The OCARC had a very nice gathering on Aug 30 for two long time club members who are now leaving the area.

A going-away-party was held at Marie Calendar's Restaurant to recognize the contributions of these two members (see page 7 for details and pictures.)

Bob Buss KD6BWH has been a member for 15 years (shortly after he got his license) and Frank Smith has been a member for 28 years (shortly after the U.S.M.C. moved him to California).

The OCARC is going to miss both of these hard working members...miss them as club officers...miss them on the board of directors...and miss them on the club nets.

The OCARC yearly radio auction is coming up in another month on Oct 21. See Page 5 and OCARC WEB for details. I need members to send me a list of equipment to draw people to the Auction.

As I am preparing this article and this issue of RF newsletter, I am monitoring 20M, at 14.265 MHz, to the disaster relief net activities being provided by the Salvation Army for victims of Hurricane Katrina. Ham Radio is providing a significant role in providing communications for the affected area, while the normal phone services are lost, cell phone towers are down or cell fone amps are flooded, and even city and county services are either down or overloaded. Ham Radio continues as a community service resource for both health-and-welfare and emergency communications.
2005 Board of Directors:

President: Ken Konechy, W6HHC
(714) 744-0217
kkonechy@pacbell.net

Vice President: Willie Peloquin, N8WP
(714) 318-4047
n8wp@arrl.net

Secretary: Rich Helmick, KE6WWK
(714) 343-4522
R2535@sbcglobal.net

Treasurer: Cheryl Peloquin, KC6KTT
(714) 318-4047
Cheroool@escapees.com

Membership: Dan Dankert, N6PEQ
(714) 544-9846
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2005 Club Appointments:

W6ZE Club License Trustee:
Bob Eckweiler, AF6C
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af6c@arrl.net

Club Historian:
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(714) 543-9111
bobev@netzero.net

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kkonechy@pacbell.net

ARRL Awards Appointee:
Larry Beilin, K6VDP
(714) 557-7217
k6vdp@aol.com

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

21.375 ± 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

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 charge if you’d like
to have your badge mailed to you.

VISIT OUR WEB SITE
http://www.w6ze.org
for up-to-the-minute club in-
formation, the latest member-
ship rosters, special activities,
back issues of RF, links to
ham-related sites, vendors
and manufacturers, pictures
of club events and much
much more.
This TechTalk article on propagation started as a question that I asked at the 2005 Field Day event. There had been a good 6M opening on Sunday morning, but there had been no burst of new contacts on the “dead” 10M band. I asked “If there was an opening on 6M...shouldn’t there have been an opening at the same time on 10M, too??” Nobody felt expert enough to provide a knowledgeable answer. So I re-searched the subject.

Long distance communications can occur because radio signals can bounce off the ionosphere...IF (a) the ionosphere layer is strong enough and (b) the frequency is not too high. Figure 1 shows how a signal will NOT be reflected back to Earth if ionosphere is too weak or if the frequency of the signal is too high (has too much energy). The signals “punch” through.

In Figure 2, the signal “skips” off the ionosphere, IF the angle is not too steep AND the frequency is not too high. The highest frequency that will reflect is called MUF (Maximum Usable Freq). MUF depends on the strength of the ionosphere layer and usually varies by time of day. Steep angles can also “punch” through the ionosphere unless the signal frequency is low enough to have very low energy.

The main ionosphere layers to pay attention to for creating good communications are the F2-layer and the E-layer.

**F2 Layer** - ionization layer at 200-to-400 Km high. The 20 meter through the 6 meter bands use this layer effectively. The solar activity energizes the oxygen molecules and causes ionization. It takes a solar flux of 200 to make F2 MUF reach 50 MHz. Allows 2,500-3,000 mile maximum communication range. The ionization follows the sun. General rule is that sun should be at mid-point at local noon at 10M and 6M. For 20M the night time MUF can stay above 14 MHz throughout the night during peak sunspot cycle conditions.

**F1-Layer** - not an important ionization layer for HF or VHF propagation. This daytime layer has a height of about 150 Km. It only can produce refracting of the signal (bending), not reflection back to Earth.

**SPORADIC-E** – an ionized cloud of metal molecules 90-to-120 Km high. 1,500 miles is maximum range. 15M-to-6M. Two seasons per year (May-June-July and Nov-Dec-January). Typical clouds are several hundred yards thick and 40-to-100 miles long. Can occur at any time of day...usually in late afternoon ...usually ends by midnight.
TechTalk - cont’d from Pg 3

D-Layer - Its main feature is that it absorbs radio waves, particularly HF, because the electrons are frequently colliding and dissipating energy of radio waves instead of propagating them. This layer is 60-to-90 Km high. Extreme daytime D-layer absorption severely affects 160M and 80M bands. There is moderate daytime absorption on 40M. The higher energy levels of 20M signals (and higher) escapes the effects of the D-Layer. So if you followed all of this... you will understand that F2-layer and Sporadic-E are good for long distance communications and the D-layer is a “signal killer”. This is why 40M and especially 80M conditions are so much better at night time after the D-layer has dissipated. Figure 3 shows how with strong ionosphere ionization, double skips can occur, providing even longer distance contacts. In reality, when band conditions are really good, the signal can skip many times and reach more than half-way around the world.

Figure 3 – Double-skip provides even longer distance communications by skipping off the ionosphere and then skipping off the earth, back up to the ionosphere again

There are three more specialized variations of these propagation layers that I do want to cover in order to close out this review: TransEquitorial Propagation, Back-Scatter, and F-Layer-Gray-Line communications.

TEP - TransEquitorial Propagation – Caused by strong ionization of F-layer at equator. Allows north-south propagation. Allows 6,000 mile range communications. Occurs on 15M-thru-2M. The reason for longer communications distance is that a “double-reflection” occurs in the ionosphere (that bulges upward over the equator) before the signal finally heads back to Earth.

Back-Scatter - this interesting variation of ionosphere skip occurs by your signal bouncing back off the "edge" of a sporadic-E cloud or the edge of an F2 layer and hitting some location on your side of the cloud. For example: I have worked into San Francisco on the 15M band by pointing my beam over the Pacific Ocean towards Hawaii. The San Francisco station was also pointing his beam over the Pacific Ocean.

F-Layer Gray-Line - provides a unique propagation opportunity for the 160M and 80M bands. The Gray-Line paths can be considered a special form of propagation that takes into account the unusual ionospheric conditions that exist along the twilight regions, between night and day. As the day begins, the highly absorbent D-layer is recreated. At the end of the day, the D-layer quickly disappears, but the F2-layer dissipates more slowly. So, for a brief while along the gray-line transition, there is a unique opportunity that the D-layer is missing but the F2-layer exists. The net result is that at dawn, California stations can work 160M over the North Pole into parts of Europe or Asia that are just going into sunset.

There are several other interesting forms of RF propagation. But, this introduction article will not cover these other forms of propagation and “skip” such as Tropo-ducting, auroral-scatter, meteor-scatter, knife-edge, satellite, Near Vertical Incidence Radiation (NVIR), and earth-moon-earth (EME).

So the answer to my FD question is: “Yes, when the 6M opening occurred at Field Day...10M was also open at the same time. The 50 MHz ionosphere conditions would have extended down to 28 MHz...maybe with even better skip? The opening probably was Sporadic-E skip, since the solar flux was too weak to raise the F2 MUF to 50 MHz.”

Reference books used:
- “Six Meters - A guide to the magic band” by Ken Neubeck WB2AMU
- “The VHF/UHF DX Book” published by the RSGB
- “The ARRL HANDBOOK” – 2000 edition
The meeting was called to order at 19:15 by President Ken Konechy W6HHC. Roll call by acting secretary Lowell Burnett KQ6JD, with nine directors in attendance a quorum was present.

Ken then introduced our own Willie Peloquin N8WP as the evening speaker. Willie then gave his presentation on ECHO LINK, he then gave a short demonstration talking with a friend in Escondido CA. The Presentation was enjoyed by all.

Secretary - Last month minutes were approved as published in the RF.
Treasurer - Cheryl Peloquin KG6KKT reported that $2,253 were in our bank accounts.

OLD BUSINESS
• Kristin Dankert K6PEQ and Dan Dankert N6PEQ, re-

ANNOUNCING
the Annual W6ZE
Ham Radio Auction
Presented by the Orange County Amateur Radio Club, W6ZE

Friday Eve. October 21, 2005

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

For complete details & some of what will
be auctioned, or to list what you will bring
to sell, see our website at W6ZE.org or
phone Willie 714-318-4047 or Ken 714-744-0217

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 begins at 7:00 PM Sharp

OCARC General Meeting Minutes
August 20, 2005

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• Kristin Dankert K6PEQ and Dan Dankert N6PEQ, re-

General Minutes continued on Pg 6
**GOOD OF THE CLUB**

• Ken will be the editor for the September RF. Please send all articles and information to Ken.
• A major RDF event was to be held at Central Park Huntington Beach August 20. For more information up-coming events check your Email and club web site.
• The clubs 15 meter and 2 meter Nets participation has been low, the last several weeks. Ken then had a discussion, on how to increase participation. Some of items suggested were:
  1) Back to Back Nets are too long and run too late for the early risers. A solution discussed may be to have each net on a different day or night.
  2) Wednesday nights are a busy time for some Sunday evenings may be good for doing a “split” of nets.
  3) Newsline broadcast could be played at the beginning of the Net, then a discussion on the contents could be held.
  4) Have incentives, such as free raffle tickets or play games such Bingo or Trivia.
  5) List topic to be discussed during the Net, on the web site and RF, that way will know what to expect.
  6) It was also discussed, that rotating Net Controls could be instituted. That a member just check into the net and then just listen.
  7) If you have other ideas please submit to Ken or bring up at the club breakfast or monthly meeting.

• Our OCCARO Delegate Kristin announced that she has been chosen to be in charge of the Ham Booth at the Orange County Fair next year and she will need the full support of the club membership.
• VP Willie announced that this year Christmas dinner will be held at the Jagerhaus 2525 E. Ball RD, in Anaheim. Time and date to be announced soon.

Kenan N6CCE made a motion to adjourn the meeting it was seconded by Bob AF6C and passed by a voice vote.

Submitted by Lowell KQ6JD (Acting Secretary)
SPECIAL THANKS!
Thank you for your donations, discounts, and support of our club!

On August 30, friends of long-time OCARC members, Bob Buss – KD6BWH and Frank Smith - WA6VKZ, gathered to recognize the contributions of two extraordinary hams and to say good bye.

Bob Buss first got his Ham Radio license in 1990. He found and joined the OCARC in 1990 and has been active ever since. Just a few of Bob’s many contributions include: President of OCARC twice, on the Board of Directors for 13 years, and many years of re-broadcasting Newsline files for the OCARC weekly nets. Bob (with his new KØBWH call letters) and his wife Linda will be moving to Sheldon, ND later in September.

Frank Smith joined the OCARC after he left the USMC in 1977 and wound up in OC. He claims to be the only OCARC member to ever operate from the Antarctic...while in the USMC he operated as KC4USX from Williams-Antarctic for two seasons and as KC4USB from Byrd Station-Antarctic for 6 weeks. He has been a member of the OCARC since 1977. Frank has held every office in the OCARC (except VP).

Just a few of Frank’s contributions and services include: President of OCARC five times (he claims a record for being elected OCARC President five times), served on the Board of Directors for 22 years, and provided a trailer at FD that became known as “the traveling hardware store”. Frank is moving back East to Philadelphia in early Sept.

OCARC will miss both of you!!

FRANK Smith – WA6VKZ accepts a Certificate of Recognition from OCARC President Ken – W6HHC

Bob Buss – KD6BWH (L) accepts a Certificate of Recognition from OCARC President Ken - W6HHC

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ARRL Receives $100K Fed’l Grant to Support Katrina Efforts
(Excerpts from ARRL WEB story)

The Corporation for National and Community Service (CNCS) will provide a $100,000 grant supplement to ARRL to support Amateur Radio's emergency communication operators in states affected by Hurricane Katrina. The grant will help to fund "Ham Aid," a new League program to support Amateur Radio volunteers deployed in the field in disaster-stricken areas. ARRL Chief Development Officer Mary Hobart, K1MMH, expressed gratitude to CNCS for its generous response. Ham Aid, she said, offers a unique opportunity to support individual radio amateurs helping to bridge the communication gap Hurricane Katrina has caused.

"For the first time in ARRL history, we will be able to reimburse some of the expenses that hams incur in response to a disaster," she said. "We only wish that we could justify an expense reimbursement program like this every time Amateur Radio Emergency Service volunteers are called upon to help in a disaster or emergency, sometimes placing themselves in harm's way."

In addition to providing emergency communication within and outside the affected areas, Amateur Radio Emergency Service (ARES) members and individual radio amateurs are supplementing the communication needs of emergency management and relief agencies, including the American Red Cross and The Salvation Army. Hobart said it's only due to the scope of the unprecedented and tragic Katrina disaster that CNCS agreed to help support dedicated Amateur Radio volunteers.

Trained Amateur Radio operators will be on site for the duration of this disaster response, which could run into several weeks or months. "Many will leave their jobs and families and travel on their own expense, using their own equipment," Hobart points out.

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