



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 September 2005 Edition

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

The **LAST** auction-

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.

There will be no more bidding for some one else to take something home.

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/>.

It was voted by the membership to change the SBMS Newsletter over to pdf format that can be delivered by internet. So everyone that wants to receive it that way needs to provide a current email address to Bill, WA6QYR, the newsletter editor. Those who wish to continue receiving the newsletter via USPS will need to indicate such to Bill at bburns@ridgenet.net.

So far I have only heard from members:

Email	USPS mail
N6EQ	W6ASL

K6DYD
G3PHO

KB0EMR
K6GZA

Please indicate your method of receiving the W6IFE SBMS newsletter SOON!

Last Welcome to new members Fredrick Steiner WA9HDD of Ann Arbor MI; Raymond Grace WA6OWM of Redondo beach; Gene Monroe K6BNN of Anaheim; Robert Taylor K6DBT of Chula Vista. The meeting was taken up with discussion of MUD2005 plans and plans for 10 GHz contest. 24 people present.

Scheduling.

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

“Wants and Gots for sale”

Wanted- 10w 10 GHz amplifier Dennis Kidder WA6NIA 714-446-4876

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

Want- 12v-24v dc-dc converter Jeff KN6VR (760) 948-7227

Want-10w 10 GHz solid state amp Chuck N6EQ (951) 898-4940

Want: 2"-3" wr90 extension Mike W6YLZ (310) 383-1000 cell

For Sale- New "NW1 B" 24" dish, SP-2 reflector. w/ 24 GHz feed wr-42 AND and 10

GHz feed w/ type N female socket. All for \$100. Prefer NOT to ship. Pickup at KH6WZ qth in Huntington Beach., or next SBMS mtg. Wayne, KH6WZ (714) 846-1230, KH6WZ@arrl.net

For sale - I have had responses for 1296 MHz transverters for sale. DEM13G2 \$325 W7QQIC1271A

Richard KrKPLContact Doug, K6JEY for more info

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 sub site. 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.

Dick, K6HIJ working on a display for MUD.

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 2005 Conference, 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

Microwave Update 2005: Ladies Activities and Non-Ham Things to Do

CERRITOS, Calif., **August 16, 2005** — The San Bernardino Microwave Society (SBMS) and the Western States Weak Signal Society (WSWSS) announce their preliminary listing of **Ladies Activities** for Microwave Update (MUD) 2005, from Thursday, October 27 to Sunday, October 30, 2005 at the Sheraton Cerritos Hotel, less than 10 miles north of Disneyland.

Take a trip down to historic Hollywood, California and see the Walk of Fame, Grauman's Chinese Theatre, the new Hollywood and Highland shopping center (where the Kodak Theatre home of the Oscar's is located), the Hollywood Sign and much more.

A trip to Third Street Promenade in Downtown Santa Monica allows you to see all that California is famous for in one place. Sun, sand, celebrities (this is a favorite haunt for most of the Hollywood crowd), shopping and entertainment are all here.

Ontario Mills Outlet Mall, an indoor outlet mall from some of the best stores around the country, including Nordstrom, Saks Fifth Avenue, Bed, Bath and Beyond, Mikasa, and JC Penny's are just a few of the hundreds of stores large and small that you will find here. With a food court and restaurants aplenty, including a Rainforest Cafe and a Wolfgang Puck's, Ontario Mills is a great place to go when you want to get the most for your money.

Take a boat ride around Long Beach Harbor. If this excursion interests you, please contact us immediately since reservations and additional payment for your ticket will be needed in advance. We don't have a lot of information about cost or itinerary as of yet, and depending upon interest, this excursion may or may not occur.

We will also have morning coffee klatches to re-cap and discuss the weekend.

Go to <http://www.microwaveupdate.org> or <http://www.ham-radio.com/sbms/mud-2005/> for more details and the registration form.

Contact Tisza Swanberg wife of Mel Swanberg WA6JBD, at YLactivities2005@aol.com letting us know which activities you would like to be a part of. We have lots of other surprises planned but we need to

know how many folks will be attending to put some of these ideas into motion - so contact us today!

Microwave Update 2005: Technical Workshops and Things to Do

CERRITOS, Calif., **August 16, 2005** — The San Bernardino Microwave Society (SBMS) and the Western States Weak Signal Society (WSWSS) announce their preliminary listing of Technical Workshops and Sessions for Microwave Update (MUD) 2005, from Thursday, October 27 to Sunday, October 30, 2005 at the Sheraton Cerritos Hotel, less than 10 miles north of Disneyland. In addition to technical seminars, microwave-related electronics sellers such as Down East Microwave will be open for business all weekend.

Thursday October 27

6AM: Departure time for a technical tour of the **Goldstone Deep Space Tracking Complex**. You **MUST** pre-register for this exclusive MUD-only event. US Citizens must have photo identification with them for this tour. If you will be driving to the facility, you must have a valid drivers' license, vehicle registration and proof of insurance. Non-US Citizens must be registered three weeks in advance of the tour (deadline: September 3). Register immediately, since only a limited number of tickets are available.

Take a **Surplus tour** of various Southern California surplus and electronics emporiums. Meanwhile, YLs and XYLs can participate in various **Ladies Activities**, including tours, outlet mall shopping and have morning coffee klatches during the weekend.

Friday October 28

Technical forums and presentations. World-renowned microwave hams will present a wide range of topics from the latest EME experiments and getting operational on the upper microwave bands to practical solutions and scrounging surplus parts for microwave band rigs. In the evening will be an indoor swap meet.

Saturday October 29

The MUD Banquet, featuring Bill Weber, N6CI, the Director of Interplanetary Directorate at JPL.

The world famous **"TRW" Swap Meet** occurs early in the morning. Since you are in the neighborhood, you may want to stop by to see what the buzz is all about.

Sunday October 30

The MUD 2005 Antenna Measurement Session will cover the amateur microwave bands from 1296MHz to 47GHz. The measurement range will be set up at the Sheraton Hotel. Kerry Banke, N6IZW, and the Microwave Group of San Diego will supervise the tests. The connection to the receiving equipment will be by type "N" or regular SMA connectors up through 10GHz. WR-75 or WR-90 will be also available for 10GHz. WR-42 or SMA will be used at 24GHz. WR-22 will be used on 47GHz and should be able to work with circular or other waveguide if arrangements are made ahead of time. Those bringing any other type of antenna interface need to bring their own adapters to match these types.

Receiver Noise Figure Measurements and LNA measurements can be performed from 902MHz to 47GHz and a **Network Analyzer/Spectrum Analyzer Workshop** will be held during the conference.

Sunday along with the antenna measurements will be another swap meet.

Special hotel rates are available to MUD 2005 attendees. Be sure to mention the Microwave Update 2005 when making hotel reservations.

In addition to special rates at the host hotel, effective immediately, and until Thursday, September 1, 2005, the Conference Fee for MUD 2005 is US \$40. The fee includes an entry to a special

pre-registration drawing as well as one copy of the MUD 2005 Proceedings, valued at US \$20. From September 1 to October 14, the fee is US \$45, and US \$50 at the door. We now accept registration funds via PayPal for our international guests. Note: There is a \$5 fee for paying with PayPal.

Go to <http://www.microwaveupdate.org> or <http://www.ham-radio.com/sbms/mud-2005/> for more details and the registration form.

Appearing in print-

In the Summer 2005 issue of CQ-VHF: N6CA and KH6HME are featured in a Gordon West article on the CA to HI 10GHz attempt, page 6 The MUD Cerritos announcement appears on page 43, mentioning a link to the NTMS. . . . N6CA's call for papers for MUD appears on the same page. . . .
... de Wayne KH6WZ

QST de W1AW

ARRL Bulletin 18 ARLB018

>From ARRL Headquarters

Newington CT July 21, 2005

To all radio amateurs

SB QST ARL ARLB018

ARLB018 FCC proposes dropping Morse code requirement entirely.-----The FCC has proposed dropping the 5 WPM Morse code element as a requirement to obtain an Amateur Radio license of any class. The Commission included the recommendation in a July 19 Notice of Proposed Rule Making (NPRM) in WT Docket 05-235, but it declined to go along with any other proposed changes to Amateur Service licensing rules or operating privileges. Changes to Part 97 that the FCC proposed in the NPRM would not become final until the Commission gathers additional public comments, formally adopts any new rules and concludes the proceeding with a Report and Order specifying the changes and an effective date. That's not likely to happen for several months.

"Based upon the petitions and comments, we propose to amend our amateur service rules to eliminate the requirement that individuals pass a telegraphy examination in order to qualify for any amateur radio operator license," the FCC said. The NPRM consolidated 18 petitions for rule making from the amateur community--including one from the ARRL--that had proposed a wide range of additional changes to the amateur rules. The FCC said the various petitions had attracted 6200 comments from the amateur community, which soon will have the opportunity to comment again--this time on the FCC's NPRM.

The Commission said it believes dropping the 5 WPM Morse examination would encourage more people to become Amateur Radio operators and would eliminate a requirement that's "now unnecessary" and may discourage current licensees from advancing their skills. It also said the change would "promote more efficient use" of amateur spectrum.

To support dropping the code requirement, the FCC cited changes in Article 25 of the international Radio Regulations adopted at World Radio communication Conference 2003. WRC-03 deleted the Morse testing requirement for amateur applicants seeking HF privileges and left it up to individual countries to determine whether or not they want to mandate Morse testing. Several countries already have dropped their Morse requirements for HF access.

ARRL CEO David Sumner, K1ZZ, said he was not surprised to see the FCC propose scrapping the Morse requirement altogether, although the League had called for retaining the 5 WPM requirement only for Amateur Extra class applicants. Sumner expressed dismay, however, that the FCC turned away proposals from the League and other petitioners to create a new entry-level Amateur Radio license class.

"We're disappointed that the Commission prefers to deny an opportunity to give Amateur Radio the restructuring it needs for the 21st century," he said. "It appears that the Commission is taking the easy road, but the easy road is seldom the right road."

Sumner said ARRL officials and the Board of Directors will closely study the 30-page NPRM and comment further once they've had an opportunity to consider the Commission's stated rationales for its proposals.

In 2004, the League called on the FCC to create a new entry-level license, reduce the number of actual license classes to three and drop the Morse code testing requirement for all classes except for Amateur Extra. Among other recommendations, the League asked the FCC to automatically upgrade Technician licensees to General and Advanced licensees to Amateur Extra. In this week's NPRM, the FCC said it was not persuaded such automatic upgrades were in the public interest.

The FCC said it did not believe a new entry-level license class was warranted because current Novice and Tech Plus licensees will easily be able upgrade to General once the code requirement goes away. The Commission also said its "Phone Band Expansion" (or "Omnibus") NPRM in WT Docket 04-140 already addresses some of the other issues petitioners raised.

A 60-day period for the public to comment on the NPRM in WT 05-235 will begin once the notice appears in the Federal Register. Reply comments will be due within 75 days.

NNNN

/EX



Owens Valley Radio Observatory Project

Chuck, WA6EXV has been building up the 1296 MHz and the 10 GHz transverters for the "receiver box" that goes at the feed of the 130 ft OVRO dish. Circular polarized antennas go on the out side of the box. A 30 amp 24 volt power supply was found to cover the transmit requirements.

Here it sits in Chuck's shop as the testing phase begins. Doug, K6JEY will be bringing up a 10 GHz TWT to add some power to the unit. Schedules have been shifting around and it maybe Labor Day weekend to install the hardware.

Activity Reported at the July SBMS meeting- Dave, WA6CGR has been working on tripod; Glenn, KE6HPZ has been working on the frequency shifting of his 10 GHz rig; Chuck, WA6EXV has been building the 1296 MHz and 10 GHz transceivers for the OVRO project; Chip, N6CA has been listening for 10 GHz beacon in Hawaii; Dick, K6HIJ has been traveling, working on MUD05 and building 24 GHz waveguide switches; Mike, W6YLZ has been getting his 10 GHz rig together but having trouble with JWM sequencer; Bob, WB6VHS is getting his 10 GHz rig back together; Rich KG6JKJ has a working 10 GHz rig; Wayne, KH6WZ has been moving to a more modular 10 GHz rig; Pat, N6RMJ has a 902 rig and problems with JWM sequencer; Jerry, K6DYD has a sequencer problem; Ken, W6DTA has been out playing with rigs in the low desert; Steve, W6QIW has built a reflection antenna range; Robin, WA6CDR played with rig at the tune up party; Ed, W6OYJ has been listening to the Hawaii 2 meter beacon with "Spectran" software and has been documenting the Pcom 24 GHz rig for the web site, Greg K6QPV will be on San Clemente Island for the contest. Thanks to Chuck, WA6EXV for audio taping the meeting for me, Bill.



Jeff, KN6VR on Mt Frazier in August contest.



Lars, AA6IW on Frazier during August.



Paul, N6LL on Frazier during the August contest.



Al, WT6K on Frazier in August.



Frank, W6QI working 47

GHz 312 km from Mt. Frazier DM04ms to Gary, AD6FP in DM07dm. There are 4 different oscillator bricks in this rig. IF rig was FT-817. The small iambic key is MFJ type. Frank used his 10/24 GHz rig to get pointed to Gary then slipped the 47 GHz rig to make the contact around noon on 21 August.

This past Sunday afternoon during the "10 GHz and Up Cumulative Contest" W6QI and AD6FP completed a 47 GHz contact over a 313 km distance to extend the current world record on that band. W6QI operated from Frazier Mountain DM04MS north of Los Angeles. AD6FP operated from Devil Peak DM07DM just south of Yosemite. Signal margins were >40 dB on the W6QI end and about 8 dB on the AD6FP end. The weather conditions were sunny, clear, warm, and dry at both locations. An earlier attempt was made from Mt. Frazier to Mt. Oso (375 km path) at 0600 on Saturday morning with no results. However, after successful completion of a 170 km QSO between Frazier and the valley floor (DM06AB) on Saturday evening, it was decided to try Devil Peak on Sunday.

The station details are as follows:

W6QI: 12" splash plate dish, +10 dBm TX Power, 8 dB NF, OCXO locked

AD6FP: 36" Cassegrain dish, +45 dBm TX Power, 4 dB NF, Rb locked

What Are We Doing?

Please forgive the impersonal nature of this handout, and we would love to explain to you what we are doing here. However, we are participating in an international competition, and we must concentrate on operating our equipment properly.

Who are we?

We are licensed Amateur (ham) radio operators participating in a radio contest. The goal is to talk to as many other ham radio stations in a certain period of time.

Is this like CB?

No, this is not Citizens' Band radio (CB). Ham radio requires a license issued by the Federal Communications Commission (FCC) and licensees are required to successfully pass a written test involving electronics theory, radio regulations and operating procedures.

How far can you talk?

Our microwave frequencies generally follow line-of-sight paths. However, through experimentation, we find that signals can be reflected against objects such as buildings, trees and even islands, to go over longer distances. Using these techniques, is not un-common for us to contact stations several hundreds of miles away.

What kind of radios are you using? I have never seen radios like these before.

We are builders and experimenters in microwave radio communication. No commercially-built, "off-the-shelf" equipment for these frequencies exists, so we must build our own equipment from scratch, or modify commercially-made equipment meant for other communications services, such as telephone and cell phone.

Is this legal?

Yes. The Amateur Radio service was created to encourage development of radio communication technology and establish a public service communications force at no charge to citizens or the government.

How much does this equipment cost?

Like any other hobby, people spend as much or as little as they can afford. Most people involved in ham radio spend as much as any serious stereo enthusiast, amateur photographer or woodworker.

Where can I get more information?

More information on ham radio is available from the American Radio Relay League (ARRL). Their mailing address is: American Radio Relay League, 225 Main Street, Newington, CT 06111. Phone: 860-594-0200. Web site: <http://www.arrl.org>

If you are a licensed ham operator already, and want to try a new challenge, visit the San Bernardino Microwave Society (SBMS) Web site: <http://www.ham-radio.com/sbms>



A happy look on Frank's face following the 312 km 47 GHz shot to AD6FP. **Frank, W6QI** is a very helpful guy to have on a hill top. He has lots of ideas on ways to solve problems.

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.

San Bernardino Microwave Society newsletter
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