



CLALLAM COUNTY  
AMATEUR RADIO  
CLUB

QTC

August 17

**Month to Come  
Clallam County Amateur Radio Club**

Wed Aug 9, 2017 7pm - 8:30pm CCARC Monthly Club Meeting  
Where: Port Angeles Fire Department, 321 East 5th Street, Port Angeles

Thu Aug 10, 2017 7pm - 7:30pm CCARC Net – Control; Roger, K7RGR  
Where: W7FEL Repeater 146.760 -600, 100 Hz Tone

Fri Aug 11, 2017 11:30am - 1pm CCARC YL Social lunch

Thu Aug 17, 2017 7pm - 7:30pm CCARC Net – Control; Mike, KF7VZZ Where: W7FEL Repeater  
146.760 -600, 100 Hz Tone

Thu Aug 24, 2017 7pm - 7:30pm CCARC Net – Control; Bruce, KD7WBM  
Where: W7FEL Repeater 146.760 -600, 100 Hz Tone

Thu Aug 31, 2017 7pm - 7:30pm CCARC Net – Control; Bill, W7WEC Where: W7FEL Repeater  
146.760 -600, 100 Hz Tone

Sat Sep 2, 2017 8:30am - 10am CCARC social breakfast  
Where: Mariner Cafe 609 W Washington St, Sequim, WA 98382

**Mon Sep 4, 2017 All day Labor Day**

Wed Sep 6, 2017 7pm - 8pm CCARC Board Meeting  
Where: Port Angeles Fire Department, 102 E 5th St, Port Angeles, WA 98362, USA

Thu Sep 7, 2017 7pm - 7:30pm CCARC Net – Control; Sheldon, N7XEI Where: W7FEL Repeater  
146.760 -600, 100 Hz Tone

**Get Your License Here!**

**Coming Soon  
In October  
21  
2017  
PA Firehouse**

**Chuck N7BV  
ARRL VE-L**

**August Program**

**Herm, KG7WMZ**

**Software Defined  
Radio Basics**

Articles needed 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!

Did you put up a new antenna, buy a new radio? Tell us about it.

Did you try a new mode again tell us about it.

The more you submit the less blank space we will have!

Thanks, the staff!

**CCARC QTC Newsletter**

**Just a little background on the QTC.**

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 if you know how, before sending it to ccarcqtq. 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,

**Have an idea for a club program?  
Pass them along to Bill Peterson,  
K7WWP**

**Thanks.**

**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.

**W7RJW "Net" Working**

Some local nets to listen in on/participate in. This is one good way to learn how we communicate on the airwaves as amateur (ham) radio operators. I spent a year just listening to a couple of these nets and how experienced operators talk to each other, before I even tried for my Technician license. It REALLY helped me a lot. I strongly recommend doing this on a regular basis. Enjoy!

Sunday:

LDS (Latter Day Saints) Emergency Net (you don't have to be a member to participate) 6pm on 146.760

Monday:

Elwha Emergency Net 5:30 pm On 146.760  
WARA (West Coast Amateur Radio Association)  
Club Net (Victoria, BC Canada) at 7pm on 146.840

Tuesday:

ARES (Amateur Radio Emergency Services) Net  
7pm on 146.760 (except for the first Tuesday of the month, when ARES meets at the Clallam County Courthouse)

Wednesday:

WARA (West Coast Amateur Radio Association)  
Emergency Net 7pm on 146.840 Simplex Net immediately following: on 146.580

Thursday:

CCARC (Clallam County Amateur Radio Club) Net 7pm 146.760

W7RJW Rebecca J. Winters  
CCARES Net Control Coordinator



What's new on Ham Nation?

<http://twit.tv/hn>

Check out the new format.

**Have a cup of coffee, relax and watch one.**

**FOR SALE or TRADE**

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I have a 72 foot Tylon free standing tower with a 20 foot 2"OD 1/4" thick wall mast, Force 12 C31XR antenna and a 40 Mtr. Cushcraft 402CD 2 element beam that must go to a new home. CC&R's prevent me from installing the antenna at my present QTH and the owner where it is being stored has asked for me to remove it. The tower, which consists of nine 8'-0" sections and the antennas are on the ground and must be moved to a new home. The mast is suitable for stacking both antennas. This would be an excellent package for someone wanting a free standing non-guyed tower complete with antennas. \$500.00. If interested please contact Roger Huntley, W7VV, 360-683-3612, [snr.huntley@q.com](mailto:snr.huntley@q.com)

# AMATEUR RADIO LICENSE CLASS

**Date: October 7, 14, 21 2017**

**Time: 0900 to 1700**

**PA Fire Department 5th and Laurel Street**

**EXAM: October 21 at 1300**

Anyone interested in earning their entry level, (Technician class) Amateur radio license or the Intermediate level (General Class) is invited to attend a class on three successive Saturdays, starting Saturday, October 7, 14, 21, in the training room at Port Angeles Fire Department 5th and Laurel Street. The class will run from 0900 to 1700 with an hour off for lunch.

October 21 is a class/review in the morning and the exam session at 1300L.

Candidates will learn FCC Rules and Regulations, Basic Electronics, How to Operate, and Radio Frequency Safety.

There is no cost for the class, which is presented by volunteers from Clallam County Amateur Radio Club. Candidates must purchase an American



Radio Relay League Technician or General License Manual at a cost of \$29.95 each. Direct at <http://www.arrl.org/arrl-store/> These manuals are also available from Chuck Jones, who may be reached at 360-775-8201. (\$29.95 Save on shipping costs.)

The final exam session cost is \$15.00 for processing by the Club and ARRL.

Those earning their FCC license will be able to communicate with other hams world wide, and to participate in the Amateur Radio Emergency Services locally.

For more information, or to register for the class, call Chuck Jones, N7BV, at 360-775-8201.



**Mesh Testing**

1-4 August 2017

by Bill Peterson, Bob Sampson and Bill Carter.

So what is AREDN?

Amateur **R**adio **E**mergency **D**ata **N**etwork, AREDN, is an RF network mesh of inexpensive radio/routers operating under the FCC rules, Part 97 in the ham microwave bands, controlled by hams with a Technician license or higher. It is a high-speed data network with rates of up to 54 Mbps designed to provide a TCP/IP medium when other network infrastructure has failed.

The Sequim Mesh system as proposed is designed to allow customers the use of tools with which they are accustomed: email, phone service, chat, and other web-based tools specific to their roles within the organization. Permanent Mesh systems have been deployed by ham radio operators in a number of cities across the country. Emergency portable nodes can be deployed to specific locations for communications.

On Tuesday August 1 Bob Sampson and Bill Carter went to the Sequim area to check mesh coverage from a 120 degree sector antenna/radio system mounted temporarily on KO6I's, Johan Van Nimwegan's patio on Bell Hill which overlooks the city to the north.

The first step was to access the roof of the Sequim City Hall. Dave Garlington was a big help and left us a key for access. It was very hard to find a place to even see Bell Hill as there was a 10 foot wall (blocks the street view of the air-conditioning handlers) which blocked the view to the south. It would require installing a mast or pole structure and it really wouldn't provide any additional coverage that the unit at a Johan's provides. Bob noticed a lower level of the city hall that might provide us with a possible location.

That is the Patio area on the west side of the building one story up. While we tested this area successfully it was thought that the deck area is too nice for us to stick a dish up in the middle of it. Even though it would be out-of-the-way. The signal from KO6I to the patio was a -73 dB which provides a good signal with a fade margin of 22 db.

We did look at the Sequim PD radio tower and it does provide a good capability. The tower, however, is unusable at this point as a permit has not been located for the original tower and no other objects can be placed on the tower.

Bob and Bill C. then walked around the area and settled on a place on the side of the transit center. Near where the existing coax goes into the building. After mounting a Ubiquiti PowerBeam (the PowerBeam antenna/radio is approximately a foot and a half in diameter and 6 inches deep) unit it would only require a shielded Cat 5e cable into the Radio room. The radio room would then have full access to all services and locations on the mesh network. There is only one possible concern about the signal and that is that we're going through a lot of power lines to see Johan's place. Only testing can prove it is an acceptable location.

Our next testing was done at Fire District 3 on Fifth . We set up near the tower base and got a good signal (-75 dB) to Johan's place. The Ubiquiti PowerBeam unit could be mounted on the tower at a 10 foot level and a shielded Cat 5e cable ran into the Radio room just like at the transit center.

On Wednesday August 3rd Bob Sampson and Bill Peterson went to test the Fire District 3 Maintenance Yard, Red Cross, Fire Station and the PUD in the Carlsborg area. At ground level trees obstructed the shot to Bell Hill and smoke from the fires prevented them from siting a path to KO6I on Bell Hill. No RF path was established at any of the Carlsborg locations in that direction.

Next stop was W7AV, Rick Perry, who lives on Atterberry Rd, South East of the new PUD building.. Rick has a commanding view to the north and overlooks the various sites in Carlsborg and can also visually see both K6MBY's and K7WWP's locations. Rick offered space on a tower for testing and eventual permanent installation if the site worked out.

On Friday August 4th Bill Peterson and Bob Sampson moved the sector antenna from Bell Hill to Rick Perry's home on Atterberry Rd.. Testing at the elementary school parking lot and the Red Cross was successful with signals in the -70db

range. Since the school is approximately the same elevation and geographic location as the fire station across the street and the fire storage yard we assumed signals would be adequate at those locations and did not further testing in that area.

The Red Cross was tested and again signals in the -70 db range were obtained.

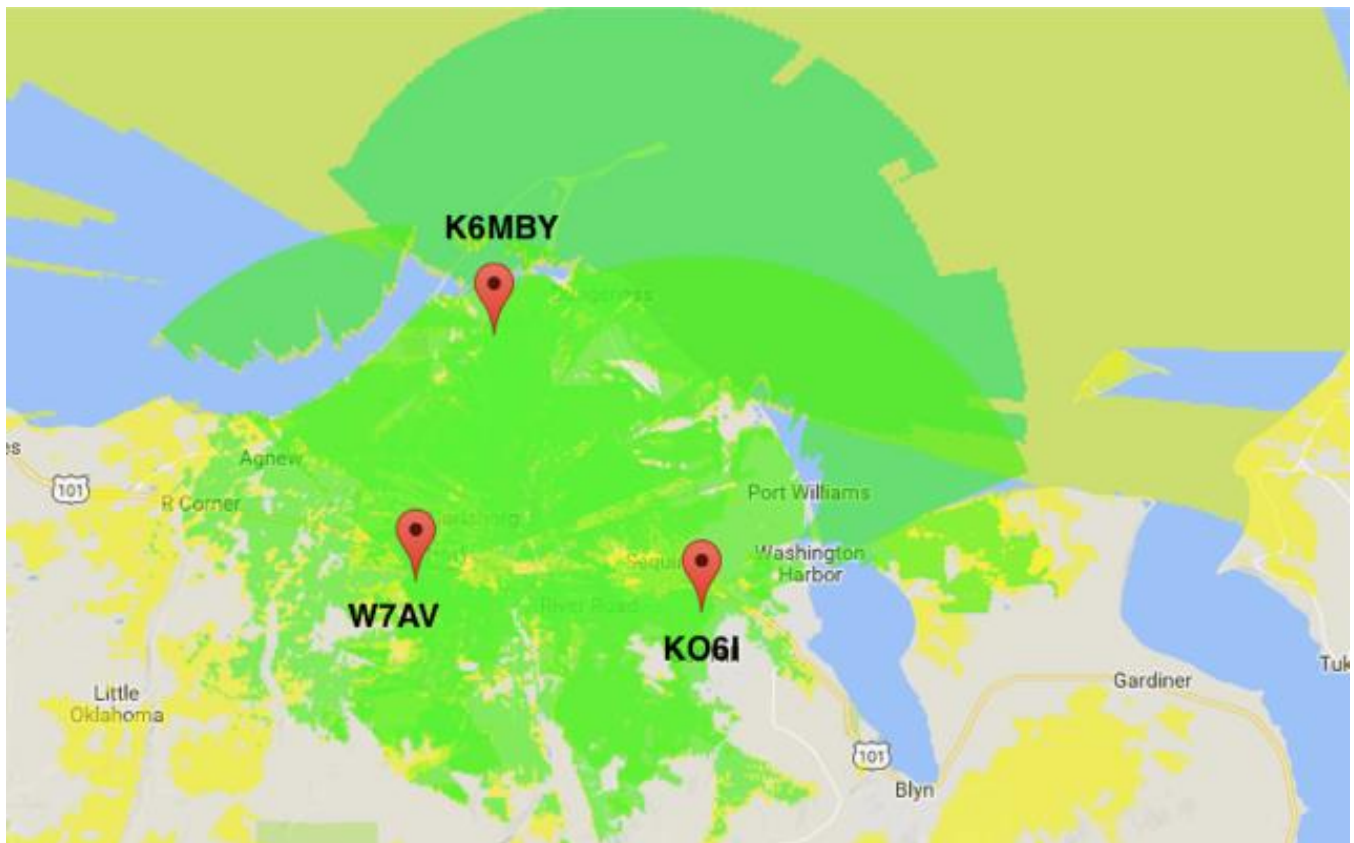
At Bill Peterson's Mesh node at the far north end of Kitchen-Dick a small 4 by 12 antenna was installed and successfully communicated with the sector at Rick Perry's home on Atterberry.

At Bob Sampson's Mesh node near the Game Farm signals were in the -60 db range.

It is clear to the testers involved that a three sector Mesh system with nodes at KO6I on Bell Hill, W7AV on Atterberry Rd. and K6MBY's home near the Game Farm provide excellent coverage for the majority of the Sequim and surrounding area. The emergency preparedness areas that were considered first were the Transit Center, Fire District 3 Headquarters, and the Red Cross. Other locations such as the Fire Station and Fire Storage Yard are equally well covered. While we did not test the PUD Headquarters nor the PUD Maintenance Facility on Idea Place; the Mesh signal from the Atterberry site should be more than sufficient with a roof top antenna location.

The frequencies used are near normal 2.4 GHz Wi-Fi signals but are unique to Ham Radio. Any other ham radio operator in the coverage area may join the Mesh network.

REF: AREDN at [WWW.AREDN.org](http://WWW.AREDN.org)



## Building a 28V Adjustable Constant Current Power Supply From a Partial Kit

By Dennis Tilton AD7TV



How would you like a fun and useful project for your work bench? Some months ago I found that I had a need for an adjustable bench power supply with a maximum Voltage of around 28 VDC. On the Banggood web site I found just what I needed. This link will give you a full description:

<https://www.banggood.com/0-28V-0-01-2A-Adjustable-DC-Regulated-Power-Supply-DIY-Kit-Short-Circuit-Current-Limiting-Protection-p-1060253.html>

The following link is an article by the engineer that designed the supply with a review of the design process:

<http://linuxfocus.org/English/June2005/article379.shtml#3791index4>

The power supply is pretty sophisticated since it uses an Atmel microprocessor to set the Voltage and current levels and includes an LCD display to show what has been set up.

The Voltage can be set from 0.1 to 28 VDC. The constant current value can be set from near zero up to 2 Amps. This means that if you are checking out a new project, you can set the maximum current level that will not be exceeded.

Not only is the supply pretty neat but the cost of the kit is only about \$16 including shipping from China!

Now for that price there are a few other things that you have to supply such as a 28V, 2A power transformer, a case, fuse holder, power switch, output terminals, heat sink, fan and power cord.

I had an old case that I refurbished with 4 minute Epoxy plus everything but the transformer which cost \$25 with shipping.

The following pictures should give you an idea of the assembly process.

Assembling the PC boards only took a couple of hours. The board and component quality was very good. The assembly instructions were downloaded from Banggood.

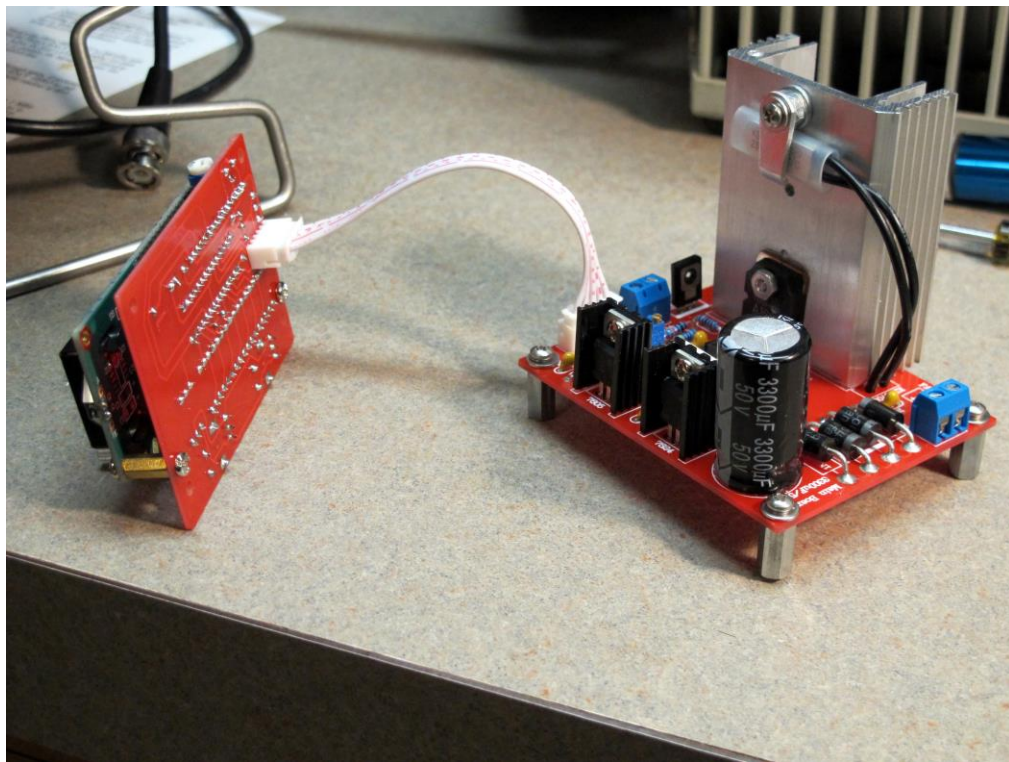
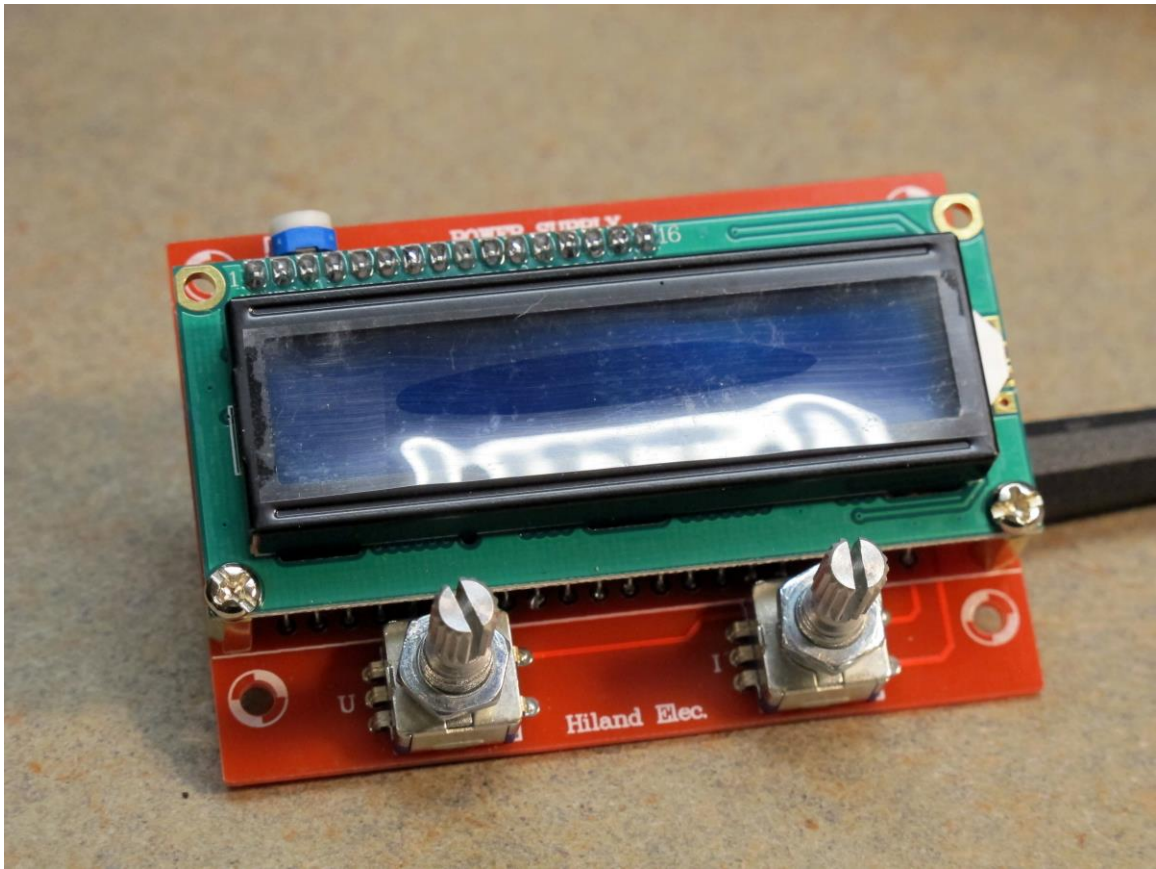
[files.banggood.com/2016/Hiland installation.pdf](http://files.banggood.com/2016/Hiland%20installation.pdf)

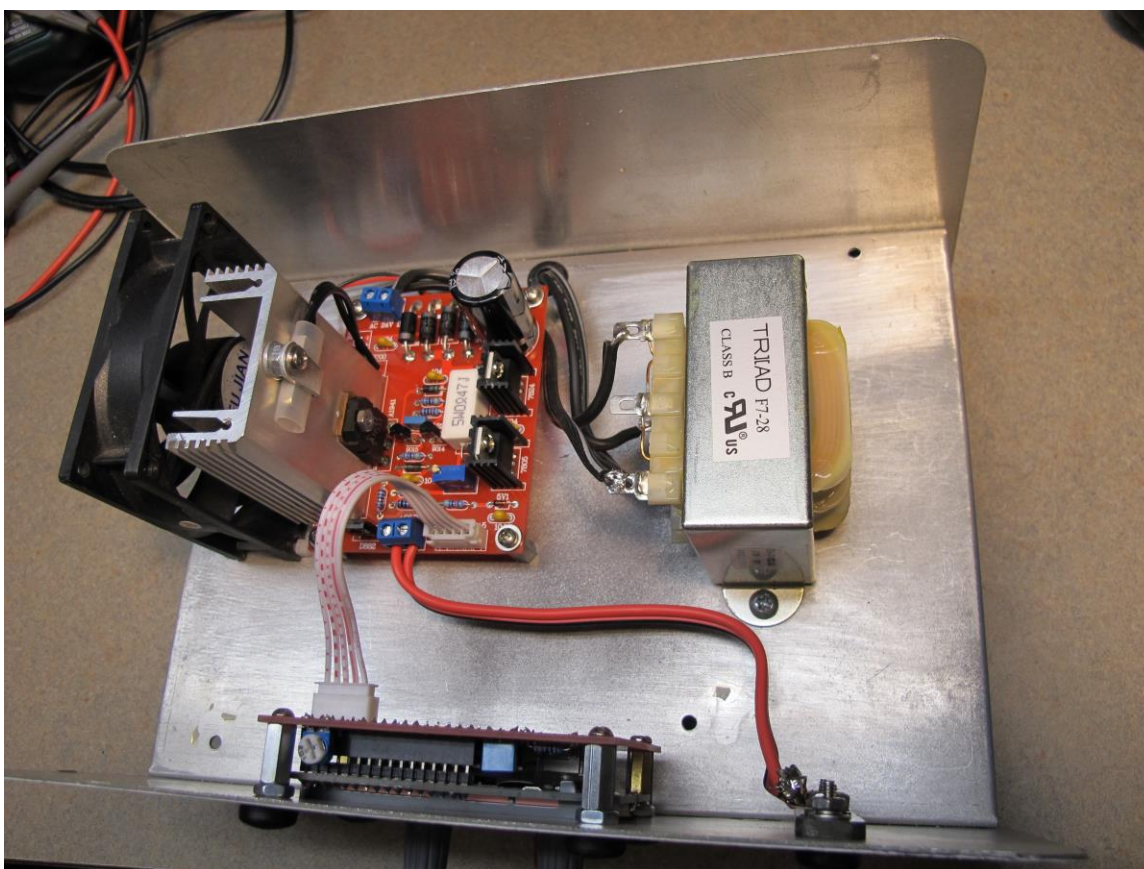
and [files.banggood.com/SKU422723%20manual.doc](http://files.banggood.com/SKU422723%20manual.doc)

The chassis and front panel construction involves the use of a drill and the indispensable Nibbler tool.

Once the front panel is layed out and drilled, I use a method of creating a laminated overlay using a scanner/printer with a software package like Photo shop or Gimp.







The trick is to scan the raw front panel and then use the layers function to label and set the background color for the panel.

Then you need to adjust the scaling to match the label to the raw panel. It's a little tricky but once you get it the proper size, just print it out using heavy weight matt photo paper on a color printer.

The next step is to apply laminating plastic to the printed label and get all of the bubbles out.

To glue the label to the raw panel I use 3M Super 77 spray adhesive. Spray a light coat on both the raw panel and the back of the label, let it cure for at least 30 seconds and then carefully apply it to the panel. It's contact cement; you only get one chance!



I know these instructions are pretty sketchy so if you have questions, feel free to contact me.



73,

Dennis, AD7TV

### Treasurers Report for July 2017

Below is the bank account balances for August 1st:

#### BANK ACCOUNT BALANCES 8/1/2017

|          |          |
|----------|----------|
| Checking | 7553.49  |
| Savings  | 3029.26  |
| CD       | 1039.35  |
| Total    | 11622.10 |

JULY INCOME 14078.33

|                         |          |
|-------------------------|----------|
| Fireworks income (July) | 13788.33 |
| Misc item sales         | 0.00     |
| Dues paid               | 20.00    |
| Test fees               | 270.00   |
| Interest                | 1.88     |

#### JULY EXPENSES

|                     |          |
|---------------------|----------|
| Fireworks expenses  | 11250.87 |
| Repeater Expenses   | 210.41   |
| Test fess (to ARRL) | 270.00   |
| Credit card fees    | 183.41*  |

\*Square removed the fee before depositing funds into our checking account.

The final accounting from TNT has not yet arrived as of August 2nd.

Sheldon Koehler, N7XEI

CCARC Board Minutes

August 2, 2017

Board Members present: Herm Halbach, Sheldon Koehler, Paula Johnson

Board Member absent: Mike Rice

Officers present: President Dennis Tilton, Vice President Mark Ellington

Club Members present: Bruce Reiter, Glen Muir, Chuck Jones, Bill Peterson

The meeting was called to order at 7:00 p.m.

Mark Ellington reported on the progress of the trailer project and discussion ensued regarding inventory control. Paula Johnson volunteered to take the duties of inventory control, in concert with Mark Ellington. We will inventory, label, and check equipment in and out. It was suggested that we add some kind of locking cabinet to prevent unauthorized or untracked access to equipment.

Treasurer's Report – Sheldon reported that we made approximately \$3000 on the fireworks stand this year. Official figures will be forthcoming.

Sheldon had a prospect in mind for the Board vacancy, and will let the Board know if the prospect would agree to sit on the Board. If the prospect agrees, the board will meet via email and officially appoint the new board member, subject to approval of the general membership at the next club meeting, according to the procedures in the by-laws for filling vacancies.

Dennis Tilton sought approval to buy crimp-on connectors, tees, elbows and coax to replace those that were loaned to the club for Field Day. The plan is to return the loaned equipment and buy new connectors and coax for the club, plus a small number of extras to keep on hand. Mark Ellington remarked that the club is about 200' short on coax and has been using loaner cables. The club also owes Mark 100' of coax. It was decided that the best course of action and most economical is to buy 500' of RG-8, and after returning 100' to Mark, and building the cables making up the other 200' shortage, it would leave the club with 200' for incidental needs. After much discussion, it was moved, seconded and approved to purchase 4 tees, 7 elbows, 30 PL-259 connectors, and 500' of RG-8 Coax. The shopping list was given to the Club Secretary to make the purchases.

A motion was made and seconded to approve a reimbursement to Herm Halbach of \$46.85 for propane used for the fireworks stand. Motion approved.

Sheldon moved that we approve a \$500 payment to ARES for their share of the fireworks proceeds. Proposal was seconded and motion passed.

Bill Peterson (program committee of one) presented an idea for a meeting program, much discussion followed regarding how to poll and meet the needs of newer and/or inexperienced club members, and how to keep long-standing more experienced members engaged also. Many ideas were exchanged and it was generally agreed that we need frequent engagement with the membership to keep in touch with the type of programs that would be of interest.

The meeting adjourned at 9:00 p.m.

**CCARC Standing Committees**

**VE Education and Training:** Chuck Jones N7BV

**Field Day Co-Chairs:** Al Fisk KD7TFK, Sheldon Koehler N7XEI, Linda Montelius KG7WMS, Ray Montelius KG7WNB

**Health and Welfare:** Nita Lyman KE7DRT

**Membership Chair:** Sheldon Koehler N7XEI

**Net Coordinator:** Mike Rice KF7VZZ

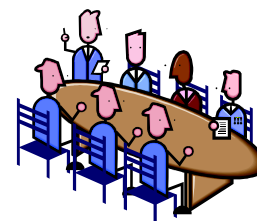
**Program Co-Chairs:** Bruce O'Rourke WA7CCC , Bill Peterson K7WWP, Tom Pysher K7YSH

**Public Relations:** Bill McPherson W6JEQ, Bruce Reiter KD7WBM

**Publications (Newsletter):** Chuck Jones N7BV, Herm Halbach KG7WMZ

**Technical Committee Coordinator:** Doug Welcker, WB4KGY, Bob Sampson K6MBY, Bill Peterson K7WWP, Merrill Terpstra KA7FAM

**Web Site Administrators:** Sheldon Koehler N7XEI, Mike Rice KF7VZZ Bill Peterson K7WWP



**CCARC Special Committees**

**Hamfest Table:** Mark Ellington K7MAE, Doug Welcker WB4KGY, Andrew Rowland KF7QYL

**Trailer:** Mark Ellington K7MAE, Charlie Brown WA4DFT, Andrew Rowland KF7QYL, Bruce O'Rourke WA7CCC, Glen Muir WA6RQW

**Fireworks:** Nita Lyman KE7DRT, Ray Montelius KG7WNB, Bruce O'Rourke WA7CCC

**From the Editor:**

A thank you to all who contributed to this newsletter.

Dennis Tilton, AD7TV  
Chuch Jones, N7BV  
Roger Huntley, W7VV  
Sheldon Koehler, N7XEI  
Bill Peterson, K7WWP  
Bob Sampson, K6MBY  
Bill Carter, W7WEC  
Paula Johnson, K7PAX

Sorry If I missed someone.  
Tks. 73, Herm, KG7WMZ

## NEXT YL Luncheon

11 August 2017 1130AM

Mariners  
609 W Washington  
Sequim

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

| Description                                        | Time/Date                      | Location                                                           | Contact                             |
|----------------------------------------------------|--------------------------------|--------------------------------------------------------------------|-------------------------------------|
| Clallam County ARES/RACES meeting                  | 7 pm, 1st Tue of every month   | Clallam County Courthouse EOC,<br>223 E. 4 <sup>th</sup> St., PA   | Bruce Reiter KD7WBM<br>360-452-9851 |
| Clallam County Amateur Radio Club general meeting  | 7 pm, 2d Wed of every month    | Port Angeles Fire Station<br>5th and Laurel, PA                    | Chuck Jones N7BV<br>360-452-4672    |
| Clallam County Amateur Radio Club social breakfast | 8 am, 1st Sat of every month   | Bi-Monthly Joshua's Restaurant,<br>PA & Mariner Restaurant, Sequim | Chuck Jones N7BV<br>360-452-4672    |
| Clallam Country Amateur Radio Club YL social lunch | 11:45 am 2d Fri of every month | Rotates - announced on Thursday<br>night Net (See QTC Newsletter)  |                                     |

[CC-ARC Welcomes New Members](#)

### CLUB OFFICERS For 2017

**President:** Dennis Tilton AD7TV, 360-452-1217 ad7tv@wavecable.com  
**Vice President:** Mark Ellington KI7DWE, 801-821-1888 gossamer765@gmail.com  
**Secretary:** Mike Rice KF7VZZ 360-912-2395 kf7vzz@gmail.com  
**Treasurer:** Sheldon Koehler, N7XEI 360-457-3029 sheldonk@gmail.com  
**Board Chairman:** Herm Halbach III, KG7WMZ 360-504-2226 hermhalbach@centurylink.net  
**Board Member:** Paula Johnson K7PAX, 360-461-2425, hamette@hushmail.com  
**Board Member:** Bill Peterson K7WWP, billp@alaska.net