



# RF



## ORANGE COUNTY AMATEUR RADIO CLUB, INC.

VOL. XLV NO. 10

P.O. BOX 3454, TUSTIN, CA 92781-3454

OCTOBER 2004

### THE PREZ SEZ:



I will be brief. We have received another large donation from Ida Yamachika and the W6NGO Trust Fund. I will pass the check to our Treasurer. I will also ask our Secretary to send Ida a note thanking her in the name of the OCARC.

The club has three big events coming. The first is our annual auction on October 15th. I hope to see everyone there. The second is our club's election in November. Please consider giving your time and efforts. The third event is our annual club Christmas dinner. It should be an enjoyable event, so plan to attend.

73,  
Steve, N1AB



Happy Halloween

MEMBERS SHOULD RECEIVE THE **OCTOBER 2004** CLUB ROSTER WITH THIS ISSUE OF 'RF'

### EDITOR WANTED FOR 2005

Next year is coming soon and we will be needing an editor for **RF**. Instead of waiting for the last minute, now is the time for a new volunteer to step forward. Being editor is a lot of fun and very rewarding. It doesn't take a lot of time. I spend more time writing **TechTalk** than I do putting the paper together. If we get a volunteer now, I promise to provide them with another year of **TechTalk**, or perhaps something different – Maybe even a mix. If you take on this job, you'll find it very rewarding; just ask any past editor.

If you want to give it a try all you need is a computer and a desire to contribute. You'll get lots of help from the previous Editors.

### 2004 RF CONTRIBUTORS

Of course **RF** wouldn't happen unless some of our members contributed. Here's the people (in no special order) who contributed articles and columns to **RF** this year: Bob, WB6IXN; Larry, K6LDC; Rich, KE6WWK; Dave, W7KTS; Ken W6HHC; Steve, N1AB and the Editor, Bob, AF6C;. Also, a lot of news fit for publishing was sent by others, such as Art, W6XD, Mark, KB6SRT, and Joe, KØOV. Was anyone missed? These are the people who made the paper a success.

THIS MONTH IS THE YEARLY **OCARC AUCTION**

See Page 7 for rules and details.

### OCTOBER PROGRAM:

Our Club will be holding its **Annual Auction** at the October meeting. Details are again published on page 7 of this month's **RF**. There is no charge to bid and the club fee is only a small percentage of the selling price. If you have something(s) you want to sell, try to get the details to Ken, W6HHC right away so he can list them on our web site. This will create more interest in your items and help bring interested bidders. It's treasure at pauper prices!

The next regular meeting will be:

**Friday, Oct. 15th 2004  
@ 7:00 PM**

We will be meeting on the 2nd floor in the east bldg.

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**Next Club Breakfast & Open Board Meeting  
Sat. Nov. 6th 2004**

**THE ORANGE COUNTY  
AMATEUR RADIO CLUB,  
INC.**

P.O. Box 3454, Tustin, CA 92781



**2004 Board of Directors:**

**President: (Now: N1AB)**

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**2004 Club Appointments:**

**W6ZE Trustee:**

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[kkonechy@pacbell.net](mailto:kkonechy@pacbell.net)

**ARRL Awards Appointee:**

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**OCCARO Delegate:**

Bob Buss, KD6BWH  
(714) 534-2995  
[kd6bwh@aol.com](mailto:kd6bwh@aol.com)

**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

**CowGirl's Cafe, Too**

2601S. Harbor Blvd.  
(just south of Warner)  
Santa Ana, CA

**Club Nets (Listen for W6ZE):**

7.086 MHz CW **OCWN**  
Sun - 9:00 AM - 10:00 AM  
Rick KF6UEB, Net Cntl.

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 December & 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 charge if you'd like to have your badge mailed to you.

## OCARC First-Ever REUNION

On September 17th the Orange County ARC held its first-ever Club Reunion. Over 30 people attended including eleven former members; This was a good turnout considering the short notice and the difficulty contacting many of our former members. Some former members who couldn't attend due to distance or schedule sent email greetings that were read at the reunion. Guests traveled from as far away as Las Vegas, NV and Camarillo, CA.

President Steve Brody, N1AB, called the meeting to order and after the Pledge of Allegiance he turned the meeting over to Bob Eckweiler, AF6C, who acted as Master of Ceremonies. First on the agenda was to give members and former members the opportunity to introduce themselves and tell their recollections of the club and what they're up to now.

One highlight was when Jack Hollander, N6UC, (WB6UDC)\* former club President (1970) explained the origin of the "**N6UC**" Award. It seems that at a Field Day in the seventies, Jack and a crew erected a tall antenna on a thin pole heavily guyed. It is rumored that the task was noted by some as similar to "pushing on a rope." Success happens though, and the antenna was erected. It was then noted that

the coax for the antenna was still carefully coiled on the ground with a shiny PL-259 connector yet to be attached. It was back to square one and during the reerecting an unknown club member originated the "**N6UC**" award!

Another highlight occurred when Billy Hall N6EDY (WB6CQR), sitting just one person away from Jack, introduced himself. Billy is also a past President (1971) and was Vice-President under Jack the year before. They suddenly recognized each other and had their own mini-reunion!

Many of our club members who have passed away were remembered, and a list of former members known to have moved out of the area was posted. Among those contacted but unable to attend were Jay Hall, WA6MOK; Robin Hoff, KA6HNY; Ron Cade, W6ZQ (WA6FIT); Jim Trip, WA6DIJ, Terry Mathers, W6COY (WB6IHZ); Randy Oates, W6OAR (WB6ESQ); Ken & Carol Bourne, W6HK/N6YL; and Bill Myatt, WA6YKH.

Perhaps we'll hold another reunion in a few years. If you're a former member of the OCARC, let us know your email address (contact AF6C at the email address given on page 2.) Also, you may want to be sure your email address is included in your QRZ listing (<http://www.qrz.com>).

## Reunion Collage:

A collage of pictures taken of our visiting former members is on page 6 of this **RF**. Since there was room left, recent members who were in attendance were also included:

### Top Row L to R:

Bob Maller, WT6A (WB6AJV), a former RF Editor; Fried Heyn, WA6WZO, and Sandy Heyn, WA6WZN – Fried is a current member, past club President and long time ARRL officer (SCM, SWD Director and a recently retired VP), John (Poly-Paks) Meacham, KJ6TK (N6LMX); Bill Robinson, N6BR (WB6WOO); and Jack Hollander, N6UC, (WB6UDC), a past President.

### Second Row, L to R:

Billy Hall, N6EDY (WB6CQR), a past President; Dick Young, W6RWY; Howard Atwell, KA6CZI; Fred Shader, AG6O (WB6MQL); and Art Sheldon, K7ZE (WA6LHB, AD6B) another past President..

### Bottom Row L to R:

John Dawson, WA6RND; (Finishing off the row are some of our new members who recently joined or rejoined) Lloyd Harwood, WB6ULU, Cheryl Peloquin, KG6KTT, Willie Peloquin, N8WP, and Ken Simpson, W6KOS.

**(Photos: Art, K7ZE & Bob, AF6C)**

\* Former calls are shown in parentheses.



Carl, WB6BSV (center) prepares for raffle as others catch up on old times.



Ken, W6HHC presents a slide show of three and-a-half decades of OCARC Field Days

### TechTalk #33

by: Bob Eckweiler, AF6C

#### The Emitter Follower –

#### A Buffer for your Oscillator:

If you breadboarded the oscillator circuit from last month's column you may have noticed a few things of interest. First you probably found the frequency higher than expected. This is because the amplifier input impedance replacing R3 is lower than the 13KΩ required. R1 and R2 may be increased slightly to correct for this. Second, while the oscillator can put out around 2.5 VRMS (7.07 V peak-to-peak) it is very sensitive to the load it's driving and will stop oscillating if you put much of a load on the output. An oscillator is useless unless a signal can be taken from it. In this month's *TechTalk* we'll discuss a way of isolating the oscillator from subsequent circuits. This type of circuit is commonly called a *buffer*. The particular buffer we'll use is called an *emitter follower*. This is the transistor equivalent of the *cathode follower* circuit from vacuum tube days,

The properties of the emitter follower are a voltage gain of less than one, but a high power gain. The voltage gain is typically between 0.7 and 0.99. The power gain is typically between half the beta ( $\beta$ ) of the transistor up to almost the  $\beta$  of the transistor. The actual values depend on the external components chosen. Since the voltage gain is nearly one, Ohm's law says that if the voltage remains constant and the power increases, there has to be a change in impedance.

$$W_1 = \frac{E^2}{R_1} \ll W_2 = \frac{E^2}{R_2}$$
$$R_1 \gg R_2$$

Where  $R_1$  is the follower input impedance,  $R_2$  is the follower output impedance,  $W_1$  is the input power,  $W_2$  is the output power, and  $E$  is

the voltage (which we're assuming is constant)

The input of the follower shown in Figure 1 is equal to three resistances in parallel: R5, R6 and the base resistance of the transistor, which is approximately  $\beta$  times the output impedance. The output impedance is R7 in parallel with whatever load the output of the follower sees.

If we use the same transistor used in the oscillator, the 2N3904 with a  $\beta \approx 100$ , the impedance transfer between the input and output will typically be between 50 and 90. Thus a 2KΩ load at the output of the buffer appears as 100KΩ to 180KΩ to the oscillator. Not a bad start! A higher gain transistor, such as the 2N3417 ( $\beta \approx 250$ ) could be used to make the impedance transformation even greater. Also two 2N3904 transistors could be used as a *Darlington pair* (see TechTalk #30, June 2004) with a  $\beta \approx 10,000$  (The  $\beta$  of the two transistors are multiplied together) for a really large impedance transformation.

Figure 1 is a circuit for the follower circuit. Resistors R5 and R6 are chosen to bias the transistor so that the emitter is at approximately half the supply voltage with the chosen value of the emitter resistor R7. R7 determines the no signal collector current, which is:

$$i_c = \frac{V_{CC}}{2R_7}$$

By placing an emitter follower between the oscillator and a succeeding stage with a low input impedance, you can reduce the interaction between the stages. Before we set values to the follower we need to figure out what the impedance of the next stage will be.

Meanwhile, you may want to add an emitter follower circuit to your breadboarded oscillator. Before you do, experiment by placing a resistor between the oscillator's output (Cout) and ground. Start with 500KΩ and reduce the value to the

lowest that you can get a good signal out of your oscillator. You will probably need to adjust the gain as you lower the resistance to keep the oscillator oscillating.

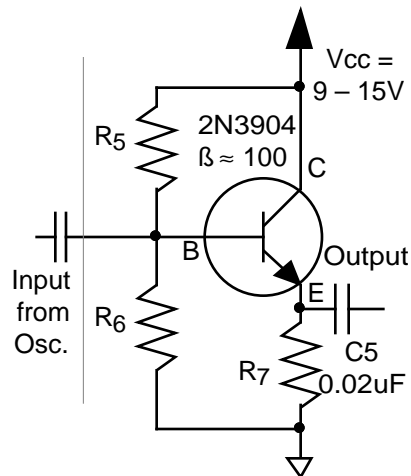


Figure 1: Emitter Follower Circuit

Once that is established, add your emitter follower circuit. Start with R7 around 5 to 10 KΩ and R5 around 820KΩ. Keep R6 at the same value to 10% higher than R5. Before you connect the oscillator, measure the DC voltage at the emitter of the emitter follower transistor. It should be nearly half the supply voltage. Connect the oscillator signal and see what value resistor at the output of the emitter follower will stop the oscillator without changing the oscillator's gain control. You will find that with the emitter follower added the oscillator can drive a lot lower impedance. Also note the voltage gain of the emitter follower. It will be less than one but shouldn't be much less.

In an upcoming *TechTalk* we'll look at a class B amplifier that our buffer can drive and that can drive a small speaker. When we know the input of that amplifier we can determine the component values for our buffer. Also, we'll look into adding a volume control. Then, if we can figure how to turn the sound off and on with a key, we'll have a very exotic code practice oscillator!

Your feedback and ideas are always appreciated.

de AF6C

**More Pictures from the REUNION:**



L to R: Club President Steve Brody, N1AB; Former President Frank Smith, WA6VKZ and Club Historian Bob Evans, WB6IXN, look over the club's history that Bob has been keeping.



Foreground L to R: Kristin and Dan Dankert, K6PEQ/N6PEQ, and Cheryl and Willie Peloquin KG6KTT/N8WP chat; while in the background Don, KC6ONZ, and Steve, N1AB, get some pizza.



Members and guests load their plates with pizza and soda. Sorry, no there's no Sake nor Sushi! Join us for Field Day for those delights and lots of operating!



L to R: Dick, Former members Howard Atwell, KA6CZI, and Dick Young, W6RWY, join former President Bob Eckweiler, AF6C for some food, drink and stories.

**OCARC WEB SITE TOPS 25,000 VISITORS**

Ken W6HHC, OCARC WEB master, reported that on Oct 01, the number of visitors to the W6ZE.ORG WEB site since May-1998 have numbered 25,120!

Ken stated "For the past few months, we have been averaging almost 500 visitors per month!! This is compared to the 200 visitors per month we used to see back in early 1999." Previous RF articles have detailed the international visitors to the <http://www.w6ze.org> web site. The OCARC web site has made DXCC several times over.

Recent monthly visitor numbers:

Month	Total Visitors	Monthly Visitors
Sep 2004	25,120	470
Aug 2004	24,650	470
Jul 2004	24,180	500
Jun 2004	23,680	510
May 2004	23,170	395
Apr 2004	22,775	490
Sep 2003	19,710	380

Currently, Ken is involved with moving the OCARC WEB site to a new bigger and better host. The new WEB-hosting company (called 1and1.com) will provide much more memory (2,000 MBytes compared to 100 MBytes today) and cost less

than half of the current yearly charge. The change over is planned to be "transparent" to all users of our WEB site. Ken plans to make an announcement to the club when the change over has been successfully completed.

**Tom, W6PFA Recovering:**

Elmer Thomas, WA6PFA is recovering after colon surgery. He had his surgery the day of the reunion. After a small setback during recovery, Tom made it home on the 28th. He is eating solid food, and is on his way to a full recovery.

Tom will be staying home for a while so call him and say hello.





# the Annual W6ZE Ham Radio Auction

Presented by the Orange County Amateur Radio Club, W6ZE

## Friday Eve. October 15, 2004

The auction will be held at the American Red Cross  
Building, 601 N. Golden Circle Drive in Santa Ana.

A map is posted at <http://www.w6ze.org/MtgSiteMap.gif>



**For complete details &** some of what will  
be auctioned, or to list what you will bring  
to sell, see our website at [www.w6ze.org](http://www.w6ze.org)  
or phone Ken (714) 744-0217 or Bob (714) 639-5074

**You need not be a member to buy or sell.**

**Let's make it a good one. Turn your junk into  
someone else's treasure and into your cash.**

**Let your cash turn someone's junk into your  
treasure.**

### Auction Rules

The OCARC Annual Auction will take place on Friday evening, October 15th, 2004, at 7:00 PM at the American Red Cross facility located at 601 N. Golden Circle Drive, Santa Ana. The room will open at 6:00 PM to allow registration, set-up and viewing. All buyers and sellers are welcome. The following rules for the auction will be in effect:

- 1) Only Ham Radio or electronic equipment/items will be auctioned (that is: no fishing equipment, etc.)
- 2) Buyers and Sellers must register at the door with the OCARC treasurer. There is NO registration fee.
- 3) Only 3 items from a Sellers lot will be auctioned during each turn. After auctioning 3 items, the auctioneer will move on to the next lot. After the first 3 items from every lot have been offered for bidding, the auctioneer will start the second round of auctioning with the next 3 items in Lot #1.

4) Sellers should number each item in their lot. A tag should indicate the minimum bid they expect.

5) Auction bidding will take place at the following minimum increments:

- A. \$0.00-to-\$5.00: increments of \$0.50.
- B. Over-\$5.00-to-\$50.00: increments of \$1.00.
- C. Over-\$50.00-to-\$100.00: increments of \$5.00.
- D. Over-\$100.00: increments of \$10.00.

6) Payments for purchased items are due at the end of the auction and shall be by cash or check with the appropriate ID. No two-party checks or credit cards are allowed. Disbursements to the Sellers will be by OCARC check only. Sellers will be charged 10% of the selling price for items sold by OCARC.

7) A special table will be set up for donated items. The proceeds of donated items will go to the OCARC.

## **Reunion Meeting Minutes:**

**September 17, 2004**

President Steve Brody, N1AB, called the meeting to order at 7 PM. After the Pledge of Allegiance, Steve turned the meeting over to Master of Ceremonies Bob, AF6C, for the first-ever REUNION for former club members. Thirty-plus members and former members were in attendance. Lots of memories, history, visiting, food, slides and photographs followed. [See the article on page 3 of this issue for more details - Ed.]

A short business meeting followed. Board members not in attendance were: Treasurer: Bob, KD6BWH; Technical, Tom, WA6PFA and Publicity, Matt, K6LNX.

### **Old business:**

- The auction is coming in October.

### **New Business:**

- There was no treasurer's report.
- Carl, WA6BSV, will miss the No-

member and December meetings and needs someone to fill in to run the raffle.

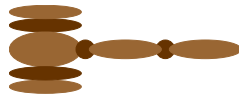
- Ken, W6HHC reported that the November program will be a presentation from Comet Antennas.

### **Good of the Club:**

- Ken, W6HHC, presented a check of \$300.00 to the club from the Kei Yamachika (W6NGO) Trust Fund.
- Bob, AF6C presented Steve with a new badge reflecting his upgrade to Extra and his new call (N1AB).

Meeting adjourned at 8:46 PM.

Respectfully submitted  
Rich Helmick  
KE6WWK  
Secretary



## **Board Meeting Postponed:**

**October 2, 9, 2004**

Due to the Orange County RACES yearly drill that many of our club members participated in on October 2nd, the October Board Meeting was postponed for one week. Since RF will go to publication prior to the meeting, the October minutes will be published in next month's RF. The location of the meeting will be sent to members via email.

[Editor]



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

***First Class Mail***

***Time Dated Material.  
Please Expedite!!***