



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1955

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

May 2015 Newsletter on the Activities of the San Bernardino Microwave Society

Walter Clark, Editor

Tech Talk for the May 7th Meeting:

**Brian Thorson:
Offset Dish Fine
Tuning: Focus, Feed
Position and Feed
Aiming**



Brian Thorson, AF6NA

If you can't make it: watch online: http://www.batc.tv/ch_live.php?ch=2&id=139

Activities at the April Meeting of the SBMS

(that would be of interest to the general ham radio community)

Presiding: President Chris Shoaff (N9RIN)
(19 in attendance... 15 last month)

Guests or Members Not Seen In a Long Time

Bill Locke N6WL Second Visit (Baker CA)

Old Business

- Nominations for the annual officer elections remained open from the March 2015 meeting. Marty Woll, N6VI, withdrew an offer to stand for Treasurer. Dick Bremer, WB6DNX, will continue as Treasurer. There were no other volunteers or nominations. Pat Coker, N6RMJ, moved that nominations be closed. Motion passed. As there were no contested offices, a vote was not needed. The current officers will continue. The current officers (as posted on <http://ham-radio.com/sbms/>) are:
- Elected Officers:
 - President - Chris Shoaff, N9RIN, 2911 Calle Heraldo, San Clemente, CA 92673, 949-370-6249, cshoaff@yahoo.com
 - Vice President - Brian Thorson, AF6NA, 7467 Country Fair Drive, Corona, CA 92880, 951-768-0960, brianaf6na@gmail.com
 - Corresponding Secretary - Jeff Fort, KN6VR, 10245 White Rd, Phelan, CA 92371, 909-994-2232, jnjfort@verizon.net
 - Recording Secretary - Courtney Duncan, N5BF, 4402 Rockmere Way, La Canada, CA 91011, 818-957-8455, courtney.duncan.n5bf@gmail.com
 - Treasurer - Dick Bremer, WB6DNX, 1664 Holly Street, Brea, CA 92821, 714-529-2800, rabremer@juno.com
- Appointed Duties:
 - W6IFE License Trustee - Ed Munn, W6OYJ, 6255 Radcliffe Dr., San Diego, CA 92122, 858-453-4563, w6oyj@amsat.org
 - Newsletter Editor - Walt Clark, 824 Valley View, Fullerton, CA 92835, 714-882-9647, walterclark@roadrunner.com
 - SBMS WEB Page maintenance - Rein Smit, W6SZ, 8333 Pumalo, Alta Loma, CA 91701, 909-980-0489, w6sz@ham-radio.com

- Social Sec - Tsiza Major-Posner, KI6DBR, 909-837-8922, tiszamajor@aol.com
- ARRL Interface - Frank Kelly, WB6CWN, PO Box 1246, Thousand Oaks, CA 91358, 805 558-6199, fm.kelly@verizon.net
- SBMS LAB Manager and SBMS Webmaster - Dave Glawson, WA6CGR, 1644 N. Wilmington Blvd., Wilmington, CA 90744, 310-977-0916, wa6cgr@ham-radio.com
- Tuneup Update
 - Brian Thorson, AF6NA, reported that the SBMS Tuneup will be held the last Saturday in July (7/25/15) and that the permit for the venue had been secured from the City of Costa Mesa. Ed Munn, W6OYJ, said that the test equipment box used by the San Diego group would not be available for this. Mel Swanson, WB6JBD, is working on test equipment for the SBMS Tuneup and would report on progress next month. July 2015 tuneup party.
 - Ed Munn reported that Kerry Banke made diagrams of the tuneup party equipment and that they were handed off to Mel Swanberg at this meeting. The new setup is all contained in one box that runs from 12 VDC and features 70 dB of dynamic range at VHF. The system will be used in San Diego in June. Mel Swanberg has received the plans so that SBMS can make our own box for our July Costa Mesa tuneup.
 - Brian Thorson had arranged with Gordon West who lives in Costa Mesa for SBMS to get the \$30 local Costa Mesa rate for renting the park. (\$110 last year.) Thanks to Gordo for doing the legwork with City Hall. The SBMS tuneup will be the last Thursday in July. Dick Bremer will send a check to one of Gordon's assistants and SBMS will receive the permit in the mail.
- MUD
 - Discussion was led by Pat Coker, N6RMJ, MUD 2015 Chair.
 - Issues involving the registration website, form, and PayPal connections were discussed. Dick Bremer will set up the PayPal link and start collecting registration fees by next Friday. Jim Blum, KK6MXP, is maintaining the official registration spreadsheet which is to be updated weekly and synchronized with payment information provided by Dick. Jim will also provide registration confirmation e-mails. Frank Kromann and Rein Smit will work on improving the online form.

- Anyone who is speaking or leading other activities at MUD (such as antenna testing, equipment measurements, prizes, etc.) should provide a picture for the website. Send submissions to Rein Smit, W6SZ.
- We have received vendor inquiries but have no Vendor lead. Pat Coker will deal with them for now.
- Mel Swanson has a good team to help with the test equipment room. Chris Shoaff will help with test equipment.
- About a dozen speakers will be accommodated during the Friday and Saturday sessions. Doug Millar, K6JEY, will run a separate Earth-Moon-Earth (EME) session on Sunday morning.

New Business

- Marty Woll, N6VI reminded the group of the 2 GHz and up contest May 2-3, 2015. Marty plans to be active on four bands. Pat and Chris plan to be active on 10 GHz. Others are solicited.

Courtney Duncan (N5BF), Recording Secretary

What Our Members Are Working On

Because of the very long business meeting, Activity reports were skipped.

W6DQ's Move to Inyokern

Dennis Kidder, W6DQ, has moved out of Orange County and is now resting comfortably in DM15bs, Inyokern, CA. There is still much to do ... too many radios and not enough time and space. Limited ham shack space (now) but lots of room for antennas, and little noise to contend with, it's the ideal QTH a for W6DQ's retirement. A larger ham shack is in the works.



On the left is in process of moving in. On the right is one of three vintage HF radio operating positions. (Featuring Collins S-Line equipment.) A fourth position is home to the more "modern" gear, like a Flex5000A, along with transverters for 144, 220, 432 and 1296, but only one HF antenna is in the air, so far. The next steps include putting up the two 50' towers with V/UHF antennas and a few other bits and pieces. Dennis is anxious to get back on the shorter wavelengths, joining the fun with the weak-signal folks throughout the West.

May 2nd and 3rd 2 GHz and Up Contest

Is in progress of this Newsletter's writing

But here from Chris Shoaff . . .

The first day of the 2GHz and up contest had a nice sunny day with mild temperatures. Marty (N6VI) was on top of Frazier and was the central hub for contacts to the north and south. Several club members operated from home making contact with each other and the rovers that are out and about. Here is a photo of N9RIN's rig after making contact with WA6CGR.



There was no direct path due to the many hills surrounding the QTH of N9RIN, so the contact was made by bouncing the signals off of Santiago Mountain (in the far background).

Pat Coker N6RMJ reports ...



For the 2Ghz and Above Contest he's working from home and as of this posting 11:30 AM, he has 14 contacts. The longest is to dm06a.c. 255 km

Working on tower should be hooked up work by the end of day Sunday April 3

Bill McNally N6MN was at Doug's for the sidewalk EME and captured these pictures of Doug's new feed support and Rein operating the station.



Doug's Sidewalk EME for March

On the April 25th weekend we set up on 1296 EME to enter the DUDUS and ARI eme contests. We had a large group of operators and helpers show up. Friday night was busy but only one QSO. Saturday with a little feed trimming produced much better results with 5 stations worked and receipt of our own echoes. Each operator could choose their own paddle and set it up the way they liked. Power with a new GS15B was only 220w. More tuning needed. With Tim's excellent pointing, operating was very smooth. Take down was easy with lots of help. Lots of encouragement to do portable eme. We may go to W6DQ's in late September for some 2m fun although 2m propagation this year is not the best. Thanks to all that helped.



The crew: Jim Blum Doug Rein and Pete (K5PZ)

Doug Millar on His 79GHz Work Steve Miller W6QIW

Earlier this month Steve W6QIW and I got together at my house for a little 79GHz activity. We are both running similar radios but different frequency schemes. Steve brought along a signal source for us to do some ranging on. We were both using 2x sub-harmonic mixers. Once



we got the source working we saw the rigs were very similar. We ended up working each other down the block about a quarter mile. Good signals. You can believe me that 1ft+ antennas have a tiny beam width at this frequency and optical aiming is necessary at least on one end. I should have also calibrated my OCXO before we started. Still finding each other's frequency was easier than aiming and having a lab session before we went out in the field was a big help. Thanks Steve!

Doug K6JEY.



Here's Marty Woll's (N6VI) Experience at the 2 GHz and Up Contest

I just returned from this weekend's running of the SBMS 2 GHz & Up Contest tired but happy. Both Southern and Northern California operators showed up in good numbers, many for both Saturday and Sunday. Some went to multiple mountaintops; others roved the flatlands where the terrain was less advantageous and the temperature less inviting. Still others took time from family and other commitments to get on from home. Like last year, I worked five stations that had bands below 10 GHz; I'd sure like to see that number grow, as we found better conditions as we went down the bands. Conditions were not spectacular, but the participants made up for that with persistence and patience in order to dig out those tough contacts. My own contact total went up by more than ten percent and included several stations I had not worked in this contest before.



I added two tools to my vehicle-bases station, both of which helped considerably. One was a 900 MHz narrow-band FM transceiver to a five-foot yagi; this enabled me to access the NC9RS repeater system for liaison with Northern California stations who could not reach the

Cactus Intertie system. The other was a simple cable to a port on the back of my IF radio (Yaesu FT-857D) that caused the radio to send a CW carrier when two pins on the other end were shorted. Admittedly, the implementation of this one could be more elegant than what I used (a clip lead), but it's better than holding down the mic button to generate an "FM carrier".

On that topic, Robin WA6CDR and I will be discussing and demonstrating some microwave operating hints at the August SBMS meeting, and it would help us to know what IF radios other than the Yaesu FT-817 (and its big brother, the FT-857) are commonly used out there. Drop either of us a line and let us know what radio you're using with your transverters.

That's all for this short comment on the contest; let's get your story into the next SBMS newsletter. Send write-ups, comments and photos to our newsletter editor, walterClark@roadrunner. If you were in it, we want to hear from you!

73, and many thanks to all for making this a most enjoyable weekend, and thanks to the management and members of the Cactus Intertie for making a large portion of their system available to the contest participants for liaison.

Upcoming Events (Identified by Marty Woll N6VI)

- May 16-17: Maker Faire, San Mateo CA
- June 13-14: ARRL June VHF Contest –all microwave bands
- June 27 – 28: ARRL Field Day (Demonstrate microwaves to the visiting public)
- Aug. 1-2: ARRL UHF Contest – includes all microwave bands
- August 15-16: ARRL 10 GHz & Up Contest – 1st weekend
- Sept. 11-13: ARRL Southwestern Division Convention, Torrance CA (can you offer a microwave program?)
- Sept. 5 - 6: ARRL EME Contest – 2.3 GHz & Up
- Sept. 12-13: ARRL September VHF Contest – includes all microwave bands
- September 19-20: ARRL 10 GHz & Up Contest – 2nd weekend
- Oct. 31 - Nov. 1: ARRL EME Contest – 2.3 GHz & Up
- Nov. 28 - 29: ARRL EME Contest – 50 through 1296 MHz – 1st weekend



- <http://www.ham-radio.com/sbms/mud2015/>

Anyone, (not just SBMS members) . . . if you know of any future 1 GHz and above amateur radio event, please send date and description to the editor:
walterclark@roadrunner.com

Bay Area Maker Faire 2015

Maker Faire marks its 10th year in San Mateo, California, May 16, 17 and 18th. SBMS members Wayne Yoshida, KH6WZ, and Dennis Kidder, W6DQ, will join Brian Yee, W6BY, from the Bay Area, and others to present "Not Your Grandpa's Ham Radio" for the fourth straight year.

Hot topics to be displayed this year include Software Defined Radios and Broadband Hamnet. While not related to amateur radio, Wayne is considering displaying the under-construction wiring harness of his Factory Five Daytona Coupe kit car, a work in progress.

This year, the Faire has added an additional partial day on Friday, opening the doors around Noon. Maker Faire represents a wonderful opportunity for hams to show off some of the more "exotic" aspects of ham radio, such as microwave radio and microcontroller systems. After all, hams are, by their very nature, makers!

Dennis Kidder W6DQ,
Inyokern CA

OVRO Trip in June

Hi Microwavers, We are going to have another OVRO trip on June 19-20. We will have astronomy on Friday night and a tour of the 40 m dish as well as science stuff on Saturday day. Pizza for dinner and night time astronomy. We will also have solar observing at Ha. For more info contact Doug K6JEY at drzarkof56@yahoo.com. Check out the OVRO website as well.

<https://www.ovro.caltech.edu/>



Last Month's Tech Talk:

Walter Clark

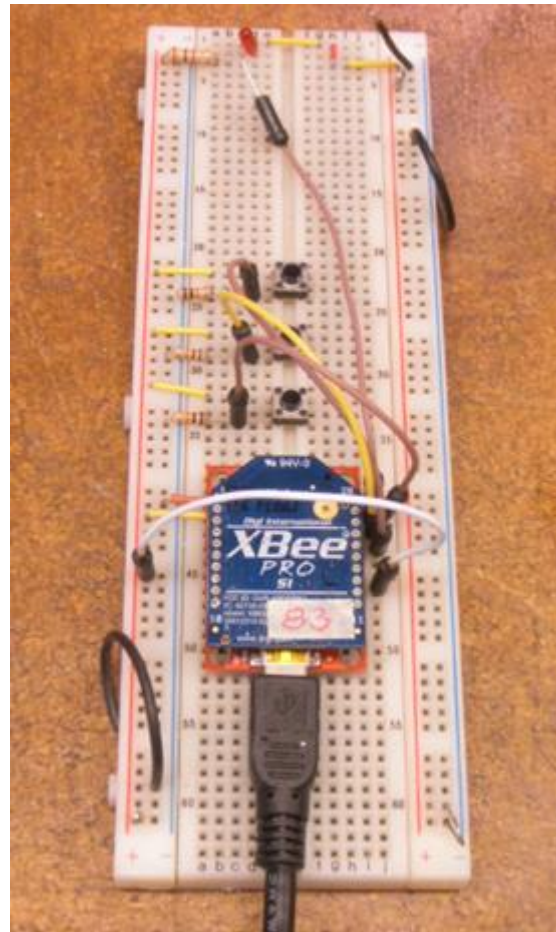
"XBee"... \$40 modules used in pairs to be a 2.4 GHz radio link version of a USB cable. They use a secure protocol like that used in routers and other WiFi products, but are able to be integrated into electronic projects built by tinkerers.

The talk was on their use with analog data without a computer at either end.

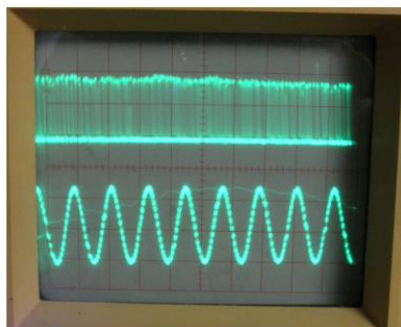
His PowerPoint presentation is available at the SBMS website:

<http://ham-radio.com/sbms/>

It is actually an extensive tutorial on how to configure the XBee (as well as wire it up) for analog telemetry without a computer. That is, sensors at the remote end, and voltmeters at the other end.

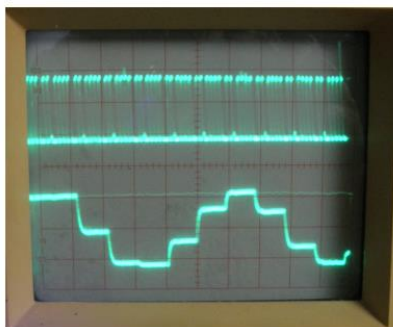


What a Sinewave Looks Like After Going Through the XBees.



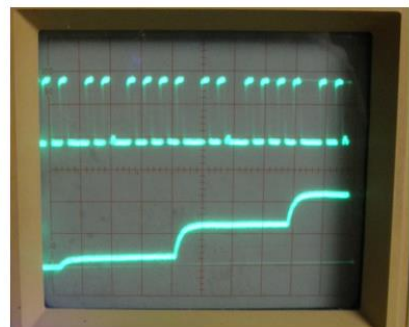
1 sec/cm

1 Hz



20 ms/cm

7 Hz



5 ms/cm

7 Hz

Gary Heston's ATV Mobile Studio

Not only can you watch our meetings live (well delayed by 240 milliseconds) You can chat with other viewers about what you are watching (or anything else.) Enter the chat room by clicking on the white space on the right of the website described below.

Just as a reminder, this is how you watch SBMS meetings from home:

http://www.batc.tv/ch_live.php?ch=2&id=139

Better yet memorize the following

Keywords: BATC TV

and use Google

The TV part is easy to remember. Think of the BATC as batch without the h. It's a British website (that's the B) Once you are there, and logged in, on the right choose "Repeaters" and then on the left, you have to pick a stream. The stream to choose is: **W6ATN**.

Memorize W6ATN as ATN in California. W6ATN is the club call sign for six ATV repeaters that are a part of the Amateur Television Network in Southern California. (ATN-CA)

Gary Heston's mobile studio beams its signal to the ATN repeater on Santiago Peak which is provided by: Roland Hoffman, KC6JPG



Needs, Wants and For Sale (Updated 28 March)

- **For Sale from Bill Burns:** Bill will only rarely come to the meetings, so if you want any of this, please contact him by phone or email.

phone: 760-375-8566 email: bburns@mediacombb.net

His address is: 247 Rebel Road Ridgecrest CA 93555

- Radio Shack disk cone antenna 50MHz-1200 MHz \$20
- TVRO dishes 10 ft, 6 ft, and 5 ft free
- 6 ft and 4 ft 19 inch racks free
- Leader LBO514A 15 MHz Dual trace oscilloscope \$75
- HP 5381A 80 MHz counter \$10
- 8 watt 5 GHz TWT's with power supplies \$50 each
- copper wire enamel coated #14 many feet coils \$10 each (coils are like a foot in diameter and maybe a dozen turns or so...30 or 40 ft long wire)
- **For Sale from Doug Millar (drzarkof56@yahoo.com):**
 - a Rohde and Schwarz 309 10-18GHz Signal Generator in perfect shape. It is digitally synthesized and has a pull out instruction card. It has internal modulation and will also sweep. Will accept \$900.
 - I also have an HP432 power meter, cable and head (478) in working order for \$100



Member Ads

Sixty North Electronics

Kits Made by member KL7UW

Let Ed Cole assemble your Down East Microwave kit. For kits in stock, he can deliver an assembled unit to your custom design preferences within 30-days of a paid order. **His prices are the same as you pay DEMI for an assembled transverter, but much quicker delivery time. And comes with 90-day written warrantee on labor (guaranteed to work)!**

Shipping for a transverter is typically that of medium-size flat-rate Priority Mail anywhere in the USA.

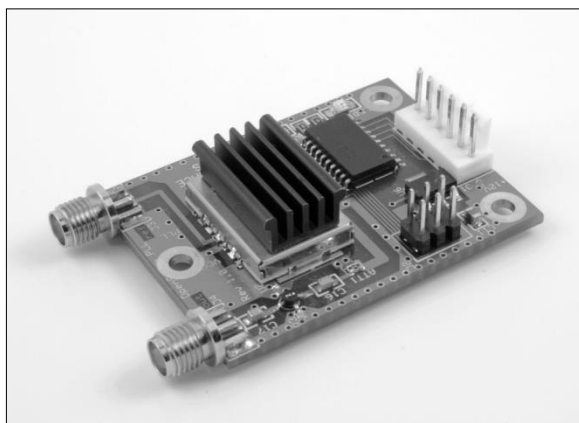
For examples of his work click on... <http://www.kl7uw.com/kits.htm>
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If you are a member you can have a picture ad here yourself.
For the time being this service is free.
eMail editor at: WalterClark@roadrunner.com

About SBMS

The San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs. The focus of the club is microwave activities in the Southern California. ***Our sister club is San Diego Microwave Group (SDMG). At least one meeting a year are joint meetings.*** SBMS dues are \$15 per year, which includes a badge and that's about it. The dues are more in the way of a donation to pay for outreach things such as video portals, a bank account, and rent for the building. When to pay is not a matter of remembering. The Corresponding Secretary will contact you by email and will then hound you like your own personal PBS telethon. Dues can be handed to the treasurer at the meeting, or mailed to the address of the treasurer listed in the banner below.

Meetings are first Thursday of the month, 7:00 PM at the American Legion Hall, Corona. For carpooling from North Orange County call Walter Clark @ 714 882-9647

The Reflector (SBMS Group Email)

The most active method of information exchange is our group email called the SBMS Reflector. You don't need to be an SBMS member to participate. To subscribe fill out the form at the website: <http://lists.altadena.net/mailman/listinfo/sbms> (If you are getting email on the SBMS Reflector now, and you want to write your own message, pull up a recently received message, click on "Reply to List." Don't forget to change the subject line and delete all previous text as appropriate.)

The SBMS Website and Newsletter

The SBMS Reflector is ephemeral. There's no record kept. The Newsletter has a slightly longer life. It is sent to members and past issues are recorded in the website. It's URL is: <http://www.ham-radio.com/sbms/> You don't have to memorize that or write it down, just enter SBMS into any internet search engine.

Newsletter: Walter Clark: walterClark@roadrunner.com

Website: Rein Smit: rein0zn@ix.netcom.com

The newsletter is created about the middle of the month and broadcast as a link inside an eMail letter to the members. This is mailed to you on the weekend prior to each meeting. SBMS Newsletter and website material can be copied as long as SBMS is identified as source.

Official Address

San Bernardino Microwave Society
417 South Associated Road #146
Brea, CA 92821

Contact San Bernardino Microwave Society (SBMS)

President Chris Shoaff, N9RIN

2911 Calle Heraldo San Clemente CA 92673 phone: 949-388-3121

email: cshoaff@yahoo.com

Vice President: Brian Thorson AF6NA

7467 Country Fair Dr Corona, CA 92880 phone: 909-226-2015

email: brianaf6na@gmail.com

Recording Secretary Courtney Duncan N5BF

4402 Rockmere Way

La Canada, CA 91011 phone: 818.957.8455

email: courtney.duncan.n5bf@gmail.com

Corresponding Sec Jeff Fort, KN6VR

10245 White Road Phelan CA 92371 phone: 909-994-2232

email: jnfort@Verizon.net

Treasurer Dick Bremer, WB6DNX

1664 Holly St. Brea CA 92821-5948 phone: 714-529-2800

email: rabremer@sbcglobal.net

Newsletter Editor Walter Clark

824 Valley View Fullerton CA 92835 phone: 714-882-9647

email: walterclark@roadrunner.com

ARRL Interface Frank Kelly, WB6CWN

PO Box 1246, Thousand Oaks, CA 91358 phone: 805 558-6199 <mailto:wb6cwn@gmail.com>

W6IFE License Trustee Ed Munn, W6OYJ (call sign for club beacons)

6255 Radcliffe Dr. San Diego, CA 92122 phone: 858-453-4563

email: remunn@earthlink.net

Lab manager Dave Glawson, WA6CGR

1644 N. Wilmington Blvd Wilmington, CA 90744 310-977-0916

email: wa6cgr@ham-radio.com

SBMS Website Editor Rein Smit W6SZ

8333 Pumalo Alta Loma, CA 91701

email: rein0zn@ix.netcom.com

Webmaster Dave Glawson, WA6CGR

1644 N. Wilmington Blvd Wilmington, CA 90744 310-977-0916

email: wa6cgr@ham-radio.com