



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 2011 Edition

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At the **June 2, 2011 SBMS meeting** we will be **Kerry, N6IZW** talking about Noise Figure Measurement- 5 ways to get answers. 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.

The Annual Tune Up Party prior to the ARRL 10 GHz and Up contest will take place at the Costa Mesa Fairview Park shelter as in previous years. July 30 is the date. Start time is about 9 am. Dick, WB6DNX has reserved the area with SBMS funds. There is NO Alcohol to be consumed in the park. Kerry and Ed from the San Diego Microwave Group will provide the measuring equipment for 10 and 24 GHz. As before you will have a signal to measure how low you can still hear it for minimum discernable signal level. Then you will transmit to measure your power output. An estimate of your antenna gain is needed or at least its size so an overall system performance can be calculated. Ed will publish the results so you can see where your rig stacks up against other member rigs.

Last meeting: At the April meeting Brian, AF6NA gave a talk on Field Day Safety and Power grid EMI. Thanks Brian for a good talk on short notice. Pat, N6RMJ came up with a good deal on a new projector for SBMS at Staples. Dick, WB6DNX to purchase. NO one from SBMS was out for the 2 GHz and UP club contest!!! 20 people were present.

Scheduling:

June 11-13, 2011 ARRL June VHF QSO Party

June 17-18 trip to OVRO science trip will have a 10 inch telescope star party on 17th followed on 18th by a tour of the big dish. Contact is Doug, K6JEY.

June 18 ARRL Kids Day (good chance to introduce youngsters to microwave).

June 25-26 ARRL Field Day

July 7 Microwave Pre-tune-up session. Dave Glawson, WA6CGR and Doug Millar, K6JEY have graciously agreed to bring in a few calibrated 10 GHz power meters to the July meeting and support a power output "party". Members can bring their RF head or entire rig to the meeting and get an accurate measurement of

output power. Measurement should be taken at the point where the 10 GHz leaves the final amplifier stage and enters the “feed system” wave guide or coaxial transition. This will help members prepare for the 2011 Contest and ensure consistency in the readings at microwave tune-up.

July 16-17, 2011 CQ WW VHF contest

July 30 Tune Up Party Fairview Park Costa Mesa, CA 9am-?

August 4 Contest preparation.

August 20-21 ARRL 10 GHz and Up contest first half

September 1 talk on plans for next contest outing.

September 10-11 ARRL September VHF QSO Party

September 17-18 ARRL 10 GHz and Up contest second half.

October 6

November 3

December 1

Dec SBMS Christmas Party

January 5

Wants and Gots for sale.

For Sale: 30w 1296 MHz PA kit \$50 + \$5 for US shipping Chris Shoaff, N9RIN cshoaff@yahoo.com

For Sale: 10 GHz slotted waveguide antennas \$70 kit, \$95 assembled plus shipping Dan W6DFW W6DFW@apex-scientific.com

For Sale: 10 ft channel master TVRO dish. Mesh good to 12 GHz. 0.3 f/d \$500BO Brian 909-226-2015 brian.thorson@sce.com

For Sale- Uniden Pro340XL 40 ch HT CB unit \$10; McGraw-Edison 2620T2 700-2000 rpm small bench top drill press \$25 Bill WA6QYR 760-375-8566 bburns@ridgenet.net.

For Sale: a classic secretary desk with fold down main door. It has several compartments to place transceiver, tuner, and power supply with wires in back. You can put the whole station in a dark reddish wooden cabinet out of sight when door is closed. It is out and useful when door is opened. 18”Deep x 52” tall x 34” wide. \$30 new condition. Can be delivered to SBMS meeting. Bill WA6QYR bburns@ridgenet.net

Activity reports Bill, WA6QYR is still measuring sun noise on his 1296 rig; Ed, W6OYJ indicated Alumaweld is great for non-furious metal welding or glueing since you can solder to it and no flux is needed; Lee, KD0IF building a miniverter for his Flex radio; Courtney N5BF is working on his 1296 gear; Michelle W5NYV is working on HTL corrections of bugs in her software modulation program; Mel, WA6JBD is working on some 15 GHz hardware at work; Pat, N^RMJ is hearing the San Diego 1296 MHz beacon (10w into a W5LUA log antenna horizontally polarized on Mt Miguel); Walt got ready for his talk on interference using an LNB as a radiometer; Brian is working on his backyard TVRO dish to go EME;

Thread power dividers

Hello, I am looking for the info written by a W7 call who showed dimensions for 2 meter and 70cm power dividers using square aluminum tubing and brass or copper center conductor. I seem to have lost the paperwork. They were 2 and 4 port in both 1/4 wave and 1/2 wave versions. Loren WA7SKT

Hello Loren, This is the reference I use to calculate my power dividers using square aluminum tubing outer with round brass hobby tubing inner conductors:

<http://fermi.la.asu.edu/w9cf/articles/square/index.html>

For the 1/2 wave 4 port, the line you build needs to be 50 ohms. GL and VY 73, Lance

Loren, It is available at http://home.teleport.com/~oldaker/power_dividers.htm

73'Nitin [VU3TYG]

Hello to everyone....The article cited is very nicely done. It has the formulas there for anyone who wants them. In addition, it has the correct numbers for the 222 divider, which were mis-copied somehow from the original article. On the VHFSouth web pages is the same article (minus the formulas) but with the inclusion of a 3 port divider. The 3 port design will give a perfect 50 ohm load from 3 x 50 ohm antennas. If you are doing 6 antennas or 24 antennas you will need one of the 3 port dividers. They work very well and are easy to make. The VHFSouth web pages are at www.vhfsouth.com. Just click on Technical Info and then on the Power Divider article. My tropo antenna for 432 is 3 x 38el M2 (they just fit on my mast). With the 3 port divider, they work very well. 73 to all.....Marshall K5QE

Hello

For these calculations, I use the software AppCAD from Agilent / AVAGO Great for calculations of coaxial lines, round and square, microstrip, etc. It can even make these calculations in inches for the few countries that remain (humor). And much more <http://www.avagotech.com/docs/6001>. Is free.

73, Lucien FITE

Hi Loren, an unusual hybrid ring power divider rated for 2 meters, usable at 70 cm was described on DUBUS 3/2004, Vol.33, 2004. It might be a worthwhile reading it. Regards. Tom, I4BER

Here's a very handy tool for designing passive RF circuits like power dividers, square outer / round inner coax line...etc....AppCAD Here's the url for the free download. <http://www.hp.woodshot.com/>

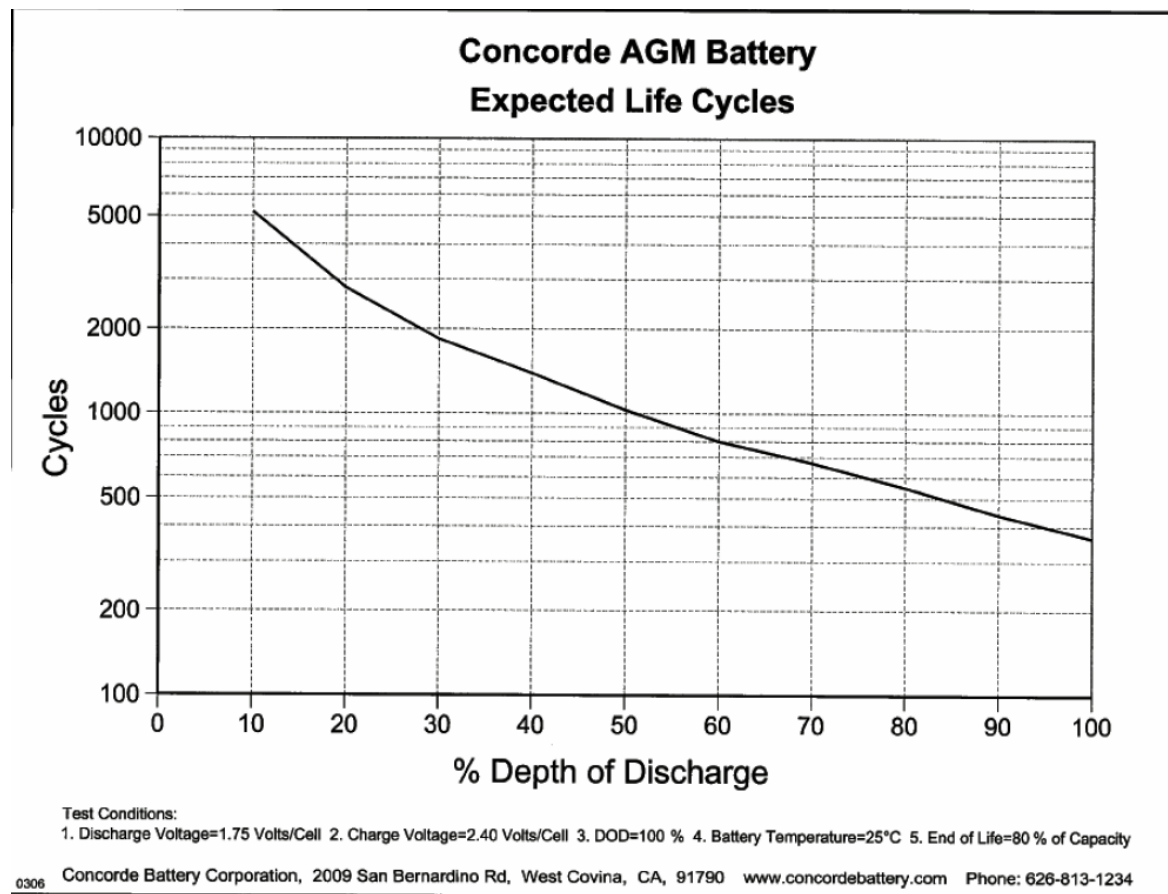
I made my 2 meter 4 way divider using this and measuring it on the network analyzer it was right on the money both in frequency and return loss...38dB within a few tenths.

73 Fred, N1DPM

Knowing when to recharge:

For maximum battery life in cycling applications, do not discharge the battery bank below 50%. Discharging the bank repeatedly to 100% will shorten the battery life. The open circuit voltages listed below corresponds to the various states of charge:

State of Charge	2 Volt Battery	6 Volt Battery	12 Volt Battery
100%	2.16V or more	6.50V or more	12.8V or more
75%	2.08V	6.25V	12.5V
50%	2.03V	6.10V	12.2V
25%	1.98V	5.95V	11.9V
0%	1.93V or less	5.8V or less	11.6V or less





Walter Clark our new recording Secretary
taking notes of the May meeting proceedings.



Our new vice president Brian,
AF6NA and president Chris, N9RIN leading the May SBMS meeting.



Brian, AF6NA talks about his company, Southern California Edison, and their efforts to keep hams safe in putting up antennas. 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 in 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 or, bburns@ridgenet.net, 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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USA