RF

ORANGE COUNTY AMATEUR RADIO CLUB, INC.

VOL. L NO. 9 P.O. BOX 3454, TUSTIN, CA 92781-3454 September 2009

The Prez Sez..... by Nicholas AF6CF

QST, QST, QST!

Greetings to all!

As the last quarter of the year draws near, we think about the holidays and fun ahead.

This is the time for volunteers to step up and consider participating in your club's activities.

The Elections Committee now has a chairman and he will be contacting members about running for the office of OCARC President, VP and Board next year. Please think about your own participation and consider volunteering. It's only for a period of one year and, literally, only for a few hours a month.

The OCARC yearly radio auction is coming up in another month on Oct 16. See Page 5 and OCARC WEB for details.

We have received some equipment donations, but we also would like members to send their lists of auction equipment to the Publicity Chairman to attract people to the Auction.

The Xmas party date has been set for Friday December 11th and soon you will be able to get your tickets for this fun-(and prize-)filled event.

As usual, I look forward to seeing you all at our next General Meeting.

Until then,
73 de AF6CF

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The next general meeting will be:

Friday, September 18th @ 7:00 PM

We will be meeting in Room 208
In the east Red Cross Building

ORANGE COUNTY AMATEUR RADIO CLUB
www.W6ZE.org

2009 Board of Directors:

President:
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OCCARO Delegate:
Steve Brody, N1AB
(714) 974-0338
stevebrody@sbcglobal.net

Monthly Events:

General Meeting:
Third Friday of the month
at 7:00 PM
American Red Cross
601 N. Golden Circle Dr.
(Near Tustin Ave. & 4th St.)
Santa Ana, CA

Club Breakfast:
First Saturday of the month
at 8:00 AM
Jagerhaus Restaurant
2525 E. Ball Road
(Ball exit off 57-Freeway)
Anaheim, CA

Club Nets (Listen for W6ZE):
7.086 ± MHz CW **OCWN**
Sun- 9:00 AM – 10 AM
Rick KF6UEB, Net Control

28.375 ± MHz SSB
Wed- 7:30 PM - 8:30 PM
Bob AF6C, Net Control

146.55 MHz Simplex FM
Wed- 8:30 PM - 9:30 PM
Bob, WB6IXN, Net Control

VISIT OUR WEB SITE

http://www.w6ze.org

for up-to-the-minute club information, the latest membership rosters, special activities, back issues of RF, links to ham-related sites, vendors and manufacturers, pictures of club events and much much more.

Club Dues:
Regular Members ...$20
Family Members* ...$10
Teenage Members ..$10
Club Badge** ……..$3

Dues run from January thru Dec and are prorated for new members.

*Additional members in the family of a regular member pay the family rate up to $30 per family.

**There is a $1.50 charge if you'd like to have your badge mailed to you.

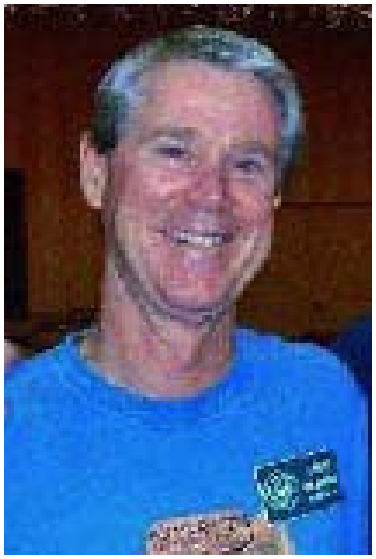
Upcoming OCARC Events!!!

(Check the club website for updates and additions http://www.w6ze.org)

September 18, 2009

"General Meeting"

The program for the September meeting is tentatively going to be a DXpedition presentation by Bob Grimmick - N6OX.



October 3, 2009

Club Breakfast and Board Meeting

The club breakfast is normally held on the first Saturday of each month. It is an open meeting; members and visitors are welcome and encouraged to join us.

For breakfast time, location and map Click here.

October 16, 2009

"2009 OCARC Annual Auction"

The annual club auction will be held at our regular meeting time and place. Items are limited to radio and electronic equipment only. Registration begins at 7:00 PM. MORE INFO ON PAGE 5!

November 7, 2009

Club Breakfast and Board Meeting

The club breakfast is normally held on the first Saturday of each month. It is an open meeting; members and visitors are welcome and encouraged to join us.
For breakfast time, location and map Click here.

November 20, 2009

"General Meeting & Elections"

Gordon West - WB6NOA is tentatively scheduled to speak at our November general meeting. The November meeting is also when the club elections are held. If you'd like to participate on the Board please contact one of the current officers. There are numerous starter positions that are neither hard nor time-consuming. Participation is a great way to support our club.

The Orange County

Amateur Radio Club "OCARC"

P.O. Box 3454

Tustin, CA 92781

Web: http://www.w6ze.org

Email: ocarc_info@w6ze.org

AUCTION !!!

AUCTION !!!

AUCTION !!!

It's that time of year again. The OCARC annual ham radio auction is Friday, October 16th at 7:00pm.

Bring your gear to sell. Come bid on other equipment.

This is always a fun event. Bring your ham radio friends too!!!

Please visit the OCARC website (www.w6ze.org) for a map and auction rules

The Orange County
Amateur Radio Club "OCARC"
P.O. Box 3454
Tustin, CA 92781
Web: http://www.w6ze.org
Email: ocarc_info@w6ze.org

Here's an important and, I think, defining statement relative to our wonderful hobby. It reminds us of that which we know so well and provides us with guidance. Yesterday's words are still true today.

The Amateur's Code

The Radio Amateur is:

CONSIDERATE…never knowingly operates in such a way as to lessen the pleasure of others.

LOYAL…offers loyalty, encouragement and support to other amateurs, local clubs, and the American Radio Relay League, through which Amateur Radio in the United States is represented nationally and internationally.

PROGRESSIVE…with knowledge abreast of science, a well-built and efficient station and operation above reproach.

FRIENDLY…slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.

BALANCED…radio is an avocation, never interfering with duties owed to family, job, school or community.

PATRIOTIC…station and skill always ready for service to country and community.

—The original Amateur's Code was written by Paul M. Segal, W9EEA, in 1928.

The above is an excerpt from the page following the Foreword in the The ARRL Handbook For Radio Communications (2009)

FOX HUNT NEWS

The next southern California on-foot transmitter hunting session will take place September 19, 2009 at the Santa Fe Dam Recreational Area. It is intended for beginner and intermediate level transmitter hunters. All ages are welcome, so bring the family. A ham radio license and/or knowledge of radio equipment are not required. Experts will be on hand to teach you the basic techniques of on-foot radio direction finding (RDF).

If you are a beginner, there will be entry-level two-meter fox transmitters just for you, set by Joe Moell K0OV. For radio-orienteers of average experience, there will be a 5-fox two-meter international- rules course of low to moderate difficulty, set by Marvin Johnston KE6HTS. An optional 80-meter fox transmitter may also be on the air.

The main 5-fox hunt begins about 10:30 AM. Hunters may start the courses at any time until 1 PM.
Courses close at 3 PM.

If you don't have the antenna/attenuator system for on-foot foxhunting on two meters with your ham radio handi-talkie or scanner, you can easily make one right before the hunts start. Beginning about 9:00 AM, Marvin Johnston will conduct a clinic for building his kits for measuring-tape yagis and offset-type attenuators. If you register in advance by sending e-mail to marvin@west. net, he will have the kits reserved in your name waiting for you.

It takes about an hour to put the kits together with tools and soldering irons that will be provided. If you're not an electronic technician, don't worry because there will be plenty of experts to help you. We want you to succeed! Then with your HT and the kitbuilt equipment, you will be all set to hunt.

For the advanced 2-meter course, orienteering flags and electronic scoring will be used at each transmitter. If you have an "e-stick," be sure to bring it. There is a $5 fee for the advanced course to cover expenses related to the use of Los Angeles Orienteering Club's e-punch equipment and maps. The beginner course and the 80-meter transmitter hunt are free of charge and e-punch is not required for them.

A limited amount of radio direction finding gear will be available for loan. If you have receivers, scanners, directional antennas, attenuators, or other equipment suitable for on-foot RDF, be sure to bring it. Make sure all batteries are fresh.

Santa Fe Dam Recreational Area is in the city of Irwindale near the intersection of the 605 and 210 freeways. From 605 northbound, take the Live Oak Avenue exit and go east. From 605 southbound, take Arrow Highway exit and go east. In both cases, you will merge into Arrow Highway. The park entrance will be on your left, opposite Azusa Canyon Road. Alternately, from the 210 freeway, exit at Irwindale Avenue, go south to Arrow Highway, turn right (west) and look for the park entrance on your right opposite Azusa Canyon Road. We will gather in the picnic area closest to the first stop sign after the entry kiosk. Go straight ahead at that stop sign and then turn left into the parking lot. Look for the orange and white orienteering flag. Talk-in on 146.52 MHz simplex. Vehicular entrance and parking costs $8 per vehicle. A map to the site is at www.homingin. com

73,
Joe Moell K0OV
www.homingin. com

TechTalk #77

Digital-ATV – Testing Report – Part 1

by Ken W6HHC
&
Robbie KB6CJZ

In the May 2009 OCARC newsletter, TechTalk presented an introduction to D-ATV. In the June newsletter, Robbie-KB6CJZ and I teamed-up to present a top-down approach for planning a DATV Station that resulted in selecting the DVB-S standard. The July TechTalk explained how Symbol-rate and FEC affected the RF Bandwidth on DVB-S. In this article, Robbie and I team up to test and share the initial test results of the DATV station we had planned

Configuring the DATV Transmitter

A "breadboard" for testing the DATV transmitter for the DVB-S standard is shown in **Fig 1**. These boards were purchased from SR-Systems located in Germany (...see links at the end). **Fig 2** shows a block diagram of the entire DATV station and how the two boards fit into the station. Note that we have not yet added an RF power amplifier to the test set up, so we tested with only 1 mW output on 1.290 GHz.

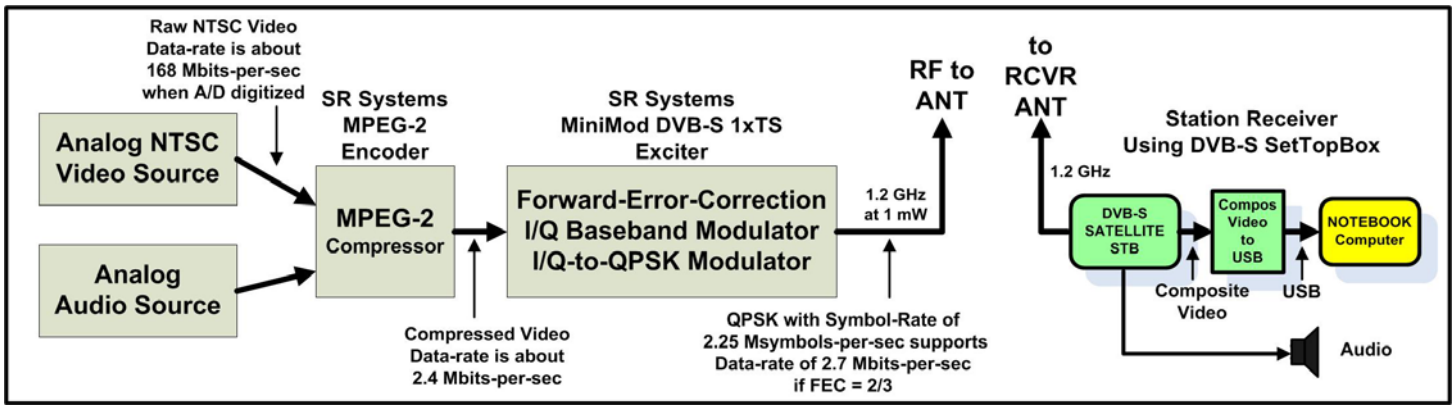
Figure 1 – MPEG2 and DVB-S 1.2 GHz Exciter Boards from SR-Systems on the Test "Breadboard"

Choosing the transmitter frequency and all other set-ups and adjustments with the DVB-S transmitter and the MPEG2 compressor are made through an RS232 interface connected on the DVB-S Exciter board. I used a RS232-to-USB adapter to plug the RS232 cable into the notebook computer. By running a WindowsXP application called "Hyper-Terminal", I can read out the settings on the boards and make changes to the settings. **Fig 3** is a typical display of the settings menu as seen on the notebook computer.

```
DVB MiniMod Firmware V54.34 LOWDVBT
(c) 2009 maintech GmbH

OnBoard VCO: ADF4360-0
Real HF output range from 575000 to 1425000 kHz.
FPGA firmware v042.
Encoder firmware upload done (tvp5146, 0x01600425).

MiniMod Mainmenu
1) show status
2) Input Settings
3) Modulation Settings
4) Video Settings
5) Audio Settings
6) PSI Settings
7) PID Settings
> 3

Modulation Settings
1) TX Enable          (ON AIR)
2) Output Frequency   (1290000 kHz)
3) Spectrum           (normal)
4) Carrier Only       (no)
5) Output Gain        (12)
6) Symbolrate         (2500 ksym/s)
7) Coderate (FEC)     (3/4)
0) exit menu
>
```

Figure 3 – Typical Hyper-Terminal Menu Display of the DVB-S XMTR Settings

Figure 2 – Block Diagram Showing DATV Station being Tested



TechTalk – DAVT cont'd from pg 8

Fig 5 also shows how the configuration menu looks like on the notebook computer when no DATV pictures are being displayed. For the test set-up, a very simple ¼ wavelength wire was inserted into the RF SMA connector and used to provide a 1.2 GHz vertical antenna on the XMTR, as shown in **Fig 4**.

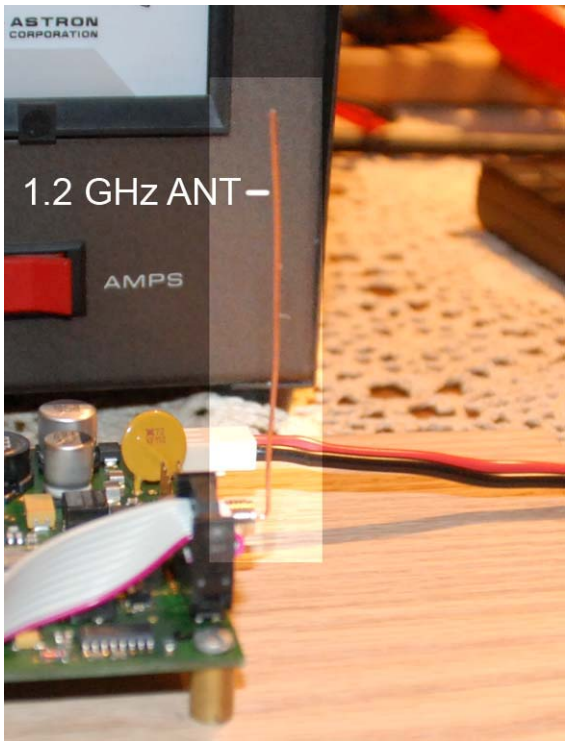


Figure 4 – Simple ¼-wave Vertical Antenna used for Testing the DVB-S Exciter

I used my trusty Kenwood TM-741A FM receiver to confirm that there was a nice strong RF signal centered around 1.290 GHz when the DVB-S exciter was turned on.

Configuring the DATV Receiver

The heart of the DATV receiving station is a ViewSat Model VS2000 Xtreme DVB-S SetTopBox (aka FTA or Free-to-Air) that I bought used on e-Bay. The price was right; less than $75, including cost of shipping.

As the block diagram in **Fig 2** shows, the output of the STB sends Composite Video to the USB port on the Dell notebook computer via Composite-Video-to-USB converter that costs about $50 on the internet. I bought a Startech.com USB 2.0 converter (new) via Amazon. **Fig 6** shows a photo of the Startech.com USB 2.0 converter. Note that this model does not send the audio to the computer, only composite-video or S-video. The Startech.com product is primarily

Figure 6 – The Composite-Video-to-USB converter Sends the Video to the Computer USB Port

designed to capture video files to a disk on a computer and to take "snap shots" of video streams. It includes a software program called GrabBee that

See TechTalk – cont'd on Page 10

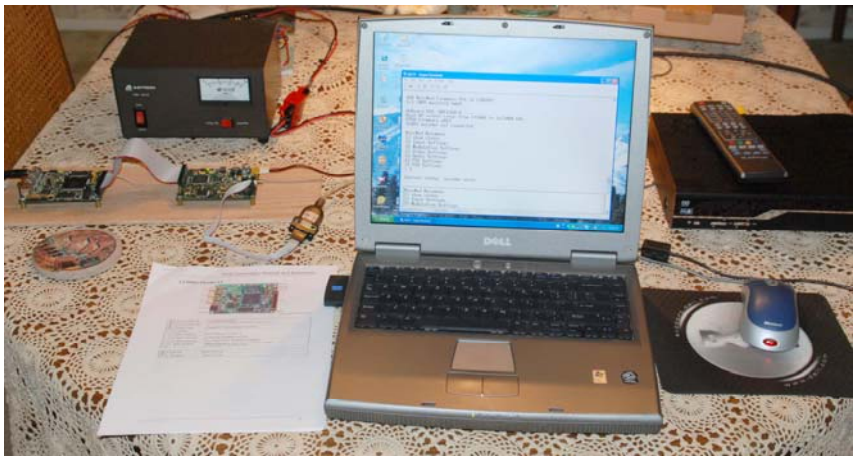


Figure 5 – Photo of the Entire DATV Station – Satellite STB receiver is on right, Notebook for configuring Transmitter in the middle, and DVB-S Transmitter on left.

TechTalk – DAVT cont'd from pg 9

allows the USB data to be displayed on the computer screen. The computer screens in **Fig 7** and **Fig 8** are being displayed by the GrabBee application software and device drivers.

The hardest part of our first testing session was to determine how to use the SetTopBox receiver to tune in the frequency we wanted, 1.290 GHz. This was not easy. Robbie determined from inspecting the STB menus that the STB local oscillator was 10,600 MHz. So, on this particular brand of STB:

STB Search Freq = XMIT Freq + 10,600 MHz

STB Search Freq = 1290 MHz + 10,600 MHz

STB Search Freq = 11890 MHz

Because each brand of STB has a different user's interface...we could never determine how to command our STB to search-and-find our signal on a frequency of 11,890 MHz. So we tried a different approach and added a "new transponder" to the GALAXY 10R Satellite settings already on the STB. Now we could edit the frequency for the new transponder to 11890. **Fig 7** shows the settings for new 'transponder 33" is configured to 11890 with a Symbol-Rate (S/R) of 2500 (Ks/sec).

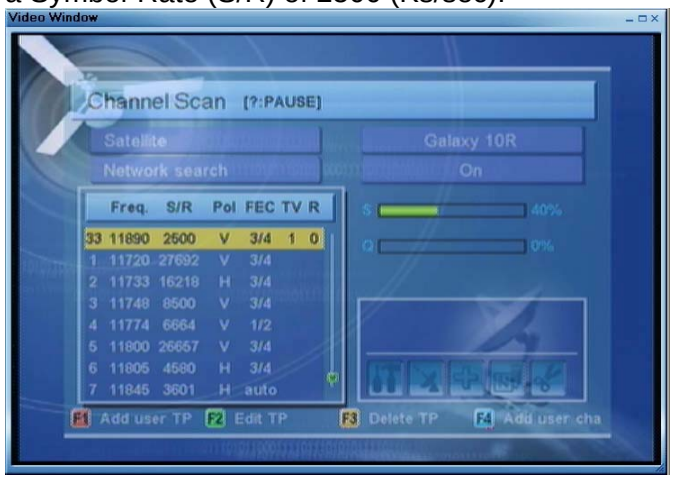


Figure 7 – The STB Configuration Menu for Editing Received Frequencies and other Settings

Robbie explained there are two cautions hams need to take on the antenna connector of satellite STB's:

1) The center conductor of the antenna connector has a DC voltage present that is normally intended to power a remote LNB (low noise block) converter box near the satellite dish antenna. Do not short the center conductor to ground. The fuse is normally soldered down to the PCBA inside the STB (not an easy task to replace). Robbie installed a "DC Block" adapter to the antenna F-connector to prevent an accidental short circuit.

2) The STB receiver RF amplifier is quite sensitive and designed to receive tiny microWatt signals (-20 dBm to -70 dBm). We could blow out the STB amp if the received signal is too strong. For initial testing, Robbie inserted some 50 dB of attenuators on the antenna...knowing we could always remove the attenuators once we knew the signal strength

First DATV Test Pictures Received

Once we determined how to correctly configure a "transponder" setting for our frequency on the STB, the picture magically appeared on the notebook screen....crystal clear!! A photo of our first test pictures is shown in **Fig 8**. To add a little professional touch to the received pictures, Robbie-KB6CJZ inserted his text generator in series with the video input to the MPEG2 encoder board. You can see "**W6HHC ORANGE**" show up in the upper-left corner of the DATV picture in **Fig 8**.

Figure 8 – First DATV Test Pictures (of Ken W6HHC) are Displayed on Dell Notebook Computer

The first thing that we noticed was that the audio had very little latency (delay) from real time. Probably about 1 second. For the first test trial, we had set the Symbol-Rate on the transmitter menu to 2.5 Msymb/sec and the MPEG2 data-bit-rate setting to "MANUAL" and 2.5 Mbits/sec, while FEC was set to 3/4. There was noticeable latency in the picture motion and also a noticeable "jerking" to the motion. We were confused to understand what was going on?? Why were we seeing so much video motion jerking??

The answer appeared with a little more testing at higher Symbol-rates. When the GrabBee software was set for default 720 pixel wide picture, the jerking was gone. When the GrabBee was set for a 1024 pixel wide picture (full screen), the jerking was extreme. The settings on the transmitter were **NOT incorrect**, but the receiving notebook computer and its display lacked the processing speed to convert the NTSC video pixels into a full display screen at 1024 pixels wide at the frame rate. The notebook computer was probably dropping five frames (or more?) to process one frame at 1024!!

See TechTalk – cont'd on following Page

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Inspecting RF Bandwidth

Robbie used a HP Model 8559A Spectrum Analyzer 0.01-to-21 GHz plug-in (installed in a HP 182T display) to determine the quality of the transmitted QPSK RF signals.

Figure 9 – Robbie-KB6CJZ Inspects RF Bandwidth with an HP Spectrum Analyzer

The spectrum analyzer was set to 1.290 GHz - not centered, @500 KHz per /div (horizontal) and a bandwidth at 30 KHz. RF input was set at 0 dB with a two inch sniffer. Robbie checked the signals bandwidth which was reading about 3.5 MHz.

The earlier TechTalk#76 article explained that bandwidth for QPSK (DVB-S) is predicted as:

RF Bandwidth = 1.33 x Symbol-Rate
RF Bandwidth = 1.33 x 2.5 Msymbols/sec
RF Bandwidth = 3.33 MHz signal

So our measured bandwidth looked as expected. The signal looked clean and did not drop out when the video was removed. No out-of-band testing

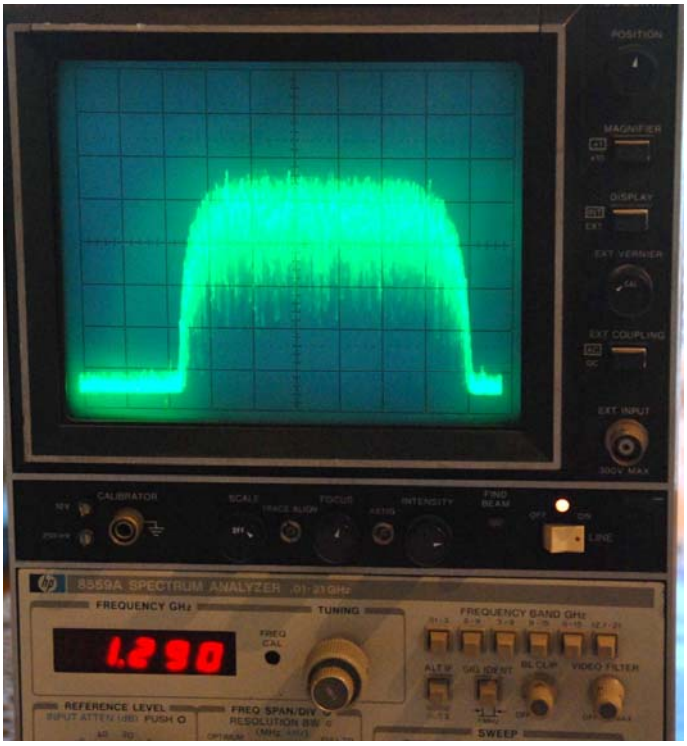

Figure 10 – A Close-up of the 1.290 GHz Signal RF Bandwidth on the Spectrum Analyzer Display

or other testing was performed. More test reports will come in later OCARC TechTalk articles.

Findings and Plans

The DATV station works like we had hoped it would work. The picture really is crystal clear. But, we need to still better understand computer display-density processing limitations when displaying DATV video.

We will do more testing at various Symbol-rates and data-bit-rates. Then as a next step, we plan to amplify the RF output from 1 mW to around 10 W. Then we will do some cross-town distance testing.

Useful DATV Links

- AGAF D-ATV components (Boards) – see **www.datv-agaf.de** and **www.AGAF.de**
- SR-Systems D-ATV components (Boards) – see **www.SR-systems.de**
- British ATV Club - Digital Forum – see **www.BATC.org.UK/forum/**
- Amateur Television of Central Ohio – see **www.ATCO.TV**
- OCARC newsletter DATV introduction article "ATV – the Digital Fork in the Road" – see **www.W6ZE.org/DATV/TechTalk74-DATV.pdf**
- OCARC newsletter article "Planning a Digital-ATV Station" – see **www.W6ZE.org/DATV/TechTalk75-DATV.pdf**
- OCARC newsletter article "Understanding Symbol-rate, FEC, and RF Bandwidth for DVB-S" – see **www.W6ZE.org/DATV/TechTalk76-DATV.pdf**
- Darren-G7LWT site for "DATV Primer" – see **www.G7LWT.com/datv.html**
- Rob-MØDTS D-ATV site including details of F4DAY-design – see **www.M0DTS.co.uk/datv.htm**
- Ultimate Resource for Digital Amateur Television – see **www.D-ATV.com**

THE ORANGE COUNTY BOY SCOUTS OF AMERICA INTERNATIONAL COMMITTEE PRESENTS

52ND ANNUAL JAMBOREE ON THE AIR – "JOTA"

October 17, 2009

8:00 a.m. – 4:00 p.m.

What is "Jamboree on the Air"?

Jamboree on the Air (or "JOTA") is an annual scouting and amateur radio event sponsored by the World Scout Bureau of the World Organization of the Scout Movement. Thousands of amateur radio stations around the world participate. If the conditions are right, it is common to contact a hundred scouting countries during the weekend. In the United States Cub Scout Dens and Boy Scout Patrols visit a local amateur's ham shack during JOTA. Many districts and councils hold events that coincide with JOTA where amateurs set ups stations giving scouts and leaders a chance to exchange greetings from Scouts in other areas. Some exchanges lead to long-lasting friendships, and the exchange of photos, badges, pins and patches. ***JOTA is the world's largest organized scouting event.***

This year the Orange County Boy Scout Council will be hosting a JOTA event at the council headquarters at 1211 E. Dyer Rd. in Santa Ana. Volunteers from several local ham radio groups and service organizations, including the Orange County Chapter of the American Red Cross, will be supporting this event, providing ham radio equipment and hands-on instruction for our local Scouts. ***All Scout groups are invited to attend, including all levels of Boy Scouts and Girl Scouts.***

The youth will be able to:

- *Talk to other scouts around the world without the internet*
- *Explore wireless technology*
- *Learn how to use a ham radio to help their community*
- *Learn how to earn their amateur radio license (it's easier than you think!)*
- *Learn about earning the Radio Merit Badge*
- *Learn how to use portable radios to communicate while camping or hiking.*
- *... and, if conditions are right, we may be able to talk with astronauts onboard the International Space Station.*

For more information contact:

Cliff Guice KG6MIG 714.883.8595

Here follows an article written by OCARC Contributor Arend Ubbink, PA2AWU.
He is a member of PA6Z, a Dutch HF Contest Club and an "RF" contributor

The following describes the design and construction of a 30 meter ground plane with 8 elevated radials. This antenna was used by the Dutch DX & Contest Group PA6Z

Author: Arend, PA2AWU

This year, 10 members of the Dutch DX and Contest Group PA6Z decided to contest in Luxembourg again. We will leave on Saturday morning (0300), the 3rd of October, 2009. It will be about a three hour ride to Wiltz in LX: a good location with good facilities and a steady mains supply voltage. Saturday we'll be putting up all the antennas and that evening we'll start CQing! Pse visit: www.PA6Z.NL for information on our continuing activities.
After some sleep, some shopping, good food, some drinks and a walk, we'll start operating: all day and night long, some sleep, a walk, some food etc. This time, my main focus will be 40 and 30 meter CW only.

During our last visits there, on 30 meters, we used my pancake aluminium base, with some sort of radials and some aluminium tubes screwed together, all of which did a terrific job! But now I want something even better: Eight elevated radials, and as a radiator, a Cu wire attached to a 10- meter-long fishing angle rod mounted on top of a 7 meter long aluminium (light-weight) military sectioned mast.

You may know, from an earlier article, that I like to first design my antennas in 4NEC2, a shareware antenna design program from Arie Voors who lives only 30 km away from here ('tis a small world ☺). Before I found 4NEC2, I used the MMANA program, but I'm not allowed to mention that program in my group anymore… ☹. I find it so much easier to use, but OK, I must " improve"….. By the way, in my opinion, the best Dutch professional antenna designer lives only 15 km north of me. When I'm stuck while using 4NEC2, he helps me out, with lots of patience and experience.

Onward and Upward!

Bonus photo: EU military mast sections

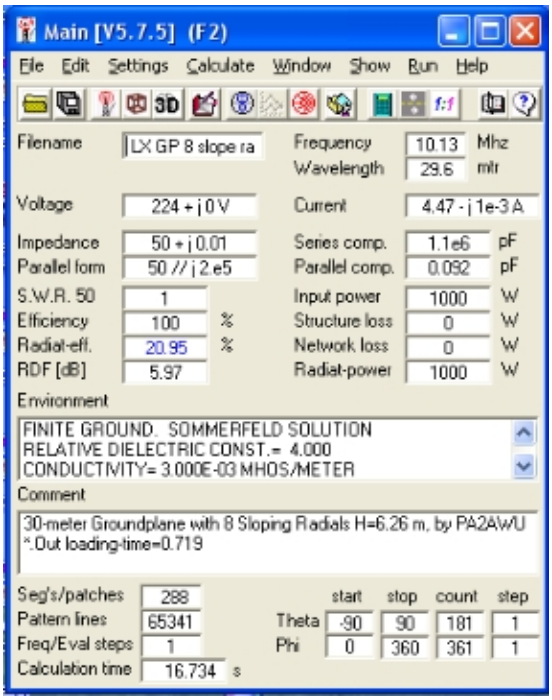

Figure 1: Opening screen 4NEC2. It took some time to get these results!

For the 8 radials, I use surplus black insulated army telphone wire, comprised of four Cu and two steel wires, all 0.2 mm diameter. Total radial diameter is approx. 0.8 mm.
I use mm, not inches… sri. ☺ 1 inch = 2.54 cm. 1 centimeter multiplied by 0.3937008 = 0.4 inches. 'S OK?

As a radiator, I use solid Cu wire with a diameter of 1.7 mm (with PVC insulation), for a total diameter of 3.2 mm (like Romex). The radiator goes up in the fibreglass pole. PVC and fibreglass will be the reason that in practice the resonance frequency is abt 3 % lower than the design in 4NEC2. The centre of the antenna is an old army mast insulator, see picture below.

Photo 1: The mast insulator, it's second life. Radiator: green-yellow wire.

The white stuff is Delrin®. A friend of mine machined this, as a base for the fibre pole. That's what I like about getting older! Good relations with peers with lots of expertise and beautiful machinery. Dolf, PA0DLF is my expert in this.

Xtra: Pull up cord with cluster of radials attached

Next, a 4NEC2 diagram: SWR and Reflection coefficient. At least in theory!

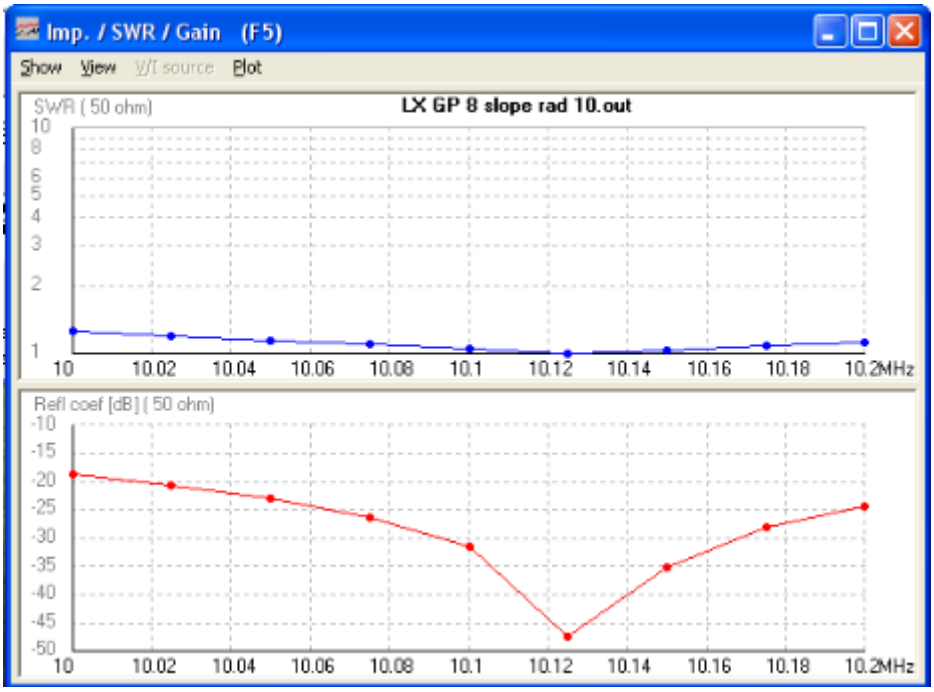

Figure 2: How low can you go. Design center frequency: 10.130 MHz

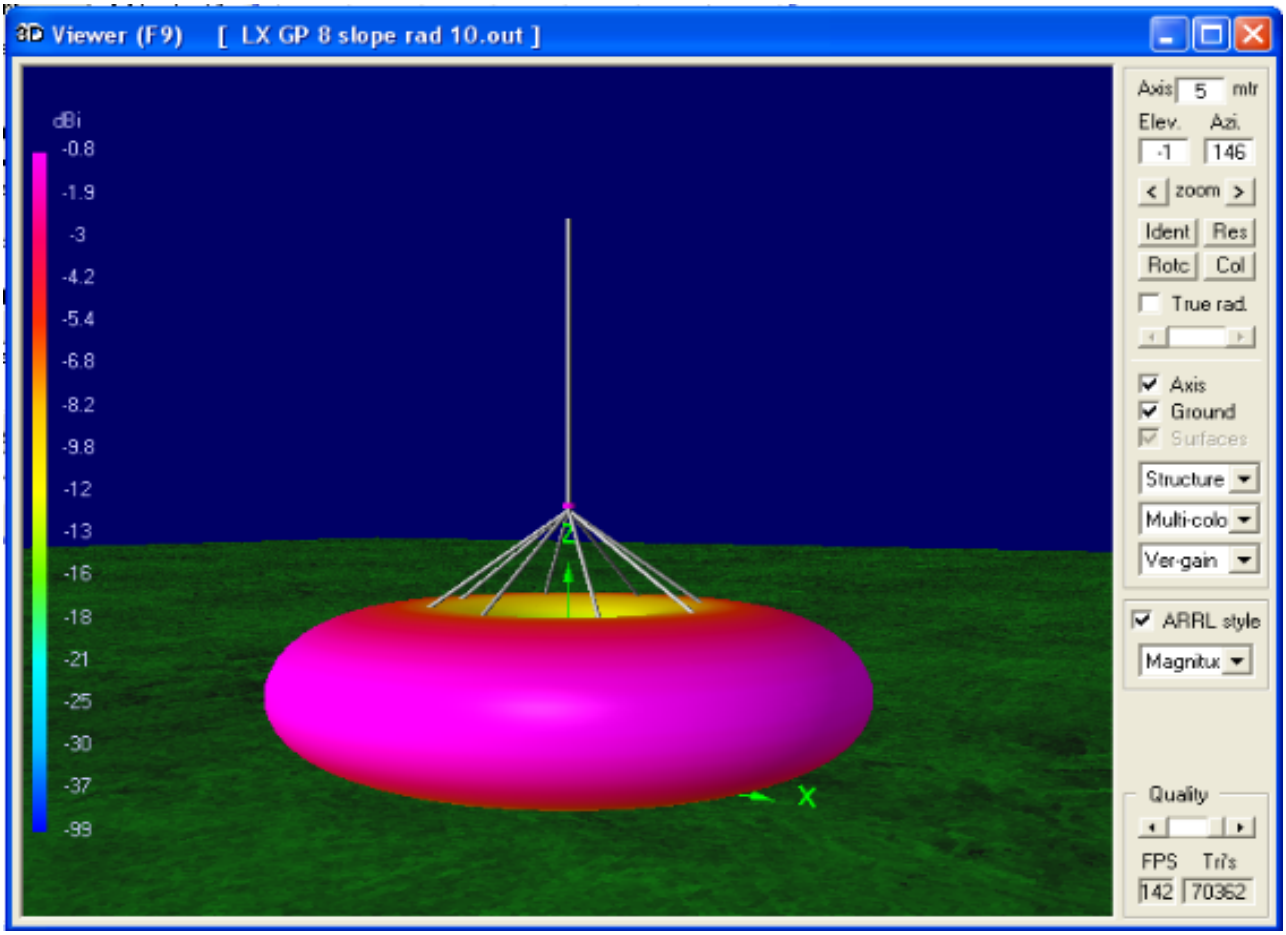

Figure 3: Full colour radiation pattern.

My first field measurements: CIA HF65 antenna analyser, showed this graph on the display:

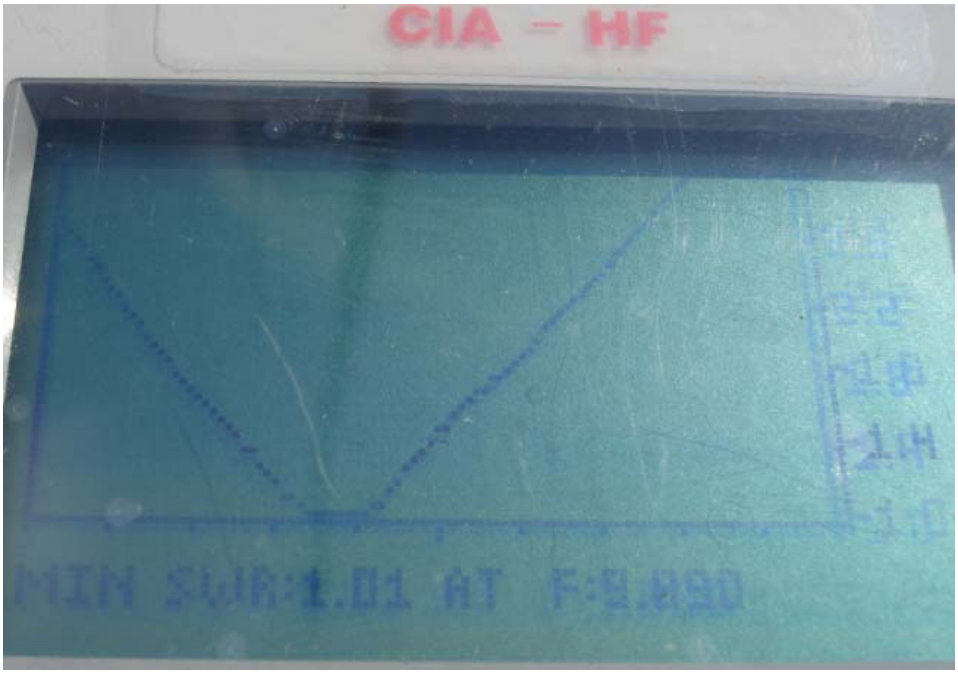

Photo 2: SWR Design frequency: 10.130 MHz. In practice: Minimal SWR on 9.890 MHz. Not too bad…

As you see above, NOT on frequency but 2.4 % off frequency.

In Bentheim, Germany, just across the border, Saturday August 31st, there was a fleamarket. There I bought 9 elegant ceramic isolators. I also bought a 50 cm Cu tube. See photograph below.

Photo 3: Ceramic insulator and Cu tube. Pushed together finally when length is ok, so duct tape keeps all in place….

Photo 4: My adorable dog Babouch. Now and then, I had to throw a stick for her to fetch to distract her from the burner noise of the hot air balloons that she fears.

With a bolt on top the base pin, I go around to put the guy pins on abt 8 m. from the centre.

Photo 5: bolt on basepin for measuring cord for the radials.

The antenna pull-up rope you see on photo 5 is aramide wire, as strong as steel wire. It weighs almost nothing.

Photo 6: designing and building the antenna: a joy forever.

Finally a photograph of the ground plane antenna with Dutch Ruisdael clouds, of course!

In LX, we will have only from abt 8 AM til 6 PM in the evening to put up the antennas.

We will be active on 6, 10, 12, 15, 17, 20, 30, 40, 80 and 160 mtrs. That's hardly enough time to erect all those antennas ☺. So my 30M GP must be up, in my opinion, in less than one hour!

Measurements: GP SO239 height: 6.26 m

	First time:	2nd	3rd	4 rd ?	5th ?
Radiator (cm)	716	692.5	685.5	681.5	679.5
Radials (cm)	760	750	749	720	716
Angle	Abt 117				
Distance center -radiator pin (m):	8.75	8	8	8	7.7
Res. Freq. (MHz.)	9.535	9.895	10.070	10.115	10.140
SWR:	1: 1.07	1: 1.01	1: 1.07	1: 1.10	1: 1.22
Impedance:	42.2	51	46.2	47.5	46.2

Further:

Well, I cannot write down here all my measurements. I clamped the Cu tubes above the eight insulators, on the radial wires, when their length was 716 cm. Tired of measuring. It should be finished already! I regretted it soon afterwards (of course).

With optimizing, I found that the radials should be abt 1.06 * length of radiator.

By only shortening the radiator and not, at the same time, also the radials, the feed point still isn't in the "middle" of the antenna. So finally, the fifth and last measurement still isn't what I wanted ☹

Well, in LX, when the others aren't watching me, I'll take some more time optimizing…… hi

At this moment, I'm fed up with it. ☺ I call this one my prototype antenna.

My next, urgent job is building a 5 pole Butterworth 10.130 MHz. bandpass filter. I do not want to risk blocking my receiver with the RF of the other nearby signals.

I hope to hear you in LX on 30 meter CW on October 03-09, 2009, perhaps on all the HF bands...that would be FUN!

de Arend, PA2AWU (Looking toward the Future! -ed.)

HOMEBREW CHOKE BALUN

I know that there has to be a few DXERS out there that at one time or the other have had antenna problems.
Well over the last few months I have had my share of problems with my new Cushcraft D3W rotatable dipole. After many hours of trying this and trying that I decided to change the commercial grade current balun with a homebrew balun. What did I have to lose?
I found a website that had all kinds of choke baluns, so I picked one and went to work. I had all the materials I needed lying around just collecting dust. The only thing that I had to buy was a six-inch-diameter section of PVC pipe. A few hours later with the help of my daughter Carolyn KE6BUH it was done. All that was needed to be done was to install the balun on the antenna. With a hip replacement and a few other things wrong, there was no way I was going up the tower. I called my good friend Dino KX6D to install the balun. After just a few minutes on the tower the job was done. I am happy to report that everything is working just fine. The SWR is down and the power output is up. Not much on 17 meters but was able to work an FO & ZL with good results.

Very simple to build and a lots of fun too. And when they work it is even more fun!

Here is the Website I found.

BUILD AN AIR WOUND 1:1 CHOKE BALUN FOR THE HF BANDS.

www.hamuniverse.com/balun.html

I hope everyone has enjoyed this article.
De
George Jacob - N6VNI

BONUS PICTURES: THESE ARE OF GEORGE'S ANTENNAS WITH THE BALUN INSTALLED. TRULY A BEAUTIFUL SIGHT!!

OCARC General Meeting Minutes
August 21, 2009

The OCARC July General Meeting was held at the Red Cross complex in Santa Ana at 7:00 pm on Friday evening August 21, 2009. There were a total of 40 members and guests present. There was a quorum of all directors present. Kristin K6PEQ conducted the meeting for Nicolas AF6CF who was out of town on business.

Kristin K6PEQ introduced our guest speaker – Brian Thorson AF6NA of Southern California Edison. Brian's presentation was on Radio and TV Interference. Brian has 18 years experience with the Edison Company. Brian explained that 75% of RTVI is in our home appliances.

With simple direction-finding equipment RTVI can be found throughout our homes – the best tool is a person on foot with a high frequency locator and antennae. Brian also shared the background on Edison's electrical delivery system and support structures powering our homes. Everyone enjoyed Brian's presentation.

Roll call was taken and we had a quorum. Kristen shared with the group the certificates issued to the club from Gordon WB6NOA & Susie West N6GLF for the OCARC's participation in the Orange County Fair. In addition, Cathy K6VC & Carl Gardenias WU6D gave a certificate and a small trophy to each club. Bob AF6C will create an award to give to Gordon West WB6NOA for all his time and dedication to the Orange County Fair. Gordon spends endless hours planning and organizing the Amateur Radio Booth each year for the Orange County Fair.

Paul W6GMU gave the Treasurer's report stating the club is solvent.

Arnie N6HC announced that he would be going on the K4M DXpedition to Midway Island. Information can be found on www.midway2009.com

Larry Mallek was recognized as having his DXCC #1 Honor Roll for completing all 338 countries. This all came about when the ARRL recognized Yemen as a country. GREAT JOB Larry!!!!

Motion to adjourn made by Paul W6GMU, seconded by Larry K6YUI, meeting adjourned @ 8:40pm.

Raffle to follow.

Respectfully Submitted by:
Kristine Jacob KC6TOD
OCARC Secretary

ARALB IS SPONSORING A LICENSE CLASS. PLS READ ON:

The Associated Radio Amateurs of Long Beach

Presents

Amateur Radio Technician License Course

October 3 – November 7 Saturdays, 9:00 AM until Noon

At the Long Beach Emergency Communications and Operations Center,
2990 Redondo Ave., at the corner of Spring St.

Presented by the Associated Radio Amateurs of Long Beach, active since 1927.

No Morse Code!

After passing the Technician exam on November 7 you will be qualified to get on the air!

$45 class fee includes book, exam, and testing fee. ($40 if you're under 18)

24 student maximum class size.

Cutoff date to sign up: September 25.

For more information, contact:

Bill Bradley, WD6FON
by telephone at 562-531-0534
by email at billbradley33@sbcglobal.net

OCARC

Board Meeting Minutes

2009-09-12

The OCARC Board meeting was held at the JagerHaus Restaurant, 2525 East Ball Road, Anaheim, at 8:15AM Saturday, September 12, 2009. There were a total of 6 directors and 3 visitors – Diane Konechy, Larry Mallek K6YUI, & Steve Brody N1AB attending. There was a quorum of directors present, with the following directors absent: Dan N6PEQ, Kristin K6PEQ, Bob AF6C, and Hank W6HTW.

DIRECTOR REPORTS:

- Treasurer Paul W6GMU reported $4424.95 and we are solvent.

- Kristin K6PEQ sent her message via email in which she confirmed speakers were covered through the end of the year. Additionally, she is looking into arranging for speakers for the first quarter of 2010 to assist the incoming Vice President. Also, she will notify everyone of the possible dates for the Potluck (two dates are being considered at this time). September's speaker will be Bob Grimmick N6OX on a DXpedtion.

- Ken W6HHC said that he would prepare advertising for the upcoming auction, that the auction will be mentioned in the September + October newsletters and that he will work to complete the business card project. Ken also mentioned that in two weeks he and Robbie KB6CJZ would have their presentation shown at the ARRL-TAPR meeting in Chicago on their work on Digital Amateur-TV.

- George N6VNI mentioned he would write a little article for the newsletter on a balun he just built.

OLD BUSINESS:

- **RF Newsletter " Rotating" Editors**
  - September – Paul W6GMU
  - October – Ken W6HHC
  - November – Kristine KC6TOD
  - December – TBD (a committee in a notorious bar in Cleveland –ed.)
- **QSL Printing and Mailing –** a motion was made by Kristine KC6TOD to order the QSL cards without a picture using the agreed-upon design, motion seconded by Paul W6GMU. This way all the QSL cards that are waiting for replies can be completed.
- **Guest Speakers –** Kristin has the remainder of the year covered and is looking into lining up speakers for the first quarter 2010 to help the incoming VP.
- **Morse code Class:** The class was a no show. At this time, nothing is scheduled per Larry. George N6VNI suggested incorporating some CW into the net on 10 meters.
- **2010 Field Day Plans & Suggestions –** George N6VNI emphasized the importance of having a Plan A & a Plan B to avoid any conflict in finding a location. Plan A is the first choice of location and Plan B is something to use as a backup just in case of a Plan A problem. Walter Knott School was suggested because of the location and the amenities (such as grass, shade, parking and overall comfort). It was also suggested that a letter be written (a coordinated effort by the President & Secretary) to the base commander at the Los Alamitos Joint Training Facility for the possibility of reconsidering the costs for the use of the base for Field Day 2010.

See Board Minutes – cont'd on following Page

Attention Members!!!

Do you know a fellow ham that would be interested in joining OCARC? Do you have a friend that is curious about ham radio and wants to learn more about our hobby? Why not invite him or her to one of our exciting monthly meetings?!?! The meetings are fun, informative and entertaining. Check out the upcoming events page in this newsletter to see the exciting speakers we have lined up for the next couple of months. Don't forget about the great raffle prizes too. So bring a visitor to one of our meetings, and help **your** club expand!

Make sure to inform your friends of our club's website, which is always kept up to date. Information on club meetings, activities and our newsletter archive make it a worthwhile site to surf! http://www.w6ze.org

Board Minutes – cont'd from Pg 24

- Dessert for the September meeting will be provided by the club - Kristine KC6TOD will handle the arrangements and details.

NEW BUSINESS

- October Auction planning and publicity - Ken W6HHC again said he would made sure copies of the advertising would be distributed. Nicolas AF6CF will ask Kenan KR6J if he would like to be the Auctioneer! Each board member was challenged to bring some equipment to be raffled off, insuring that we have plenty of offerings for the membership.

- Election Committee designation - Rich KE6WWK was gently persuaded to be the Chairman of the Elections committee. He will be soliciting for volunteers at the September and October meetings.

- Christmas Dinner date and preparations – The Christmas dinner will be held on Friday night December 11th at the Jagerhaus Restaurant on Ball Road in Anaheim.

Meeting adjourned 9:30 AM
Respectfully submitted: by *Kristine Jacob KC6TOD*, Secretary

You don't need to write like William "Bill" Shakespeare in order to write an article for the RF Newsletter. In fact, we prefer articles without the words "Thy", "Whilst", "'Tis" and "Oft".

Do you have an idea for a newsletter article? Maybe you have acquired a new piece of equipment, designed or constructed a new antenna, took a trip focused around ham radio, want to share an amateur radio related experience or discuss a technical topic. Why not write an article for the monthly RF newsletter? The article can be short or long, simple or elaborate, and can even include pictures!

The RF newsletter relies on articles from our members. So why not give it try? Write an article and send it to the newsletter editor. It's fun, and at the same time, your contribution helps support our club and hobby!

If you want you can also try your hand as the newsletter editor. We have a rotating editor monthly and would love to have someone new give it a try. There is a template and it is easy and fun!!

HOW TO SEND AN ARTICLE TO THE EDITOR

Do you have an article or a picture you took or that you found that you think may be of interest to the OCARC members??

Just e-mail the article to

EDITOR@W6ZE.org

JPEG files are best for sending pictures. Use WORD files or .TXT files to send articles to the editor.

PLEASE SUPPORT OUR SPONSORS

The following organizations support our club's events in numerous ways. Please consider them when making your Amateur
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