



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1955

A NON-PROFIT AMATEUR TECHNICAL ORGANIZATION DEDICATED
TO THE ADVANCEMENT OF COMMUNICATIONS ABOVE 1000 MC.

W6IFE Newsletter

June 2005 Edition

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At the 2 June meeting - Noise Figure Measurement Clinic. Bring your preamps and transverters to get their NF measured. 24GHz and below. Power Measurement available as well up to 78GHz. Call for special power levels and frequencies above 100mw.

Folks are to bring something to the auction off during the meeting for the benefit of the Auxiliary Fund, which is to provide extra monies to the treasury for MUD05 expenses. Here are three categories of sales:

1. Whatever it brings, give it to the club.
2. Starting bid needs to be met or it goes back to the owner. If it goes over that, it all goes to the club.
3. Starting bid needs to be met, the club gets a percentage of the final bid.

Put a tag on the items so that it is known which category they fit in.

Change in Game Plan- where will be no more bidding for some one else to take something home. In preparation to clean up and lock the hall, numbers of "things" have been left behind and the "Key Members" does not want to be responsible for getting rid of the "stuff".

The SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1900 hours local time on the first Thursday of each month. Check out the SBMS web site at <http://www.ham-radio.com/sbms/>.

Last meeting Frank, WB6CWN talked about his handheld 10 GHz rig with 18 inches dishes. Frank began with talking about his big heavy rigs for 10 GHz. But there was a lot of set up time involved once getting to an operation site. The more desirable rig was on that was lighter and easy to move from place to place. After playing with rain scatter the rig wanted to be small to where one could cover it with a simple trash bag. Rain scatter you want to be able to easily move +/- 30 degrees in azimuth and +/- 10 degrees in elevation. The IF radio was a Yaesu FT817 on the back of the dish to make it balance for handholding. The hand held rig has a Verticom synthesizer, but still needs a good reference oscillator. Frank had found a 5 MHz ovenized vacuum bottle oscillator that takes little power but maintains frequency very well. Batteries for the portable rig are computer laptop lithium-ion which are smaller and higher density than other batteries types. But they are not forgiving on charging requirements. Lead acid batteries are nice but heavy. NiCad batteries are better but still don't have the capacity of the lithium-ion types. Frank charges the lithium-ions in parallel with an equalizer then runs them in series. Another source of

batteries is the portable tool types like Sears. Frank uses a microprocessor (basic stamp type to run the synthesizer and to do the T/R switching. Since the FT-817 uses 5v logic the microprocessor interfaces will. The microprocessor also controls the charge on the batteries. Frank uses a high level (+15 dbm) mixer, which works with the FT-817 PA disabled and the verticom synthesizer well. All the gain is out in front of the mixer. The 30-40 db like was talked about at previous sessions with Dave, WA6CGR in his talk on receivers. Waveguide LNA's and relays are too heavy so Frank has SMA type LNA and relays. The relays are latching type with indicator contacts so they talk to the microprocessor letting it know where things are in position before controlling other functions. Every thing is held together with double sided tape. The dish on this rig folds down over the hardware so as to make it even more portable. Thanks Frank for the great Tech Talk. The auction again brought in funds for the MUD 2005 expenses. Gary, K6KVC put SBMS meeting over the ATV microwave network for all to see and record. 25 people present.

Scheduling.

11-13 June ARRL June VHF QSO Party

25-26 June ARRL Field Day

7 July - 76GHz equipment progress Kerry Banke K6IZW. We have had some exciting developments. "Banke Labs" has been hard at work modifying some surplus equipment.

4 August Contest preparation and places. Find out where people are going during the 10ghz and up contest, get information on locations and maybe form a team.

6-7 August ARRL UHF Contest

20-21 August ARRL 10 GHz and Up contest

1 September Contest prep, Owens Valley project update and prep, and Microwave Update rep.

10-12 September ARRL September VHF QSO Party

17-18 September ARRL 10 GHz and Up contest

6 October- Microwave Update preparations.

3 November- Microwave Company rep on latest microwave developments we will have someone in from industry to talk about the latest developments. Door prizes!

1 December- History of Radio Astronomy- We hope to have a guest speaker.

YY December- Christmas Party at The Lab and Gift Exchange

5 January 2006- OVRO-SBMS Update and Report. Details of the Owens Valley Radio Observatory project with pictures and sound.

2 February 2006 - 1296Mhz High Power Amplifiers. Members will share their projects and results. Want to build an amp? Join us for a presentation by those who have had experience building them. Both solid state and Tubes.

Activity reported at the 5 May SBMS meeting—Mel, WA6JBD found a neat surplus 5.7 GHz transverter; Dick, WB6DNX has a new powerwerks wattmeter; Frank, WB6CWN has his big radio working after rebuilding it with more modern parts; Chuck, WA6EXV has been working on LNAs and control box for the ORVO project. Bill, WA6QYR upgraded his license to Extra class and has been working on LNAs for 450 and 1296 MHz; Jeff, KN6VR has been a "work" a lot; Howard, WA6YGB has been working on his 1296 MHz amplifier; Ed, W6OYJ has a new operating site in San Diego and is returning to his work on the 24 GHZ Pcom rig; Jack, N6XQ was on the contest with his milk-box rig; Bob, WA6VHS is repackaging his 10 GHz rig; George, K6MBL is working on a power point tech talk for MUD; Chuck, N6EQ worked the contest; Pat, N6RMJ has a 902 MHz rig working and 3 and 10 GHz rigs working. Next is the 2.4 GHz rig to make it work again; Wayne, KH6WZ ran 10 and 2.4 GHz during the contest; Chip, N6CA worked on 2.4, 3.4 and 10 GHz during the contest, ran tests on a returned 14 GHz 10w amp (gave an un-tuned one to the OVRO project) and is working on a Hi-Potosi rig; Dick, K6HIJ is back to building 24 GHz waveguide switches; Larry, K6HLH worked the contest; Dave, WA6CGR ran 2.4, 3.4 and 10 GHz during the contest and has a 700w 902 amplifier; Glenn, KE6HPZ worked the contest on 2.3, 3.4 and 10 GHz; Doug, K6JEY fixed his 10 GHz radio; Chris, N9RIN returns several Qualcomm amplifiers and worked the contest.

"Wants and Gots for sale"

Wanted- WR90 to SMA adapter Richard KB0EMR ReemeeRchrd@aol.com

Want Qualcomm Rect. PLL Board Chris N9RIN 949-388-3121 cshoaff@yahoo.com

Want a high voltage (5KV) scope probe Dick K6HIJ- 760-253-2477 dick@eventhorizons.com

Want manual for HP 8621B sweeper 100 MHz to 6 GHz Chuck WA6EXV 760-377-4972

MICROWAVE UP DATE 2005

Chairman: Pat Coker, N6RMJ of SBMS

Planning Committee: Pat Coker, N6RMJ of SBMS

| | |
|-------------------------|-------------------------------|
| | David Peters, KI6FF of WSWSS |
| | Dennis Kidder, WA6NIA of SBMS |
| Presentations: | Chip Angle, N6CA |
| Publicity: | Wayne, KH6WZ |
| PRIZES: | Dave Glawson, WA6CGR |
| Registration & Finance: | Dick Kolbly, K6HIJ |
| Family Program: | Mel's wife—need name |
| Surplus Tour: | Mel, WA6JBD |
| Location: | Sheraton Cerritos Town Center |

The SBMS web site has a MUD 2005 subsite. Dave WA6CGR has five companies donating prizes. Three or 4 vendors are on line to be in the flea market. More help will be needed at the registration table.

Microwave Up Date 2005 Call for Papers

MUD 2005 will be held this year in the Los Angeles area on October 27 thru the 31st. As the Technical Program Chairman this year, I would like to invite interested authors to present a paper(s) for the 2005 conference.

Microwave Update is the premiere microwave amateur radio conference on the planet. Many people around the world collect the proceedings from this conference since it represents the current state of the art in microwave amateur radio. This is a great opportunity to get your ideas and papers published! You don't have to give a talk to get your paper included in the proceedings. Electronic submissions in Word, WordPerfect or text format accepted by email or CD. Usual drawing formats also accepted with your paper(s).

Cutoff date for inclusion in the proceedings is September 5th, 2005. If you are interested in writing and/or presenting a paper for the 2005Conference, please send me an email or write to:

N6CA PO Box 35 Lomita CA 90717-0035 email: n6ca@ham-radio.com

Please contact me as soon as possible with an abstract or even a general idea. This will help the conference team with its planning activities. For more information about the Microwave UpDate 2005 see: <http://www.microwaveupdate.org>

73 Chip N6CA

Registration Desk helpers- looking for volunteers, wives or anyone to help man the registration booth from Wednesday October 26 afternoon or Thursday October 27 thru Saturday October 29, please contact Dick Kolbly K6HIJ 26335 Community Barstow, CA 92311 760-253-2477 dick@eventhorizons.com

Owens Valley Radio Observatory Project

The SBMS Project manager talked about schedule where in the cables from the control room to the dish feed would be checked some time in June and getting the feed unit completed in July with operations soon there after.

Beacons-

Heaps Peak DM14kf 34.14.2.4n 117.8.25.2w 8kft horz 1296.0-.2 MHz in 2304.6-.8 MHz out

Frazier Mtn DM04ms 8013 ft 10,386.3104 MHz 1.4w 14-dBi-omni horz.

Palos Verde DM03ts 1300 ft 10,368.300 MHz 1.6w 14-dBi-omni horz.

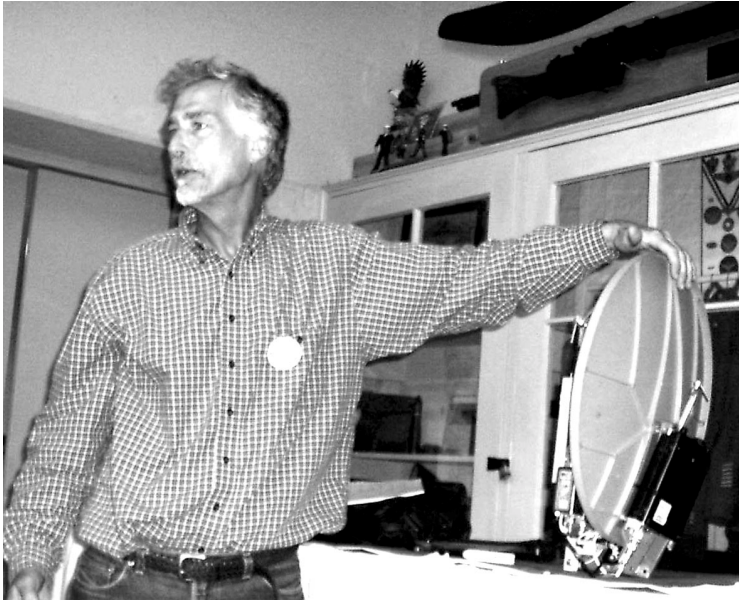
San Diego DM12mq 32.41.8n 116.56.09w 10,368.070 MHz 14 dbm 10db omni horz

Santiago DM13fr 33.42.690n 117.32.020w 5664 ft 10,368.330 MHz 0.5w 10dbi horz

ATV: 2441.5 MHz in 5.9 GHz out 10.368.4 MHz in 3460 MHz out

Gary, W6KVC set up his 2 GHz ATV equipment at the May SBMS meeting so as to connect with the Southern California microwave ATV network. Several people got to visit the meeting via ATV.





Frank, WB6CWN demonstrated his “Handy 10 GHz rig” at the May SBMS meeting. The dish folds down over the transceiver. Note the FT-817 on the back of the dish.



The only waveguide is from the horn to the T/R relay. All the transceiver components are double side taped to the support arm that comes out at a location below the normal feed bracket. This change of bracket and location of hardware keeps the “balance pint” to where it is an easy hand held point and shoot.



The method described by Paul Wade W1GHZ to locate the proper offset fed dish feed point is used to open the dish to the correct angle.

From ARRL May 20, 2005 Letter.

CW OPS WHIP WHIPPERSNAPPER TEXT MESSENGERS ON NATIONAL TV

It may have been Friday the Thirteenth, but it was a lucky day for Morse code--and particularly for veteran CW contest ops Chip Margelli, K7JA, and Ken Miller, K6CTW. During a May 13 appearance on NBC's The Tonight Show with Jay Leno, the pair was able to pass a message using good old-fashioned Morse code more rapidly than a pair of teenaged text messengers equipped with modern cell phones. The victory, which replicated a similar challenge that took place recently in Australia, has provided immense encouragement to Amateur Radio's community of CW operators, who been ballyhooed the achievement all over the Internet. The text messaging team consisted of world text-messaging champ Ben Cook of Utah and his friend Jason. Miller said afterward in a reflector posting that the CW team won fairly handily.

"Ben was just getting ready to start entering the last two words when I was done," he said on the Elecraft reflector in response to various questions he's received following the TV appearance. "I already knew that 28-30 WPM would easily keep us in front of even the current world [text messaging] record holder, and also it is the fastest speed that I can make nice readable copy on paper with a 'stick' [pencil]." Miller said it was decided he'd be on the receiving end because he wasn't distracted by the noise in the studio.

Margelli recalls that he was sending at 29 WPM. "I believe the goods were suitably delivered," he told ARRL. "CW and old guys rule!"

What the viewing public didn't know was that Margelli and Miller had, in Miller's words, "smoked 'em every time" during three pre-program rehearsals. Even so, during the real thing, when Miller raised his hand to signal he'd copied the CW message successfully, Jason's jaw dropped. None of the players had any idea of the text they'd be sending, Miller noted. The message? "I just saved a bunch of money on my car insurance."

As with many Tonight Show bits, this one involved a member of the audience, a young woman named Jennifer who predicted--incorrectly as it turned out--that text messaging definitely would top 170-year-old Morse code. She walked away with a gift of restaurant tickets anyway.

Margelli says the CW team used Yaesu FT-817 transceivers--one of his own and another owned by Dan Dankert, N6PEQ. Backup units--not needed--were provided by HRO; Margelli's wife Janet, KL7MF, manages an HRO store. They ended up using 432.200 MHz as an operating frequency in order to avoid RFI from the plethora of TV equipment in the studio and to avoid interfering with NBC's gear. They ran the little transceivers at their lowest power level and with the antennas disconnected--although they were mounted on the back of each unit--no problem given the close proximity involved. Margelli sent with a Bencher paddle.

To add a little atmosphere to the affair, NBC producers attired Margelli and Miller to look like 19th-century-era Western Union or railroad Morse telegraphers. The costumes came complete with green visors, white shirts, sleeve garters, vests and bow ties. The teenaged SMSers wore T-shirts and jeans.

Cook told Leno that he'd managed to send a 160-letter message to his friend using his cell phone's short message system (SMS)--the formal term for text messaging--in 57 seconds.

A member of the Morse Telegraph Club and a QRP enthusiast, Miller said he'd been using CW for 38 years. Margelli told Leno he'd been using Morse "for 43 years in ham radio," a phrase Leno echoed. That was the only plug Amateur Radio got during the appearance on the show's "Dinner for 4" segment. Miller says that during rehearsal, the pair had come up with a few

lines to promote ham radio and telegraphy, but they were cut during the final dress rehearsal in the interest of making the segment fit its allotted time slot.

During the Australian competition in April, a Morse team consisting of 93-year-old former post office telegrapher Gordon Hill--the sender--and 82-year-old Jack Gibson--the receiver--topped 13-year-old SMSer Brittany Devlin. In that event, Hill spelled out the message in full, while Devlin used text-messaging shorthand. In that competition, held at the Powerhouse Museum in Sydney, Hill took 90 seconds to send the message, 18 seconds faster than Devlin's message took to reach her friend's cell phone.

Miller encouraged all who enjoyed the CW-vs-text messaging segment on NBC to contact The Tonight Show to let the producers know about it--with an eye toward having the network schedule a more elaborate segment "next time."

"Thanks for the kind comments from all," Miller concluded, advising "let's keep on having fun! --It is a hobby after all."

Commented Margelli to ARRL: "I completely agree with my fantastic teammate, Ken Miller. It was a lot of fun, just like ham radio, and the show also delivered an important, if subtle, message about the benefits of the 'basic' communication infrastructure that Amateur Radio provides."

GERRITSEN RELEASED ON BOND, REMAINS UNDER HOUSE ARREST

Reputed Los Angeles-area radio jammer Jack Gerritsen reportedly has satisfied the requirements of a \$250,000 cash or property bond and has been released from a federal lockup. The US Bureau of Prisons indicates that Gerritsen got out of jail May 17, although he reportedly remains under house arrest at his home in Bell.

Acting on a criminal complaint, FBI special agents, accompanied by personnel from the FCC Los Angeles Field Office, arrested the 69-year-old Gerritsen without incident early May 5 at his home. Federal agents also seized his radio equipment. According to terms spelled out by the US Attorney for the Central District of California after he was taken into custody, Gerritsen will be subject to monitored home detention and barred from possessing or using any radio equipment. Additionally, Gerritsen's residence remains subject to search. Unconfirmed reports say Gerritsen's passport has been taken as well.

The criminal complaint said an FCC investigation revealed that Gerritsen "often transmits his prerecorded political messages and real-time harassment and profanity for hours at a time, often making it impossible for licensed radio operators to use the public frequencies."

The FCC already has affirmed a \$10,000 fine against Gerritsen for operating without a license. It has proposed another \$42,000 in forfeitures for alleged interference-related infractions.

Five years ago, Gerritsen was convicted in a California court of interfering with police radio transmissions and sentenced to 38 months in prison. After his release, he applied for a Technician class amateur license and was granted KG6IRO. The FCC promptly rescinded the grant when it learned of his earlier conviction, however.

==>SOLAR UPDATE

Solar flash Tad "You Are the Sunshine of My Life" Cook, K7RA, Seattle, Washington, reports: Things got quite exciting last weekend. On Friday the Thirteenth at 1650 UTC, a tremendous explosion near Sunspot 759 blasted toward Earth. The impact on Earth's magnetic field was felt at 0230 UTC on May 15, producing an extreme geomagnetic storm. A geomagnetic storm is a disturbance of Earth's magnetic field.

The planetary K index reached 9 on Sunday, May 15. This is huge! The middle-latitude, high-latitude and planetary A indices for Sunday were 44, 77 and 105 respectively--all very high values.

The A and K indices indicate the severity of magnetic fluctuations and, as a result, the disturbance to the ionosphere. K indices of 2 or 4 indicate unsettled or even active magnetic conditions--likely to be reflected in a degradation of HF conditions. An index of 9 represent a major storm that would result in an HF blackout.

73's Bill



Chuck, WA6EXV with his mobile 10 GHz rig and omni-antenna. Chuck has a DSP-10 connected to his transverter so he can narrow the signal bandwidths and stretch the DX distances.

The **San Bernardino Microwave Society** is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs from Hawaii and Alaska to the east coast and beyond. Dues are \$15 per year, which includes a badge and monthly newsletter. Your mail label indicates your call followed by when your dues are due. Dues can be sent to the treasurer as listed under the banner on the front page. If you have material you would like in the newsletter please send it to Bill WA6QYR at 247 Rebel Road Ridgecrest, CA 93555, bburns@ridgecrest.ca.us, or phone 760-375-8566. The newsletter is generated about the 15th of the month and put into the mail at least the week prior to the meeting. This is your newsletter. SBMS Newsletter material can be copied as long as SBMS is identified as source.

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