County of Orange RACES

NET CONTROL

Newsletter of the County of Orange Radio Amateur Civil Emergency Service

December, 2005

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December 5, 2005

1900 Hours

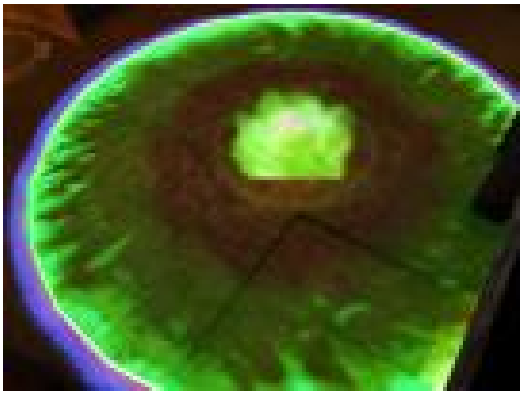
Holiday Dinner & Recognition Ceremony

Marie Callender's 307 E. Katella Ave, Orange, CA

Orange County Sheriff's Department
Michael S. Carona, Sheriff-Coroner

Captain's Corner

by Ken Bourne, W6HK, Chief Radio Officer



Potential threats to our power and communications infrastructure and to electronic equipment by an electromagnetic-pulse (EMP) attack, caused by a nuclear blast, have been known for many years. Some military communications equipment consists of radiation-hardened (rad-hard) components to ward off failure during an EMP attack, but our amateur radio transceivers are not so equipped. Designing rad-hard components into amateur products would drive the cost beyond what we would be willing to pay.

Ever since the fall of the Soviet Union, people outside the military and the defense industry have not paid much attention to EMP dangers and rad-hard devices. Radio amateurs, including those of us who are involved in emergency communications, hardly give EMP a second thought. Now that the Soviet Union no longer exists, what nation could attack us with nuclear weapons that would zap our electronic equipment with electromagnetic pulses? Such complacency could be a serious mistake, according to recent comments by news analysts, government agencies, engineers, physicists, and others.

Bill Gertz, a reporter for *The Washington Times*, addressed the EMP problem in his November 22nd review of a book called "War Footing: 10 steps America Must Take to Prevail in the War for the Free World," which addresses threats to U.S. security. According to Gertz, the book says a single nuclear weapon carried by a ballistic missile and detonated a few hundred miles over the United States would cause "catastrophe for the nation" by damaging electricity-based networks and infrastructure, including computers and telecommunications.

"This is the single most serious national-security challenge and certainly the least known," said Frank J. Gaffney Jr. of the Center for Security Policy, a former Pentagon official and lead author of the book, which includes material from 34 security and intelligence specialists.

Gertz points out that an EMP attack uses X-rays and gamma rays produced in a nuclear blast in three separate waves of pulses, each with more damaging effects, and would take months or years to

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repair, according to the book. The damage to unshielded electronics (including our ham equipment) would be irreversible.

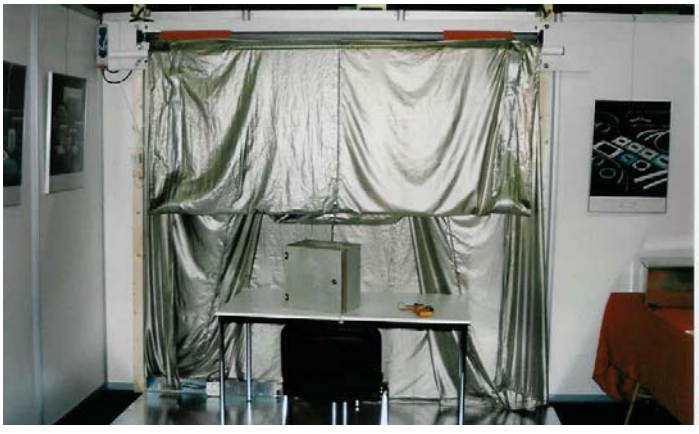
Gertz says the EMP danger was highlighted recently by a special congressional commission that has received little public attention and is considered a unique way for rogue states such as North Korea and Iran, or other enemies such as al Qaeda, to use nuclear weapons in the future.

Terrorists could use a freighter equipped with a short-range ballistic missile (such as a North Korean Scud that sells for about $100,000) to fire a nuclear missile over the United States. North Korea, in recent nuclear talks in Beijing, threatened to export its nuclear weapons, and Iran already has tested a Scud-missile launch from a ship. China is also working on EMP arms, according to a recent Pentagon report.

An EMP attack would damage the national power grid, unprotected computers, and all devices containing microchips, from medical instruments to military communications, and knock out electronic systems in cars, airplanes, banking and finance, and emergency services (including public-safety agencies with RACES programs!).

"An EMP attack potentially represents a high-tech means for terrorists to kill millions of Americans the old-fashioned way, through starvation and disease," the book said.

"Although the direct physical effects of EMP are harmless to people, a well-designed and well-executed EMP attack could kill indirectly far more Americans than a nuclear weapon detonated in our most populous city," according to the book.



Faraday Tent protects equipment and saves space

Some examples of home-made faraday cages for these radios.

Also feared are "suitcase bombs" smuggled into this country, which could be detonated by suicide terrorists in strategic locations such as transportation and financial centers. These could be "dirty bombs" with people-harming radiation, or they could be EMP devices that would knock out power, telecommunications, computers, and radio equipment throughout a metropolitan area.

So what do we do in the case of an EMP attack? Some experts recommend using UHF and SHF communications equipment in preference to operating below UHF, and to avoid using broadband radios. Use antennas with small radiating elements. Keep cable and wire runs as short as possible. Keep cable runs as straight as possible, and avoid loops. Keep cables and wire on the ground where practical. Use shielded twisted-pair cables. Shield sensitive communications equipment in metal containers. An effective EMP shield requires that all openings be closed with metal covers. All doors and access panels (which must be metal) must be kept closed. Electrically bond cable entry panels to the metallic shelters and shields. Keep exterior grounds short and of low impedance. Use common ground for equipment. Antenna guy lines must be insulated. Avoid commercial power sources.

Meanwhile, before our next EMP attack, we are looking forward to our annual OCRACES dinner meeting on Monday, December 5, 2005, at 7:00 PM, at Marie Calender's Restaurant, 307 E. Katella Avenue, in Orange. All OCRACES members and their families are encouraged to attend.

Watching The Web

Web Sites of Interest to RACES Personnel

by Ken Bourne, W6HK, Chief Radio Officer

Featured this Month: Sienna HF Transceiver Kit

The DZ Co. of Loveland, Colorado, is introducing a line of DZKits, with the intention of adhering to the finest of Heathkit traditions. Its first product, to be available by March 2006, is the Sienna HF transceiver kit, described on the company's Web site at http://www.dzkit.com.

The Sienna features CW, SSB, AM, and digital (via optional embedded PC) modes; FM will be an option. It covers 0.5 to 30 MHz general-coverage receive, and all MF/HF ham bands (including 5 MHz) on the second receiver. Transmit output power is adjustable from 1 to 100 watts. It runs on 7-16 Vdc at 2 A (receive, with internal PC), and 12-16 Vdc at 19 A (transmit). The internal PC serves as a Web server, allowing remote control from any computer with a Web browser.

To build the kit, parts (no surface-mount) are loaded and soldered into the dual receiver board, three IF filter boards, meter board, front-panel board, and DC distribution board. These boards are integrated with five other preassembled and tested boards (PC, DC power supply, transmitter, filter/tuner, and stereo audio amplifier) that have extensive surface-mount parts on them.

The transceiver's noise blanker has an adjustable threshold and blanking pulse width. The audio speech compressor is menu adjustable and the RF speech compressor is front-panel adjustable. Manual and iambic keying is built in, and full break-in CW is featured. The transceiver also has a low-power transverter output.

The transceiver is capable of all digital modes such as PSK31/63, RTTY/ASCII, and SSTV (including ChromaPix).

Also featured is direct digital synthesis (DDS) of 9 MHz, 455 kHz BFO, and 10.8-38.7 or 70.455-100.455 MHz VFO frequencies, fed by a low phase-noise ±2 ppm accuracy, 120 MHz TCXO (divided by 4 then multiplied by 10 and phase-locked using DDS chip capabilities to provide a stable, accurate, 300-MHz reference for the main VFO). Separate DDSs are provided for transmit, phase-lockable to an external 10-MHz frequency reference (SMA connector on the rear panel), with phase error visible via a front-panel meter.

Many other features are listed and described on the DZKit Web site.

Election Update

by Marten Miller, KF6ZLQ

At 7:00 pm on November 8, 2005, nearly 150 people formed as the Ballot Transportation Team in support of the Registrar of Voters (ROV) office for the Statewide Special Election. A total of 769 precincts brought paper and electronic ballots to 23 collection centers located throughout Orange County. Forty-three vehicles driven by members of our team transported over 1850 boxes of ballots, supplies and demo kits from these collection centers to the Vote Talley Center (VTC) within a four-hour period.

Personnel from OCSD (Communications, Control One, ECB, Emergency Management, Transportation and Reserve Deputies), RDMD (Transportation, Operations, Facilities and Planning-Development), SSA, OCRACES, various city RACES organizations and members of the Hospital Disaster Support Communications Service (HDSCS) composed the Ballot Transportation Team.

RACES organizations have traditionally provided communications support between the various Collection Centers and the Vote Talley Center in Santa Ana. This support usually consists of providing information about activity at the Collection Center and assisting in solving any problems that come up during the course of the evening. Amateur radio operators provided that support again, but also took on additional responsibilities for this election. At our pre-election meeting, the ROV staff expressed a desire to know what precinct numbers were loaded on to each van that was on its way to the Vote Talley Center. They planned to enter that information into a program on their website for public viewing. In the past, that information wasn't known at the VTC until each van arrived to unload the boxes. One possible solution was to have volunteers at each Collection Center use cellular phones to call the information in to the VTC when the van was ready to deliver its boxes to the VTC. That would require finding at least 23 more volunteers and phones to fill the need.

Knowing the capabilities of our RACES volunteers, I offered our services to fill this need as well. We have traditionally been at most Collection Centers and would already have a communications link established to the VTC. The ROV gladly accepted our offer. A plan was drafted and presented to the various RACES organizations and HDSCS (Hospital Hams) along with a request for support. The response was outstanding and we were able to have at least one amateur radio communicator at every Collection Center and several at our Command Post. This marks the first election in which we have had amateur radio coverage at all of our Collection Centers. Due to the increase in radio traffic this would create, our plan split the Collection Centers up onto two channels with a Net Control operator for each channel. Although there was some initial concern about handling the increase in radio traffic, the plan worked very well. We were able to provide the information to the ROV staff without delay.

The amateur radio volunteers who supported this election came from OCRACES, HDSCS and the following city RACES organizations: Anaheim, Brea, Buena Park, Costa Mesa, Fountain Valley, Fullerton, Huntington Beach, Irvine, Laguna Beach, Laguna Niguel, Los Alamitos, Orange and Westminster. They did a superb job of providing additional information and reporting problems to the VTC command post.

Neal Kelley

Interim Registrar of Voters, Neal Kelley expressed how pleased and impressed he was with the RACES support he received. He and his staff were able to provide the precinct information to the public via their website which helped them meet their goal of keeping the public informed throughout the evening as the election results moved from the precincts to the ROV office in Santa Ana.

We will be providing this same service to the ROV for the fast approaching December 6, 2005 48th Congressional District Election. If you are available, please contact Marten Miller right away to receive the briefing information.

Thank you again for your continued support!

Annual OCRACES Dinner & Recognition Meeting

All OCRACES members and their families are invited to the annual OCRACES holiday dinner and recognition meeting. This traditional event will be held at the Marie Callender's Restaurant located at 307 E. Katella in the city of Orange, CA. In addition to enjoying a good meal, we will officially recognize our members' involvement in the many events and nets that have occurred throughout the past year. We will be meeting at Marie Callender's at 7:00 p.m. on Monday, December 5, 2005.

If you are planning to attend and haven't let anyone know yet, please contact Marten Miller/KF6ZLQ right away so we can be sure to reserve enough seats and food!

See you all Monday night!

www.ocraces.org

Mission Statement

County of Orange RACES has made a commitment to provide all Public Safety departments in Orange County with the most efficient response possible to supplement emergency/disaster and routine Public Safety communications events and activities. We will provide the highest level of service using Amateur and Public Safety radio resources coupled with technology, teamwork, safety and excellence. We will do so in an efficient, professional and courteous manner, accepting accountability for all actions. We dedicate ourselves to working in partnership with the Public Safety community to professionally excel in the ability to provide emergency communications resources and services.

County of Orange RACES Frequencies:

- ☐ 6m: 52.62 MHz output, 52.12 MHz input, 103.5 PL
- ☐ 2m: 146.895 MHz output, 146.295 MHz input, 136.5 PL *
- ☐ 23cm: 1282.025 MHz output, 1270.025 MHz input, 88.5 PL
- ☐ 1.25m: 223.76 MHz output, 222.16 MHz input, 110.9 PL
- ☐ 70 cm: 449.180 MHz output, 444.180 MHz input, 107.2 PL

* Primary Net - Mondays, 1900 Hours

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RACES News from Around the County

"RACES News" provides an opportunity to share information from all City & County RACES organizations in Orange County.

Please send your news to:

OCRACES@ocgov.com

IRVINE IDEC

Irvine is planning to hold a Ham Radio Licensing class that will be taught by Gordon West. The class is being tentatively scheduled for the weekend of February 25-26, 2006. Gordon will only charge for the materials ($50) for teaching City or County volunteers. Gordon will need a commitment of at least 40 people to do the class. Please Contact Gordon West (714 549-5000) directly, to register all non-Irvine residents.

BURBANK RACES

Former OCRACES member Eric J. Christensen, KA6IHT has been promoted to City RACES Radio Officer for the City of Burbank BEARS (Burbank Emergency Amateur Radio Service). The BEARS are part of the Community Disaster Volunteer program sponsored by the Burbank Fire Department. They are also affiliated with DCS, the Los Angeles County Disaster Communications Service (aka L.A. County RACES).

Eric is a former member of OCRACES and was a former member and Assistant RACES Officer of Huntington Beach RACES before his job transferred him from Orange County to Burbank. He is presently Manager of the Ham Radio Outlet store in Burbank. In his spare time, he works part time as a security officer at Knott's Berry Farm. Eric was Assistant RACES Radio Officer for Burbank for four years before becoming the City RACES Radio Officer. At the Burbank Fire Department Volunteer Awards Banquet, Eric received a plaque and certificate in appreciation for services to the City. He was also the Community Disaster Volunteer of the year, and received the L.A. County DCS District Member of the year award for District 12 (Crescenta Valley) in 2004. Eric was also the project manager of the remodel and installation of the Burbank Fire Department EOC Radio Room. Congratulations Eric!

HDSCS

Overnight power surges caused failures within the telephone system of Huntington Beach Hospital (HBH) on November 29, 2005. HDSCS services were requested at 7:15 AM. HDSCS member Clay Stearns KE6TZR was prepared and close by, so he arrived at the hospital in less than 25 minutes to provide an inbound link from the outside world to the Command Post. Additional HDSCS hams arrived soon afterward and were sent to various internal departments as well as to an adjacent medical office building. April received calls from as far away as Kentucky and transmitted the messages to the HBH Command Post. Repairs were completed and phones were back online by 10 AM, but the hams stayed in place until 10:30 to insure that the system was stable.

CITY/COUNTY MEETING

The next scheduled City/County RACES meeting is at 7:30 p.m. on Monday, January 30, 2006. Mark you calendars and we look forward to seeing you all there.

December 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5 Monthly Meeting & Weekly Net	6 Election Day	7	8	9	10
11	12 Weekly Net	13	14	15	16	17
18	19 Weekly Net	20	21	22	23	24
25 Christmas Day	26 Weekly Net	27	28	29	30	31

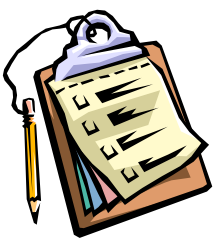
Upcoming Events:

- **December 5:** OCRACES Holiday dinner meeting, Marie Calendars, Orange, 19000 Hours
- **December 6:** 48th Congressional District Election
- **December 25:** Christmas Day
- **January 9:** OCRACES Monthly Meeting
- **January 30:** City/ County RACES Meeting

Ready?

By Ray Grimes, N8RG

There has been so much in the media lately regarding national disaster preparedness, with the Hurricane Katrina still fresh in our minds. Most all of us have the best intentions with respect to disaster readiness and really believe that we are prepared for most anything. The reality though, is that we have short memories. If you recall, after the Northridge Earthquake of 1994, everyone was stocking up with earthquake survival supplies that included packaged food and water, flashlights, batteries, portable radios, blankets, and medicines. A year later, disaster supply vendors observed, "you couldn't give this stuff away". Once the emergency had passed, everyone went back to his or her routine lifestyles and disaster readiness became a non-priority. That trend is still occurring, with Florida hurricane survivors for example, refusing to leave areas that had been previously struck, believing that they are invincible. As first responders, OCRACES members must remain focused, assuring that they are indeed ready to respond to most any disaster, and possibly for days. Have you checked your duty bags lately to make sure that you have fresh food and water, good batteries, a working and pre-programmed portable or mobile ham radio, a portable radio battery charger (and a method to power it when the AC power fails), warm clothing, and your OCRACES yellow book? Do you have an emergency plan for your family's welfare? If you can't respond to an OCRACES staging area, what public safety location could you respond to in your home or work neighborhood? Make and update an inventory of your emergency supplies, including the replacement dates for perishable items. This list should be checked-off when any supplies are used from your emergency cache, so that you can replace them after the incident. These simple tips can make an extended incident more bearable, or may even save your life!



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It's Where It's @!

Questions or Comments?
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"W6KRW ... Serving Orange County"

Meet your County of Orange RACES Members!

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Jack Barth AB6VC | Bill Borg KG6PEX | Chuck Dolan KG6UJC | Ernest Fierheller KG6LXT | Nancee Graff N6ZRB | Ray Grimes N8RG | Bryan Hovde KD7CRA | Walter Kroy KC6HAM

Martin LaRocque N6NTH | Carol Matthews KF6ERZ | John Roberts W6JOR | Tony Sanchez AE6QT | Steve Sobodos KN6UX | Tom Stroud N6FDZ | Tom Tracey KC6FIC