a NWS Skywarn volunteer, but as an active Clallam County Skywarn Support team member.

Please contact John Moore K7NIA, Skywarn Net Control or Becky Winters W7RJW, Assistant Net Control to offer your services.

**FROM OUR TREASURER:**

**As of March 31, 2009**

First Federal Savings & Loan of Port Angeles Balance: \$ 3,547.41  
 Outstanding Cheques: - 5.42  
**Current Book Balance: \$ 3,541.99**  
 CD at WestSound Bank (6-month, 3.40% APY): + 1,037.74  
 CD at WestSound Bank (18-Month, 5.13% APY): + 3,000.00  
**Total Cash Assets: + \$ 7,579.73**

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

**FOR SALE OR TRADE**

~ ~ ~ ~ ~  
**FOR SALE:** KENWOOD TS-850S HF Transceiver; WITH BUILT IN AT-850 ANTENNA TUNER 2 THRU 150 OHMS; KENWOOD PS-50 Power Supply, Included:- Instruction Guide - MIC, Condition: Very good condition. ALL FOR \$750.00 Contact Ernie W7EWG 808-6668

~ ~ ~ ~ ~  
**For Sale:** Staco Variable Autotransformer Transformer Model 3PN1010 Input : 120 V, 10 A Output : 0-120/140 V Contact [wx7rik@pobox.com](mailto:wx7rik@pobox.com) or 360-460-2472

**Your Ad Could Go Here**

**COMING EVENTS**

~ ~ ~ ~ ~  
 9 May 2009 + 18th Annual Hamfest  
 Stanwood-Camano ARC  
<http://www.scarcwa.org>  
 ~ ~ ~ ~ ~

**BIRTHDAYS:**

Birthdays for April and first week of May:

Sipes, Gay L. KC7O EZ	Apr-03
Baranowski, Stephen A. N1SB	Apr-10
Dawson, Al W7YLV	Apr-13
Golding, Julia KB7SBB	Apr-16
Uhden, Carl KG6EI	Apr-25
Lawson, Brenda K. KE7HZC	Apr-26
Ray, Jody KE7LKA	May-07

YL's Birthdays:

McPherson, Nancy (Robert W. (Bill), W6JEQ)	Apr-26
--	--------

**Happy Birthday!**

**CLALLAM COUNTY RADIO CLUB**  
**Minutes of the General Meeting March 11, 2009**

The meeting was called to order at 7:02 P.M. by club president, Nita, KE7DRT.

The Pledge of Allegiance was given.

Announcements:

Vice President Dennis, AD7TV:

1. Field Day will be held at the Fair Grounds this year.

2. We need more help for Safety Day at Roosevelt School.

3. Johan, KO6I, will start his Soldering and Kit Building class Saturday, March 14, at 9:00 AM.

Nita said there were five or six spots left for the submarine tour and Johan needs to know by Friday if anyone else wants to go.

Self introductions were made by those present.

Speaker: Jerry Decker, formerly of Magnavox, an electrical engineer who was instrumental in the development of the Navstar GPS system.

His presentation included background information on historical navigation systems and their limitations. It took years of preparation and cooperation between the U.S. military services to develop the current CPS system. It is the ultimate navigation system and easy to use because it is passive and just requires the operator to turn it on for it to work. His participation in the development and testing process led to some interesting "on scene" experiences that he shared with us.

After the break, Johan announced that he will put the sub tour list out Friday.

Nita led a discussion on the choices of facilities we have for a meeting place.

1. Current room: More chairs are available but the tables would have to be taken down before each meeting and put up again afterward. The tables are very heavy and awkward to move. A crew would have to be there at least a half hour before the meeting to do the

rearranging. If we leave this room, we will have lost it.

2. EOC: We can rearrange the tables and chairs but have to put them back the way they were and no additional chairs are available. Someone would have to monitor the outside door to let people in. Nita has already scheduled it for us for the next two years.
3. Hospital Linkletter Room: There may be a problem with any equipment demonstrations using antennas because of the basement location. It is an easy room to use, very comfortable and has telecommunications equipment which might enable us to establish a link with Forks. It is handicap accessible.

A motion was made, seconded, and passed that information about the choice of meeting places be printed in the QTC so all members could have a voice in the decision.

The April meeting will be held at the room in the fire department so a crew will have to be there by 6:30 to break down the tables.

Nita also announced that everyone should pay their dues by tonight to avoid being delinquent.

We still need someone to step forward and chair the Activities Committee.

Steve DeBiddle, W6MPD, said he would work on the repeater as soon as possible.

The meeting was adjourned at 20:47.



The Radio World

Amazing Progress of Radio

THE RADIO CRAZE grows by what it feeds on. The wonders of radio increase with marvelous rapidity. Signaling across the Atlantic by radiophone was demonstrated December 7, the very day that Farm and Home started its thrice-weekly service by radiophone to all its subscribers and others equipped to receive it. A violin solo played into a radio transmitter at Wichita, Kan, was plainly heard in Scotland. Paul Godley (a ham operator) there heard from 26 amateur continuous wave or spark stations in the United States.

New stunts are being pulled off. Senator Borah's new year speech was radioed from Washington. The famous chimes of Springfield, Mass were heard by radio. over a thousand mile radius New Years Eve. Church services by radio, first wirelessly from Springfield, are now sent out from Westinghouse broadcasting stations at Chicago, Pittsburgh, Newark and Springfield. Farm and Home's radio messages are interspersed with music and other features every Monday, Wednesday and Friday evenings.

Anyone can obtain full information about radio receiving and transmitting, their cost. operating, etc, free by writing to any advertiser thereof in Farm and Home. This magazine has nothing to sell pertaining to radio but gives its thrice-weekly service by radio free to all its subscribers and others who care to listen in. Frank Conrad's story in our December number made as plain as A B C the principles of radio, also the illustrated full page feature in our January number.

--- ---

Latest Discoveries In Radio  
To Gaurd Against a Trust, the Westinghouse, General Electric, Radio Corporation and American Tel. & Tel. share their patents pertaining to wireless. The government aims to prevent anything in the nature of a monopoly.

--- ---

Government will regulate broadcasting by radio. Last month it held a conference of experts at Washington to fix a policy. Under the new plan any-one may have a receiver and listen in at any time and at all times without having to have a license. Senders will have to observe certain hours and wave lengths according to their licenses. This should still further

increase the efficiency and univeralty of radio by cutting interference.

This article comes from papers saved by Bob Kennedy's (AC7RK) father in law. The article is dated to 1921.

> ----- Original Message -----

> From: "Peter Guelzow" <peter.guelzow@kourou.de >

> Subject: [amsat-bb] successful first EVE-Echoes (Earth-Venus-Earth) inGermany and Europe

On March 25th, 2009 a team from the German space organisation AMSAT-DL reached another milestone on its way to an own interplanetary probe towards planet Mars. The ground station at the Bochum observatory transmitted radio signals to Venus. After traveling almost 100 million kilometers and a round trip delay of about 5 minutes, they were clearly received as echoes from the surface of Venus. Receiving planetary echoes is a premiäre in Germany and Europe. In addition, this is the farthest distance crossed by radio amateurs, over 100 times further than echoes from the moon (EME reflexions).

For receiving the EVE (Earth-Venus-Earth) reflections, an FFT analysis with an integration time of 5 minutes was used. After integrating for 2 minutes only, the reflected signals were clearly visible in the display. Despite the bad weather, signals from Venus could be detected from 1038UT on until the planet reached the local horizon.

The high power amplifier which is described in the current AMSAT-DL journal has therefore passed this crucial test as a final key component for the planned P5-A Mars mission. By receiving generated echoes from Venus, the ground and command station for the Mars probe has been cleared for operational use and the AMSAT-Team is now gearing up for building the P5-A space probe. For financing the actual construction and launch, AMSAT-DL is currently in negotiation with the DLR (Deutsches Zentrum für Luft- und Raumfahrt) among others, to obtain financial support for the remaining budget of 20 Mill EUR. AMSAT-DL wants to show that low-budget interplanetary exploration is possible with its approach.

More information and the link to the official press release: [http://www.amsat-dl.org/index.php?option=com\\_content&task=view&id=166&Itemid=97](http://www.amsat-dl.org/index.php?option=com_content&task=view&id=166&Itemid=97)

The EVE experiment was repeated on Thursday, March 26th for several hours with good echoes from Venus. Morse code was used to transmit the well known „HI&œ signature known from the AMSAT OSCAR satellites.  
73s de DB2OS  
Peter Guelzow  
President AMSAT-DL

**NEXT YL LUNCHEON**

Oak Table  
292 W Bell  
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:**

March - Gordy's Pasta and Pizza - 1123 E. 1st - Port Angeles  
April - Oak Table - 292 W. Bell - Sequim  
May - Downriggers - 115 E. Railroad Ave. - Port Angeles  
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 - Port Angeles  
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 <sup>th</sup> 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 <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 2009**

**President:** Nita Lyman KE7DRT 360-457-5022 Nita\_lyman@yahoo.com

**Vice President:** Dennis Tilton AC7TV 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