As the year 2005 heads towards a close for the OCARC, plenty of good happenings are still occurring at the club.

The October Ham Radio AUCTION was a huge success and lot’s of fun. If you missed it, you lost an opportunity to empty your attic....or to buy some low-cost equipment. See Pg 12

Our FD Chairman, Willie-N8WP, announced that the OCARC did exceptionally well in the recent 2005 FD competition. We were second overall among the Orange Section clubs. WOW!!! More details will follow in the December issue of the RF newsletter.

We have a great program planned for our November meeting, but Nov is also the meeting to elect new officers and directors for 2006. As I write this article, there are still three positions open for nominations. These three club positions are the Secretary, Membership (keeps log of new members and mails RF to prospects), and Publicity position. We can’t have a good radio club if we can’t find people willing to help. Please let Kristin–K6PEQ know if you are willing to help in 2006. We NEED YOUR HELP!!

See page 7 for details on the club Christmas Party planned for Friday, Dec 16. Cheryl-KG6KTT is selling tickets for the dinner at the Nov meeting. Kristin and Dan promise an outstanding raffle will be available to those attending the dinner.

...see you at the meeting!
...de Ken W6HHC

November Meeting
The November meeting will be held in the Red Cross Building meeting location. Our speakers will be Taka Nakayama, KW6I, Executive Vice President of AOR USA and Jeff Reinhardt, AA6JR presenting a program on:

“New Digital Voice Modulation”

AOR’s exciting new digital radio voice modems, the ARD9000 and ARD9800 will be demonstrated. With one of these units, any ham can convert an existing analog transceiver to work digital voice in one easy step with NO transceiver modifications.

Don’t miss it. All members and visitors are welcome.

The next general meeting will be:

Friday, Nov. 18th
@ 7:00 PM
We will be meeting in Room 208 in the east Red Cross Building

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2005 Board of Directors:

President:
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(714) 744-0217
kkonechy@pacbell.net

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n8wp@arrl.net

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KQ6JD@aol.com

Steve Brody, KB1GZ
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stevebrody@sbcglobal.net

2005 Club Appointments:

W6ZE Club License Trustee:
Bob Eckweiler, AF6C
(714) 639-5074
af6c@arrl.net

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ARRL Assistant Director:
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kkonechy@pacbell.net

ARRL Awards Appointee:
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(714) 557-7217
k6vdp@aol.com

OCCARO Delegate:
Kristin Dankert, K6PEQ
(714) 544-9846
kdankert@comcast.net

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

Club Breakfast:
First Saturday of the month
at 7:30 AM
Katella Grill (Main & Katella)
1325 W. Katella Avenue
(2 miles west of 55 freeway)
Orange, 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.
TechTalk #45
A Shortened 30M Dipole – Part 2 of 3
“How to Build It”
by Ken Konechy – W6HHC

The OCARC is trying to increase the membership activity on 30M. If you are interested, then you will need a reasonable antenna if you want to work outside of Orange County on 30M. So here is my idea of an easy to make – fits in anyone’s back yard – “home brew” antenna for 30M. Part 1 (published in March 2005) described the basic design concepts using WinNEC antenna modeling program that resulted in a short dipole that is rotated vertical for a good radiation pattern. Here in Part 2 of the series, I’ll describe how to actually construct this antenna.

Figure 1 gives you an overall view of the final size of the shortened antenna. By tilting the dipole into a vertical orientation, I end up with a “vertical” that uses no radials. The bottom half of the dipole performs that same work as the classic radials, but in my mind is a lot simpler. Using a vertical instead of a horizontal dipole provides a much lower angle of radiation (less than 30 degrees) when mounted low to the ground. The same horizontal dipole mounted at 12 feet high would have the center of the radiation straight up (aka “a cloud warmer”)

![Fig 1 – Basic Concept of Shortened 30M Dipole](image1)

I actually decided to shorten the length of this already shortened dipole from the original 14-foot design in March to an only 11-foot-1-inch overall length for the actual construction. The trade off is that the predicted SWR rose from about 1.8:1 for the 14-foot design to 2.2:1 for the 11-foot design. I am planning to deal with improving the native SWR in the future. The parts list to construct the antenna is listed below:

- 10-foot piece of 1.0-inch OD surplus aluminum tubing (0.85-inch ID) sawed into four equal sections – Schorr Metals on Kramer in Anaheim
- Three each 24-inch pieces of ⅛-inch (ID) PCV – Ace Hardware

Each side of the dipole is constructed from two pieces of 30-inch aluminum tubing held together by a 24-inch section of ½-inch PVC pipe that is partway inserted into each side of aluminum. The PVC pipe is exposed 5 inches to act as an insulator. See Figure 2 for construction details. The exposed portion of the PCV pipe will be used to mount the loading coils. In a similar manner, the two sides of the dipole are joined together using a 24-inch section of ½-inch PVC with a 3-inch exposure of PVC pipe (the gap becomes the center insulator).

![Fig 2 – Construction Details for each Side of Dipole](image2)

Two loading coils are constructed using the 2-inch ID PCV pieces as coil forms. I wound 19-turns of the #14 insulated wire onto each of the forms to achieve 16.5 u-Henries of inductance. By drilling two small holes thru the pipe the wire can start from the inside and then the coil can be wound on the outside of the form and finally the wire snakes back thru a hole to the inside (where it will be connected to the element. Wind each new turn tightly next to the previous turn. Figure 3 shows one of the two finished loading coils. Figure 4 shows the concept of how the loading coil is mounted to the insulator on each side of the dipole using 3-inch long fully threaded bolts with nylon-locking-nuts to keep the loading coil centered around the PVC insulator on the element.

See TechTalk cont’d - on Pg 4
TechTalk cont’d – from Page 3

Fig 3 – One of the Two 16.5 uH Coils

(Counting of the coil is not really important, RF-wise, it just looks nicer.) The wires coming from the coils are finished with solder lugs. Then solder lugs are bolted to the closest ¼-inch bolts on the aluminum tubing.

Fig 4 – Mounting Details for Loading Coils

Secure all of the bolts with stainless steel nylon locking nuts and the assembled 30M dipole looks like Figure 5. The antenna is lying in my front yard next to an 8-ft step ladder for comparison. The light dipole weighs less than 4 pounds.

To erect the vertical in my backyard, I attached a 10-foot length of 2x4 redwood as a vertical “mast” to a block wall using lead bolt anchors pounded into the block wall and 5-inch ¼-inch bolts through the wood.

Figure 6 shows some construction details for mounting the vertical antenna to the wooden “mast”. Two holes are drilled through the center PVC insulator of the dipole to attach to the wooden bracket.

Fig 5 – Assembled 30M Dipole

Next month, Part 3 of this series will provide actual SWR and “on the air” results of the shortened 30M Dipole.
Are you in need of a small, portable and lightweight automatic antenna tuner for portable or base HF/6 meter operation? If so, the new LDG Electronics Z-11Pro will do the trick! In the summer of 2005, LDG Electronics began delivery of their new Z-11Pro tuner. The Z-11Pro replaces their very popular model Z-11 that is now retired. This new model offers higher power handling capability, 6 meter operation, lower voltage requirements and substantially more tuner memories resulting in ultra fast tuning of your antennas.

**LDG Electronics Model Z-11Pro Manufacturer's Specifications**

<table>
<thead>
<tr>
<th>Frequency Coverage</th>
<th>1.8 to 54.0 MHz (Continuous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Handling Capability</td>
<td>125 Watts (SSB &amp; CW Peak)</td>
</tr>
<tr>
<td></td>
<td>100 Watts (Digital)</td>
</tr>
<tr>
<td>Tuning Time</td>
<td>0.1 to 4 seconds (Full Tune)</td>
</tr>
<tr>
<td></td>
<td>&lt;0.1 seconds (Memory Tune)</td>
</tr>
<tr>
<td>Tuning Capability</td>
<td>6 to 1000 ohm loads (160 thru 10 Meters)</td>
</tr>
<tr>
<td></td>
<td>16 to 150 ohm loads (6 Meters)</td>
</tr>
<tr>
<td></td>
<td>6 to 4000 ohm loads with 4:1 balun option</td>
</tr>
<tr>
<td>Size/Weight</td>
<td>7.5” L x 5.75” W x 1.75” H</td>
</tr>
<tr>
<td></td>
<td>1.5 lbs (Without Batteries)</td>
</tr>
<tr>
<td>Power Requirements</td>
<td>8 to 16 Vdc @ 300 mA maximum (During Tuning),</td>
</tr>
<tr>
<td></td>
<td>25 microamps (Idle)</td>
</tr>
<tr>
<td>RF Connectors</td>
<td>Type “UHF”</td>
</tr>
</tbody>
</table>

The front panel of the tuner, pictured to the right, is clean and simple. LEDs provide SWR indication, and also verify assorted button strokes and functions. Four buttons provide for manual adjustment of capacitance and inductance. There is also a button for tuning, and one other which allows for access to various tuner functions. Note the lack of a power switch. The Z-11Pro automatically powers up whenever RF is present or if a button on the front panel is pressed. After tuning, the device enters a sleep mode and draws a miniscule 25 microamps!

Pictured to the right is the back panel, which features SO-239 female UHF connectors for the antenna and transmitter inputs. A ground terminal, which includes a wing nut, provides for easy grounding. This also just happens to be a perfect spot to connect a “N6PEQ Portable Ground Radial Kit” (www.n6peq.com) for maximizing your radiated RF signal! A DC power jack and a stereo jack for a radio control cable, round up the remainder of the back panel.

See Ant Tuner cont’d - on Pg 6
Z-11Pro Automatic Antenna Tuner cont’d - from Pg 5
Pictured below is the inside workings of the Z-11Pro tuner. Note the very professional look to the construction of the unit. The banks of inductors and latching relays are impressive! The area above the latching relays provides the necessary room to install a battery holder (not provided by LDG). There are several battery configurations that can be used. These configurations are 1x “9 volt”, 6x”AA” or 6x”AAA”. You simply mount the user supplied battery holder to the top of the relays with double-sided foam tape. This results in a completely self-contained tuning system. Depending upon which battery configuration is used, the typical battery life will range from 75 to 1425 days. The tuner is also supplied with a 2.5mm power plug complete with a pigtail for connecting to a power supply. In addition, another 2.5mm power plug is provided which is terminated with a snap-on connector designed for a 9-volt battery.

The installation of the Z-11Pro tuner is exceptionally straightforward! First, connect a coax jumper from your transmitter to the “TX” jack of the tuner. Second, connect your antenna to the tuner’s “Ant” jack. Third, it is recommended that you ground the tuner if your transmitter is not already grounded. Lastly, apply power to the tuner either via the DC jack on the back panel, or via a user supplied and installed internal battery holder. Some transceivers can supply the necessary DC power to the Z-11Pro through the “Radio” jack on the back panel of the tuner. That’s the complete installation!

You’re now ready to begin enjoying this superb piece of equipment. The Z-11Pro features two tuning modes, “Auto” and “Semi”. The “Auto” mode automatically begins the tuning sequence whenever SWR exceeds a specific value. The default SWR threshold value is 2:1. The user can adjust this value from one of five available settings: 1.5:1, 1.7:1, 2:1, 2.5:1 or 3:1. In the “Semi” tuning mode, the tuning cycle begins only when you press the “Tune” button on the front panel for greater than 0.5 seconds. Tuning is accomplished quickly. LDG specifies a tuning time from <0.1 to 4 sec. I found the typical tuning speed to be approximately 1 sec under most cases. Throughout the tuning cycle, as well as during transmissions, the front panels LEDs indicate the present SWR reading. During the tuning process, the latching relays make a clicking noise that will be quite familiar to those that have previously used this type of tuner. The tuner is fun to watch in action, but don’t blink your eyes, as you might miss the show! This is all that it takes to use the Z-11Pro. The Z-11Pro makes tuning antennas a “No Brainer”.

In order to obtain extremely time efficient tuning, the Z-11Pro incorporates 8,000 tuning memories. LDG refers to their memory system as a “3-D Memory Bank”. This memory bank stores up to 2,000 dedicated tuning memories for each of four different antennas. It uses more memories at lower frequencies, and fewer memories at higher frequencies, since antenna Q is generally higher on the lower bands. The tuner takes less than 0.1 seconds to tune if it uses a memory tuning cycle. A built-in frequency counter is used to facilitate the memory tune operation. The more that you use the Z-11Pro, the more the tuner adapts to your antennas. This results in faster tuning, as you use the tuner more!

With a short (<0.4 seconds) press of the “Tune” button, you can toggle the tuner bypass circuit. When the tuner is in bypass mode, all RF energy from the transmitter passes directly through the tuner and into your antenna. If you prefer to manually tweak the tuner, you can use the four buttons labeled “C Up”, “C Dn”, “L Up” and “L Dn” on the front panel. These four buttons raise and lower the tuner capacitance and inductance respectively. I do not foresee needing to make use of this feature, but it makes for a nice addition.

See Ant Tuner cont’d - on Pg 11

November 2005 - RF  Page 6
2005 OCARC Holiday Party!!

WHEN: Friday, December 16th

TIME: 7:00 PM

COST: $21 Per Ticket
(will be sold at the Nov meeting, December club breakfast, or contact Cheryl KG6KTT at (714) 318-4047 or Chercool @escapees.com)

WHAT: Dinner, beverage, Dessert, Tax and Tip are included in ticket price!!

WHO: Everyone and Visitors

Where: Jagerhaus Restaurant
2525 East Ball Road
Anaheim, CA 92806

Located on Ball Road just West off of the 57-Freeway.

www.jagerhaus.net
714-520-9500
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Dinner will be served family style and will include bratwurst, knockworst, sauerbraten, spatzle, green salad, sauerkraut, and carrots.

Dinner RAFFLE

We are going to have a great December Raffle. Since there was no raffle in October, the December raffle is going to double the money spent. So start saving because there are definitely going to be prizes that you will want and tickets that you will want to buy! Also, there will be a special raffle for just the ladies. These tickets will not be sold but will be given just for coming. We hope that you will be able to come and share in our fun event.

If you have any suggestions on raffle prizes contact Kristin, K6PEQ.
INTERNATIONAL DX CONVENTION
APRIL 21, 22, 23, 2006
HOLIDAY INN
VISALIA, CA

YOUR REGISTRATION FEE INCLUDES THE FOLLOWING:

All HF, low-band, and DX oriented forums and technical sessions; the traditional Convention Patch; Hosted Cocktail Parties; Saturday Night Banquet, and DX oriented program with a well-known speaker; Sunday Morning Breakfast Buffet, with more great programs. Pre-registration Drawing for a Super Prize; only for those who pre-register by the 15th of March 2006.

This year there will be someone available to sew convention patches on jackets, hats, etc. Look for signs in the Hotel Lobby area.

SOMETHING NEW THIS YEAR
Pre-register a Young Ham, under 21, with your pre-registration. When you and the young ham, with FCC Ticket and proof of age in hand, come to the Convention Registration Desk to pick up your Registration Packets you will be eligible for a Reward of $30.00 in convention raffle tickets. Bring as many young Hams as you like, but the reward is only for the 1st one.

Students and Hams under 21 are free. Just show your ID and receive a FREE Saturday Day Pass good for exhibits and technical sessions.

Pre-Registration ENDS March 15, 2006
The meeting was called to order at 7:35 AM by President Ken, W6HHC. All Board members were present except for Vice President, Treasurer, and one Steve N1AB. There were a total of 11 members and visitors, including new member Nick, KI6AUL and Mike, KF6WRM (who joined at the breakfast).

DIRECTOR REPORTS
Treasurer - With Cheryl, KG6KTT, absent there was no formal Treasures report. President Ken did however inform the Board there was more than $2,600 after club insurance had been paid.
Secretary - The secretary was reminded to check the club mail box.
Activities – The Chair reported that the Christmas party tickets are available and will be obtainable at the Nov meeting and the Dec Board meeting.
Technical - Chair Kenan reported that he assisted in solving a TVI problem successfully.
Membership - Chair Dan, N6PEQ, reported that letters to new hams operators have been sent out. Bob, AF6C, reported there is a problem with information from the membership form on the web page getting to all of those who need it for club records. After discussion, it was decided that when Treasurer knows of dues payment, the Treasurer will then forward the information to all those who need it. Nick, KI6AUL, suggested using a pay account for PayPal.
Publicity - It was reported that the club information is still available at the Anaheim HRO. It was noted that the Publicity Chair did a good job of advertising the club auction.

OLD BUSINESS:
- The election committee reports that there are still four open positions for the club board for next year. Discussion regarding this was held.
- Prez Ken reported that the ARRL Special Service Club status has been approved and the web page will change to reflect this.
- Dan, N6PEQ, reported that, during his recent OCCARO research project, the club web page is one of the best in the county.
- President Ken reported that the club made more than $263.00 at the auction. Ken commended Nick, KI6AUL for having auction flyers distributed at CHHS swap meet before the auction.
- Kristin, K6PEQ, asked for suggestions for raffle prizes for the Christmas party.
- Kristin reported that she and Willie are working on a questionnaire for club members that will ask for information and suggestions on how to improve the club.
- Prez Ken reported that the donation can for BPL defense fund will be passed around one more time before the amount collected is matched by the club and sent to the ARRL. This announcement was followed by a discussion of the current status of BPL.
- Kristin reported that Willie is looking for a tower to be used at the next field day event.

NEW BUSINESS
- President Ken reported that the club constitution requires board in November to consider changes in dues being paid by members. After discussion, decision was dues next year will remain the same. After discussion, board approved a motion for $20 membership fee in 2006 and that new members who join in the last quarter of a year will be charged the yearly fee and that fee will carry over to include membership dues for the next year.
- Kristin reported she is 2006 president of OCCARO. Club needs to decide what dates are best for the OC Fair next year & inform Kristin.

GOOD of the CLUB:
- Prez Ken reported that ARRL web page has the field day results posted. 2nd in Orange Section.
- He also reported that Steve N1AB, is asking for assistance to help him raise an antenna on Saturday 12, 2005 at 9:30 AM.
- Willie, N8WP is asking for help for the Tustin Veterans Day parade on Sunday Nov 13th.
- Prez Ken handed out and will include in the RF a description of a HAM “Dream Job” at Yaesu.
Career Opportunity: Vertex Standard USA, Inc. (YAESU)

Job Title: WDXC Program Manager
(WDXC: “World DXers Club,” a Customer Loyalty program)

Reporting To: Vice President

Job Start: Immediately

Job Basis: Full-time

Chief Responsibilities:

You will be responsible for supervising the WDXC program at Vertex Standard USA. This is a new customer-loyalty program that builds long-term sales through a value-added partnership with current and potential customers. WDXC responsibilities include, but may not be limited to:

- Overseeing the growth and maintenance of the WDXC membership;
- Overseeing the WDXC Web Site, and coordinating with other departments and our Web designer in the promulgation and maintenance of timely articles, news updates, and support issues;
- Overseeing and supervising the final assembly and testing of products (such as the FT dx 9000) being assembled under WDXC auspices;
- Overseeing the WDXC Auction Site operations, including coordination and supervision of the efficient flow of paperwork related to the inspection, repair, and certification of previously-owned YAESU equipment;
- Coordinating promotional materials and activities related to WDXC;
- Attendance at such trade shows as management may deem appropriate and necessary for the advancement and expansion of WDXC and the YAESU product;
- Reporting to management, on a regular basis, regarding WDXC status, problems, and opportunities.

General:

An Advanced or Extra Class Amateur Radio license is required, as are current active DX experience and broad HF transceiver knowledge. Strong English writing and communications skills are a must, and foreign language capability (especially Spanish) is definitely a plus. Computer experience is mandatory, and knowledge of Amateur Radio computer-based operations (logging software, HF Packet/RTTY, PSK31) is also desirable.

Vertex Standard USA, Inc. offers a competitive compensation and benefits package, including a 401(k) plan, medical and dental insurance, and a generous vacation schedule.

If you would like to be considered for this exciting position, please send your resume to Vertex Standard USA, Inc. Attn. Mr. Jeff Quan, Chief Financial Officer, 10900 Walker Street, Cypress, CA 90630. Fax: (714) 527-1494. No telephone inquiries accepted. See the WDXC Web site at http://wdxc.yaesu.com.
SPECIAL THANKS!
Thank you for your donations, discounts, and support of OCARC club!

Z-11Pro Automatic Ant Tuner cont’d - from Pg 6
LDG offers several accessories for the Z-11Pro tuner. These include the RBA-4:1 or RBA-1:1 baluns (~$30 each), a 12 VDC power cube (~$10) and interface cables for various transceivers (~$8 to $20 each). The RBA-4:1 balun (Pictured to the right) allows for the tuning of random lengths of wire. This is perfect for portable backpacking radio expeditions!

Pictured below is my Z-11Pro test setup, which included a Yaesu FT-817 QRP transceiver resting on top of the LDG Z-11Pro tuner. These two items compose an excellent combination for a quick and easy QRP station! The Z-11Pro is a slick unit. The tuner surpassed my expectations, and I anticipate many years of use from it. Congrats to LDG for a splendid job of designing and manufacturing this tuner. It is well worth the price.

More information on LDG’s complete line of amateur radio equipment, including the model Z-11Pro, can be obtained by contacting:

LDG Electronics
1445 Parran Road
St. Leonard, MD 20685-2903 USA
Z-11Pro Price: ~$179

Tel: 410-586-2177
Fax: 410-586-8475
Email: ldg@ldgelectronics.com
Website: http://www.ldgelectronics.com
OCARC HAM RADIO AUCTION HUGE SUCCESS!!!!

Each year in October the OCARC conducts an auction of used equipment related to Ham Radio. The auction team of Willie-N8WP, Bob-AF6C, and Dan-N6PEQ did an outstanding job of auctioning off tons of ham equipment. The OCARC netted more than $263 in profits. Some pictures of this yearly club activity are shown below.

Viewing the Equipment prior to Auction  Bidders Listen to Latest Item on the Block

ORANGE COUNTY AMATEUR RADIO CLUB, INC
P.O. BOX 3454
TUSTIN, CA  92781-3454

First Class Mail
Time Dated Material.
Please Expedite!!