DECEMBER 2004

THE MONTHLY NEWSLETTER of the SANTA CRUZ COUNTY AMATEUR RADIO CLUB

SHORT SKiP

What is the right OSCAR Antenna?

By Bill Greene, VE7WFG

When speaking of satellites and antennas, the first thing most people think about is a dish antenna. People used to think about big ugly TV dishes (or BUDS) that operated around 3 to 4 gigahertz in the late seventies and early eighties, and now see many smaller off set dishes that operate at 10 Ghz used by services like Dish Network in the US and Bell Expressvu in Canada. Well what about all these dishes? Are they any good for Amateur satellite use?

The simple answer is yes. Depending on the dish it can be used for both receive and transmit antennas for OSCAR operation. Like any other type amateur set up there are two main considerations. First is what type of antenna do I need to receive and what type of antenna do I need to transmit with. Satellites communication is unique for the most part simply because your contact is in orbit which means you are trying to hit a moving target . This is not like anything HF users are accustomed to.

What works well for HF is just about any type of antenna with a low takeoff angle. This allows the signal to bounce off the ionosphere at the horizon, giving you the greatest distance. This works well for satellites in many situations too, as it can pick up signals from satellites as they rise above the horizon. But this also means the antenna may not work that well when the satellite passes directly overhead.

The soluton for this is to have a rotator that will move the antenna both in azimuth and elevation. This way you can point the antenna in the direction (azimuth) of the satellite (ie, from zero to 360 degrees based on where it is in relationship to your shack.) The elevation rotator is used to point the antenna up (i.e. tilting from zero to 90 degrees) so that as the satellite becomes higher you can point the antenna higher.

This may sound very complex, but you do not have to have fancy arrays of high gain antennas and Az/El rotators to make contacts on amateur satellites. I have a colleague who uses a small fixed array of Yagi's tilted up 30 degrees that is relatively inexpensive and works very well. In this case you can use an azimuth rotator alone, or none at all. The effort is well worth it.

Ok what about portable operation????

The most popular antenna for portable operation is called the Arrow Antenna. It is a great antenna for portable use and again is well respected in the Satellite world because it is easy to use and make piles of contacts. Another colleague and friend of mine, 10 year old Advanced Amateur Aruni Perrea VE4WMK of Winnipeg makes many contacts including the ISS using an Arrow Antenna

Continued back page

OFFICERS and BOARD INSTALLED for '05

Vic Linderholm, AE6ID, President of the Santa Cruz County Amateur Radio Club introduces Chris Angelos, KG6DOZ, the new Vice President, during the Holiday Lunch at Marie Callender's.

CLUB MEETING FRIDAY JAN 21, 7:30 P.M.

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The Pro-Am Revolution

We continue to read tales of woe regarding Amateur Radio, here's a fresh look. Thanks to John K6JCI for passing it along.

From astronomy to activism, from surfing to saving lives, Pro-Ams - people pursuing amateur activities to professional standards - are an increasingly important part of our society and economy.

For Pro-Ams, leisure is not passive consumerism but active and participatory, it involves the deployment of publicly accredited knowledge and skills, often built up over a long career, which has involved sacrifices and frustrations.

The 20th century witnessed the rise of professionals in medicine, science, education, and politics. In one field after another, amateurs and their ramshackle organizations were driven out by people who knew what they were doing and had certificates to prove it.

The Pro-Am Revolution argues this historic shift is reversing. We're witnessing the flowering of Pro-Am, bottom-up self organization and the crude, all or nothing, categories of professional or amateur will need to be rethought.

Recommended reading

The Pro-Am Revolution

How enthusiasts are changing our economy and society

Authors/Editors:Charles Leadbeater, Paul Miller

http://www.demos.co.uk/catalogue/proameconomy/

— Ron W6WO

DOWN MEMORY LANE

It is said that a drowning man relives his whole life and I had an experience rather like that recently. Bob K6XX offered some old QSTs to me so I said OK I do enjoy browsing a few. He then said "to take one you must take them all". That meant a dozen boxes full of issues dating back to the late 40's. This period coincides with my own involvement in the hobby so "in for a penny in for a pound" I set out to extract all the items of interest and what I found was both nostalgic and rewarding. This a period that began without SSB, 15 meters, transistors, TVI and printed circuit boards, ARRL dues were $5 and the 25th Edition of the Handbook cost $2.00. The average salary of a Chief Engineer was between $4,300 and $7,700

In removing useful articles to a ring binder one becomes proud by the way Hams quickly adopted new technology and the amount of primary research that had been carried out. Bearing in mind that a solid state KW amplifier remains a challenge to this day here is a single question quiz. In which year did a solid state KW amplifier project appear in QST, who offered the first commercial product and when was this? Check the answers further down this narrative.

There are outstanding and prolific writers in the era, some of whom are as active today, I think of Wes W7ZOI and Jerry W2FMI. A few of the antenna controversies of the day have evidently been settled. For example the cubical quad was much more popular than it is today. Others are still as fervently debated such as loops vs dipoles, horizontals vs verticals. The controversies over matching and the meaning and value of SWR remain to this day.

Looking at the adverts one sees that all the gear was US made until the early 80's and Heathkits covered a wide range. The 1 KW solid state project article appeared in the May 1976 issue and the first commercial KW came from TenTec in July 1980. My favorite advert was by Collins Radio declaring the sale of the 27,000th KWM2-A. Nobody who ever owned one would forget the joy of using this radio. Evidently they cost about $1,100 and this was a lot of money in those days. I had a special relationship with Collins at the time so I didn't buy mine.

There are so many thoroughly researched articles it was hard to pick favorites. Here are two, "Instantaneous Prediction of HF Transmission Paths" W6QYT et al March 1952 and "A Complex Impedance Bridge" by K9ZLU November 1979. I hope you will find this selection of articles and ads quite interesting.

Jan 1948, What is SSB ?, 51 ft of RG8/U with connectors $1.35,

A kit TV with a 20 square inch screen. A 50 ft telescoping tubular wooden mast $17.50

November 1949, Homemade stranded antenna wire.

August 1952, An Automatic Antenna Tuner

March 1953, 25 Miles on a Hunk of germanium

October 1954, A new symbol for junction transistors

September 1955, Solar Power

May 1956, First All-Transistor RX

November 1957, Satellites from a USSR publication

May 1959, Printed Circuit Boards

May 1966, Ferrite Baluns

September 1970, Operational Amplifiers

April 1971, Digital Filters

November 1972, FFT Spectrum Analyzer

January 1975, 100 Watts Out Solid State

September 1975, Coherent CW

April 1977, Solid-State Tube Replacements

October 1979, uProcessor Morse Code Keyboard

December 1980, Spread Spectrum, First Packet Repeater at KA6M

February 1981, Antenna Modeling by Computer

July 1983, AMTOR

April 1984, First ad for a vertical without radials by Cushcraft, Many articles on computerized equipment.

June 1984, Antenna Modeling on an Apple II

July 1984, Bit Pattern Analysis on an Apple II

In solving today's difficult problems like RF pollution and antenna restrictions Amateurs are fortunate in having access to advanced components developed for commercial applications. We may not do Home Brew like we used to but the pioneering spirit of Ham Radio lives on from LF to EHF.

Ron W6WO

By Art Lee WF6P

CHATTER

Was pleasantly surprised when daughter Elaine said she wanted to study for her Technician's license. She got serious about it and kept asking me for study materials. Everything on my shelves was obsolete, of course. She knew the code once, wants to get refreshed. A trip to our local Radio Shack showed that they no longer carry ham study guides. Salesfolks said they could order the $19.00 publications for me, plus tax and shipping; delivery to take a week. Instead, I went to the ARRL website and found the current Question Pool. It was 72 pages long! Gave my printer a good workout and printed out the pages. While I was at it I also printed out an equal number of pages for the General Class license. For $1.50, ARRL will send the block diagrams if they can't be printed out. Elaine and I sat down with the questions and I went over a few with her. There are many new FCC Rules and Regs pertaining to space communications. Yes, now, under certain conditions, we can send music to the astronauts. I suspect that many of the Regs were changed to encourage NASA astronauts to become hams. That's a good thing. In the old days, contacting astronauts was a monumental feat. In the early 1980s, WA6KFA, Mary Duffield's students did make contact. They had a lot of help from club members. I don't know if any local hams have had QSOs with our orbiting ham brothers and sisters.

Cap KEAFE, is doing his usual FB job with ARES. At last count he had dozens of members signed up. We hams can still provide communications when all else fails. Power is always the first thing lost when disasters strike. Quick, grab a cell phone! you say. But Cell sites have been known to go out. In the case of a hazmat condition on the Bay Bridge a few years ago, motorists were held up in hours-long stalled traffic. All got on their cell phones at the same time to tell bosses they would be late. Son-in-law Preston, N6ODW, was an armored car driver and had to report his position (pre-GPS days). He couldn't get through as all the cell sites were clobbered. Locally, it is nice when we have a trembler and the ARES net starts up with members checking in with negative damage reports.

ENHANCED COOPERATION FOCUS OF ARES-RACES-MARS MEETING

Enhancing cooperation among Amateur Radio's emergency service organizations was the subject of a groundbreaking conference November 20 in Castle Point, New York. On hand were Amateur Radio Emergency Service (ARES), Radio Amateur Civil Emergency Service (RACES) and Army, Air Force and Navy-Marine Corps Military Affiliate Radio System (MARS) leaders. While informal cooperation is nothing new to ARES, RACES and MARS members--many of whom participate in all three organizations--the focus of the Castle Point gathering was on launching more formal regional and national collaboration. ARRL Field Organization/Public Service Team Leader Steve Ewald, WV1X, said he was pleased to be able to participate.

"I thought it was an excellent meeting, and it should lay a foundation for further cooperation between ARRL and our Field Organization and MARS," he said afterward. Ewald also used the occasion to call attention to the ARRL Amateur Radio Emergency Communications courses and the tuition grants available for radio amateurs completing them. Joining him under the League banner were ARRL Field Organization appointees Pete Cecere, N2YJZ, the Eastern New York Section Manager, and Tom Carrubba, KA2D, the New York City-Long Island Section Emergency Coordinator.

Newly designated New York Army MARS-ARRL Liaison Officer Richard Meirowitz, WA2ELE, organized the session, and New York MARS Director Steve Pertgen, W2FXJ, chaired the meeting at the Castle Point Veterans Administration Medical Center.

Keynote speaker was Army MARS Eastern Area Coordinator Robert Hollister, AAA9E/N7INK, from Ft Huachuca, Arizona (and the author of "A Portable NVIS Antenna," which will appear in the January 2005 QST). He expressed the hope that MARS management and ARRL would join forces to pursue the goal of interoperability. To jump start that initiative, Hollister provided an overview of the US Department of Defense (DoD) MARS program and its emphasis on providing emergency communication support to a wide variety of military and government response agencies.

In September, Hollister asked MARS stations and nets to coordinate with ARES/RACES and local ham radio operators to assist in handling hurricane-related health-and-welfare traffic. Amateur Radio and the military already collaborate informally each May during the Armed Forces Day communications tests, when hams and military stations engage in crossband contacts. Several pilot operations also have employed ARES/RACES members in past Army Reserve exercises at the local level.

Among proposals was a suggestion to seek FCC permission to conduct year-round interoperability training and emergency operation. It also was proposed that the amateur community assist MARS in providing early warning notification of emergency situations--so-called "Essential Elements of Information" messages--for relay to the DoD and the Department of Homeland Security.

Following Hollister's briefing, MARS Eastern Area Emergency Operations Chief John Scoggin, W3JKS, of Wilmington, Delaware, discussed last summer's nationwide Grecian Firebolt 2004 (GF-04) Army Signal communication exercise--the biggest MARS drill ever. At Pertgen's suggestion, Meirowitz tested the feasibility of MARS-ARES-RACES collaboration during GF-04, and ARES volunteers from eastern New York took part in the exercise, which involved a homeland defense/homeland security scenario. Meirowitz called it "a small but successful joint effort." Ewald noted that the Grecian Firebolt exercises were similar in nature to the ARRL's Simulated Emergency Test each fall.

Hollister suggested that ARES/RACES participation in the next annual Army Signal exercise be worked out on a state-by-state basis. Also proposed was the designation of additional MARS-ARRL liaison officers at the state level.--Bill Sexton N1IN

BPL Interference

I wrote to Dave Sumner , K1ZZ the ARRL Chief Executuve Officer recently to say that I was unaware that the ARRL had raised the question of what happens if a licensed amateur interferes with a BPL service. In his reply Dave said that the ARRL had not overlooked the problem and he goes on to say:-

" From a regulatory standpoint, the FCC's position with regard to amateur interference to BPL is clear: BPL systems must tolerate whatever interference they receive from licensed radio services, including the amateur service. This was reiterated to me within the past two weeks. However, as I observed to Commission staff at that time, this is little comfort when neighbor relations are at risk".

Ron W6WO

ISP TELLS FCC BPL NOT A VIABLE ALTERNATIVE

Officials of Internet service provider EarthLink told the FCC that broadband over power line (BPL) cannot compete with the dominant cable or DSL technology today or in the near future. A BPL industry spokesperson subsequently criticized the ARRL apparently for reporting the company's statements. EarthLink President and CEO Garry Betty and other company officials met November 16 with FCC Chairman Michael Powell and Commission attorney Aaron Goldberger to deliver an ex parte presentation on several Wireline Competition Bureau and Common Carrier Bureau proceedings.

"EarthLink discussed that it has invested in and is in trials with several potential 'third wire' broadband transmission paths to the home, including WiFi, WiMax, MMDS and broadband over power lines," EarthLink Counsel Mark J. O'Connor informed FCC Secretary Marlene Dortch in a November 17 letter. "However, EarthLink pointed out that cable and DSL still account for virtually all consumer broadband connections and that none of these alternative technologies offer a commercially viable alternative today or in the near future."

An EarthLink analysis indicated that BPL is the most expensive of the broadband technologies it evaluated. In a chart titled "Next generation broadband," EarthLink said that wireless and BPL "are not likely to be competitive in cost and performance with cable and DSL over the last mile to the home."

EarthLink judged as "not successful" one unspecified BPL technical trial using Amperion equipment in a "wireless/BPL combo." In discussing other trials using Ambient and Current Technologies equipment--in one of which EarthLink had invested--the ISP's assessment was that the high cost per household passed--$125 in both instances--would require a better than 15 percent market penetration to attain a competitive cost.

EarthLink said its assessment determined that ADSL2+ technology is the "best option" and can offer VoIP as well as high-speed broadband (at 6 to 10 Mbps) and video over copper wire and using on-premise consumer equipment. The company also indicated that it plans to invest in ADSL2+ technology. The company's ex parte submission is available on the FCC Web site <http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_docu ment=6516883843>.

ARRL's reporting of EarthLink's submission to the FCC apparently struck a nerve at Ambient, with which EarthLink has a business relationship. In a classic case of shooting the messenger, Ambient CEO John J. Joyce took the League to task on behalf of the BPL industry in a statement posted via Market Wire on the CBS MarketWatch.com Web site <http://cbs.marketwatch.com/tools/quotes/newsarticle.asp?guid={ABFA5879-0D B7-43C3-BA02-94071FAECC3D}&siteid=mktw&dist=nbs&symb=>. Joyce seemed to suggest that the League itself had provided the EarthLink information and was spinning the company's remarks to advantage.

"The release by the ARRL clearly takes the statements of EarthLink's attorney out of context and conveniently ignores many developments in the industry that contradict ARRL's conclusions," Joyce said, adding that 2005 promises to be "the year of BPL."

Among other things, Joyce said that "the ARRL perception of BPL's economics fails to consider that consumer broadband is only one application for a BPL-enabled utility system." he said there are other industrial applications that may augur in BPL's economic favor. He also emphasized that the projects with which his company and EarthLink have collaborated were demonstrations "never intended to be competitive installations" and are "in no way representative of BPL economics."

ARRL CEO David Sumner, K1ZZ, said the League stands by its account, which Joyce characterized as a "claim" on the ARRL's part. "ARRL's report on the document was accurate in every way, and we stand by our report," he said. "The conclusions given are not ours, but EarthLink's. Anyone who wishes to do so can read the submission for themselves."

—From ARRL Newsletter

ARRL AIMS TO DAMPEN CALIFORNIA UTILITY COMMISSIONER'S ENTHUSIASM FOR BPL

Citing its accumulated experience in dealing with Broadband over Power Line (BPL) issues, the ARRL has suggested that California Public Utilities Commission (CPUC) member Susan P. Kennedy temper her "excessively optimistic" view of the technology. Speaking recently about BPL with Marc Strassman of California Politics Today, Kennedy contended that it's "criminal that California does not have a major BPL pilot project or commercial project under way." Kennedy said she intends to see the CPUC do everything possible to change that. ARRL CEO David Sumner, K1ZZ, wrote Kennedy December 10 to raise the caution flag and offer the League's BPL expertise.

"It has yet to be demonstrated that BPL systems can be deployed without polluting the radio spectrum," Sumner said. "Until this issue is resolved, we respectfully suggest that public statements that paint an excessively optimistic picture of BPL are inadvisable." Even the CPUC acknowledged the BPL interference issue in its reply comments in the FCC's BPL proceeding, ET Docket 04-37, Sumner noted. Citing BPL's status as "a nascent service" and the "significant disagreement" over the level of interference, the CPUC suggested the FCC "ensure that adequate testing is performed and industry standards are developed before any deployment takes place."

Sumner told Kennedy that BPL's interference potential is "not surprising" since it uses unshielded power lines. "The fact that they radiate radio frequency energy is simply a matter of physics," he pointed out. California is home to some 100,000 Amateur Radio licensees--about 14 percent of the nation's total.

This fall, a BPL field trial in Menlo Park, California, where FCC Chairman Michael K. Powell had extolled the technology's virtues earlier this year, was aborted before getting very far off the ground. The demonstration of BPL technology was co-sponsored by Pacific Gas and Electric Company (PG&E) and AT&T, which decided to direct its business energies elsewhere. PG&E said that without a telecommunication partner in the venture, it didn't make sense to continue the trial.

California Politics Today article noted the apparent lack of interest on the part of California utilities in getting involved in BPL. Sumner said there are "a number of good

reasons why BPL is not moving forward very fast," including the interference "caused by virtually all BPL systems to nearby radio receivers."

Nonetheless, Kennedy told Strassman that she'd be surprised if California could not get "something substantial" under way in the BPL area by the middle of next year. She suggested she'd like to pave the way for BPL at the state level in much the same way that the FCC has done at the federal level. On October 14, the FCC adopted a Report and Order (R&O) spelling out Part 15 rules specifically aimed at enabling the rollout of BPL technology. At the same time, the new rules impose certain regulatory requirements aimed at mitigating interference.

Sumner said radio amateurs were not alone in their concern. He pointed to the National Telecommunications and Information Administration's BPL study, which concluded that interference to low to moderate radio signals was likely from BPL systems 75 meters from land mobile stations and 460 meters from fixed stations. The FCC cited the NTIA's findings in its decision to prohibit BPL systems from using Aeronautical Radio Service frequencies, he said.

"The ARRL is continuing its efforts to persuade the FCC that in order to conform to international agreements and the Communications Act, other radio services must be afforded the same protection," Sumner told Kennedy. "We at the ARRL would be pleased to work with you and your staff to answer any questions you may have," he concluded, directing Kennedy's attention to the BPL information available on the League's Web site <http://www.arrl.org/bpl>.

The California Politics Today interview is available on the Web <http://www.etopiamedia.net/empnn/pages/cpt-emnn/cpt-emnn222-5551212.html> .

—From ARRL Newsletter

FREE MINI PROGRAMS

I happened to stumble on an interesting web site today that was full of free mini-programs of use to amateur radio experimenters and enthusiasts. Especially useful for those trouble-shooting, modeling, or designing typical ham projects; for example calculating a feedpoint impedance remotely or designing a coil for a short vertical whip. Obviously a labor of love, it deserves a bookmark for future referenceCheck out http://www.btinternet.com/~g4fgq.regp/ and follow the links to the "Download Programs Here"

—73 Barry NR6S

SCAMP ON-AIR TESTING COMMENCES

The Sound Card Amateur Message Protocol--or SCAMP--is not just a conference paper topic anymore. On-the-air testing of the digital communication protocol began in late November, and the first transcontinental communication using SCAMP occurred on December 4. SCAMP is designed to eliminate the need for pricey external hardware for passing e-mail traffic on relatively narrow-bandwidth channels. Rick Muething, KN6KB, prepared a presentation on SCAMP for the ARRL-TAPR Digital Communications Conference in September.

"SCAMP is an example of what is now possible with sound card, computer and software technology using cooperative amateur efforts," he says. "SCAMP and similar programs like DIGTRX for image transmission offer low-cost alternatives to dedicated or proprietary hardware."

As Muething explains, SCAMP is intended for transmitting messages--text with binary attachments--via 2-kHz bandwidth HF and VHF voice channels. The program is compatible with Winlink2000. SCAMP uses the Redundant Digital File Transfer (RDFT) transport layer, developed by Barry Sanderson, KB9VAK, with the addition of Automatic Repeat Request (ARQ)--the technique all "linked" modes use to ensure error-free transmission--and message layer protocols that Muething developed. He says SCAMP offers a moderate-throughput, error-free protocol that works using conventional sound cards and modestly powered computers.

The RDFT utilities and documentation for the Windows and Linux operating systems have been released under the GNU General Public License (GPL).

Muething says a dozen dedicated testers began initial on-air testing on HF and VHF November 27 using the alpha version of a Windows-based SCAMP client called Paclink SCD that he and Vic Poor, W5SMM, developed.

In addition to Muething and Poor, alpha testers included Scott Thile, K4SET; Bud Thompson, N0IA; Bill Hickey, AB7AA; Howard White, VE3GFW; Dave Wagner, WA2DXQ; Lor Kutchins, W3QA; Larry Trullinger, KB0EMB; Mike Burton, N6KZB; Bill Kearns, WB6JAR, and Steve Waterman, K4CJX. Primary testing was done on 40, 30 and 20 meters, and VHF testing was carried out on 2-meters using both FM and SSB. Alpha testing will continue over the next several weeks, and beta testing is set to crank up in February, Muething says.

The first successful transcontinental exchange of Amateur Radio e-mail messages using SCAMP took place December 4 on 20 meters between N6KZB in Temecula, California, and W3QA in West Chester, Pennsylvania. Each station ran 70 W.

"Several other two-way exchanges were also made over the weekend as operational and protocol bugs were fixed in the alpha software," Muething reports. "The throughput of SCAMP adjusts to the channel quality, reaching a current net maximum of about 4800 bytes per minute before compression gains."

Muething says SCAMP doesn't require anything more than a 1-GHz class Pentium or Celeron processor with a minimum of 128 MB of memory to reach full throughput. Lesser systems may be used at reduced throughput.

The complete SCAMP specification is available and will be released under the GPL as a blueprint for client developers to insure compatibility across different implementations. Muething says further protocol optimization continues to up system throughput and improve its robustness in poor HF multipath channels.

He'd also like to see some band plan restructuring to "open up spectrum for digital modes and encourage new experimentation and development like SCAMP." The ARRL has sought comment from the amateur community on draft proposals <http://www.arrl.org/announce/bandwidth.html> seeking to regulate subbands by emission bandwidth rather than by mode. At this point, the proposals remain a work in progress, and the ARRL has not petitioned the FCC for any changes.

Muething has more information on SCAMP. Contact him via e-mail <kn6kb@arrl.net>. Information on RDFT is available on the Web <http://www.svs.net/wyman/examples/hdsstv/index.html>.

SCCARC Board - 2005

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	Bob Wolbert	K6XX	426-5699
K6BJ Trustee	Royce Krilanovich	AC6Z	475-4798

MONTEREY BAY ACTIVITY

SCCARC Repeaters:	K6BJ 146.790- PL 94.8 Santa Cruz (linked w/Watsonville full time) KI6EH 147.945- PL 94.8 Watsonville (linked w/Santa Cruz full time) K6BJ 440.925+ PL 123.0 Santa Cruz • SCCARC Net Monday 7:30 PM 146.79- /147.945- /440.925+ linked • SCCARC 10 Meter Net 28.308 MHz USB Monday 7:00 PM
SLVARC Repeater	WR6AOK 147.120+ PL 94.8 Ben Lomond • SLVARC Net Thursday 7:30 PM
LPRC Repeater	WR6ABD 146.640-(PL 162.2) • LPRC Net Tuesday 8:00 PM
NPSARC Repeater	K6LY 146.97- PL 94.8 Naval Post Graduate School, Monterey • NPSARC Net Wednesday at 8 PM on K6LY/R
6 Meter Local Net	52.8 MHz (PL-114.8) Sunday 8:00 PM
ARES Nets	• SC ARES Tuesday 7:15 PM K6BJ 146.790-(PL 94.8) • SLV ARES Tuesday 7:00 PM W6JWS 146.745-(PL 94.8) & WR6AOK 147.120+(PL 94.8) on alternate Tuesdays • South County ARES Tuesday 7:15 PM K6RMW 147.00+ (PL 94.8) • LP ARES Tuesday 7:15 PM AE6KE 146.385- (PL 98.4) & AB6VS 440550+ (PL 94.8) linked • SC County ARES Tuesday 7:30 PM 146.79-/ 147.945-/ 440.925+/ 147.180+ (all PL 94.8) (linked) • Monterey ARES Net Wednesday 7:30 PM K6LY 146.970- (PL 94.9)

FOR MORE INFO SEE: http://www.k6bj.org/freq.html

SCCARC Calendar of Events

Short Skip Deadline	Monday	Jan 10
SCCARC Board Meeting 6:30	Friday	Jan 21
SCCARC Meeting	Friday	Jan 21
SCCARC Meeting	Friday	Feb 18
Radio Fest	Saturday	Feb.21

MONTHLY MEETINGS.

The SCCARC Meets at 7:30 PM, on the THIRD FRIDAY of the each month (except December). Meetings are at Dominican Hospital, 1555 Soquel Drive, Santa Cruz.

SCCARC Website at - www.k6bj.org

CLUB E-MAIL: yourcall@k6bj.org

A few anti-frantic souls escaped the shopping malls to join us for our relatively tranquil CAKE session on Dec 18th. Note the word "relative" because as usual our conversations were quite spirited. It was a pleasure to have our president Vic AE6ID join us and we welcomed the new face of Cody Martin Adams who is a prospective ham introduced by Roy KF6KVD.

Barry NR6S brought along his Rig Blaster-a product that provides many options for the interface between a computer and a radio. Barry laid out an idea for using USB to connect to outboard sound cards to avoid compatibility problems with internal PC sound technologies. Allen KC6VJL expressed some concerns that the use of wi-fi or wi-max technologies might mean an abuse of Ham frequencies.

Ron W6WO showed yet another little box, this time in the form of a converter to move the LF spectrum 0-500 KHz up to the 80 meter band between 3.5 and 4.0 MHz. Why would anyone be interested was fair question perhaps best answered by saying "because it is there". There are individuals who specialize in the spectrum below 500KHz and are known as Lowfers which stands for LowFrequency Experimental Radio. The Low Frequency Club of Amaerica maintains a web site (www.LWCA.org) which is worth looking at. It has a section on what is called Natural Radio defined as follows.

Natural radio is one of the ways ordinary experimenters can participate in some little-explored areas of science. Natural radio includes a fascinating array of electrical signals that are produced by a host of sources, including interaction of lightning energy with the earth's magnetic field (whistlers), to geological disturbances (possible earthquake precursors), to the Northern Lights (auroral chorus)...even tiny electric fields produced by the wings of flying insects!

The secret life of plants anyone ? Does this mean we practice Unnatural Radio acts ?

Happy Holidays, BCNU in 2005

—73 Ron W6WO

Oscar Antenna continued

when she is not winning CW contests sending CW with her feet ! Arunie and her dad Kamura VE4WKP work together as a team.

In conclusion, you can make many contacts without having to take out a second mortgage on you home or invest in towers and all the toys. Big arrays help but they are not necessary to make contacts. Use your imagination and check with Amateurs on the bulletin boards as they will set you in the right direction. You can also homebrew many types of antennas (which will be the subject of an upcoming edition of the Beacon.) Before long you will be making satellite contacts! But be careful if you do start in Satellite communications it is exciting and very addictive.

Happy New Year and look forward to working you on the birds soon!

(Photos for this article can be seen at http://projectoscar.net/gallery/December-2004)

Best of 73 de VE7WFG

Bill Greene
Project Oscar Team Member
Amsat Area Coordinator , British Columbia Canada

A monthly article presented by the
Project OSCAR Amateur Radio Club

SCCARC Meeting: Jan 21, 7:30PM