



**SAN BERNARDINO MICROWAVE SOCIETY, Incorporated**

FOUNDED IN 1955

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

## **SBMS (W6IFE) Newsletter For May 2013**

The **May, 2013 SBMS meeting** will have a talk by **Mel Swanberg WA6JBD**; **"Ruggedizing your gear"**.

### **Activities of the San Bernardino Microwave Society**

**Based on Notes Taken at the Meeting of 4 April 2013 in Corona**

#### **Guests Or Members Not Seen In a Long Time**

- BB Odenthal KG6YGC (Eastvale)
- John Stanford K6FI (chief engineer for DNB Engineering)
- Tom Gaccione WB2LRH (Raytheon)

#### **Big Event of the Month**

Brian Thorson started an impromptu gathering of microwave contacts. All from everyone's home. Not sure, but this might be the largest QSO event without anyone traveling anywhere. Most were bouncing off Baldy from what I could gather. Here's how it started

Brian Thorson dropped by at the Fullerton Radio Club and gave a great talk on what microwave hamming is about. Your editor (Walter Clark) is a member of the Fullerton Club and was there to kibitz in the background, making it an even better presentation, I'm sure.

What I was witness to was rather amazing. Before the meeting Brian –in the course of about 15 minutes made contact with at least a half dozen SBMSers on 10.368 GHz. The Fullerton members were rather blasé to all the action Brian was going through. For all they knew this was normal. Brian was making contact after contact. He was managing the contacts on 2 meters, recording the contacts, moving the disk. But not

very much. He moved it only enough to impress the VHFers how much gain a dish has. Rein Smit gathered all the participants for us. Here's the complete list:



Rein Smit W6SZ  
Tony Long KC6QHP  
Dave Glawson WA6CGR  
Larry Johnston K6HLH  
Wayne Overbeck N6NB  
Pat Coker N6RMJ  
John Oppen tried  
As did Brian Yee W6BY  
Even Frank Kelly was rooting for us from San Diego.  
Pat Coker N6RMJ reminded us that even spontaneous events need coordination.  
Wayne Overbeck was very loud and clear and most instructive of the phenomena going on.  
With everyone alerted to the activity with Brian, they then started turning their dishes around to find each

other.

W6SZ with 10 GHz radio at north side of home, beaming up, about 30 degree's Azimuth.

What's needed is a name for spontaneous events like this. But I believe the main point is as Wayne Observed below. We can all work from our homes if we can see the mountains. So the point, instead of spontaneous, is "contacts without leaving home." I think. Please comment on the theme of this even on the reflector.

### **Here's Some of Wayne's Observations of the Event...**

The FRC meeting site is only 8.5 miles from my house and I got on to work Brian as part of his demonstration of 10 GHz for the club. I had expressed my concern beforehand that the meeting site is badly obstructed by buildings, trees and two elevated freeways. But I knew that there is an excellent path between my tower and my old faculty office at Cal State Fullerton, about half a mile beyond the FRC meeting site on the same beam heading. My office is high enough in the Humanities building to "see" over the trees, however.

So I got on to work Brian before the meeting. To be ready, I calculated the exact beam heading and gave it to Brian. With us aiming on the direct path, Brian was extremely weak, barely one S-unit out of the noise on 10 GHz. And there was much evidence of multipath propagation. This is with my tower all the way up and my dish 75 feet above

ground level. Brian had to aim right toward a Home Depot a block away from him to point toward me.

While Brian and I were measuring the attenuation of a Home Depot (about 30 dB., I think), W6SZ showed up, pointing his antenna away from us (toward the San Gabriel Mountains). I could hear Rein much louder than Brian with my dish aimed toward Brian. So I turned my antenna to peak up Rein. Brian did the same. With us both aimed at the San Gabriel Mountains, we both heard Rein over S9--and heard each other nearly as well. So we had much louder signals over an 80-mile reflective path than over an 8.5-mile direct path.

Best of all, we could all talk on one beam heading, pointed at the mountains that loom over Rein's house. Soon another really loud carrier showed up on 10368.100. We never determined who it was, but somebody else was providing a carrier for Brian. Brian had gone inside to give his talk by then. Rein and I both called, but the phantom carrier never replied to us. Nevertheless, we knew that somebody else somewhere else was also booming in on the same reflective path.

If we're going to have 10 GHz activity nights, I'm beginning to think everyone should aim toward an pre-agreed high mountain.

--Wayne Overbeck N6NB

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At the meeting, the idea of microwave contact from the house was discussed by several people. Pat Coker suggests the name "activity night " (or day) instead of net or round-table. One thing he would like emphasized is the need for a coordination / liaison freq , something in the 440 band either the wa6cgr 445.500 or cactus 440 system, we are too spread out. Without that it will not work

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## **Members and Guests by Way of ATV at the March Meeting**

- Don Hill checked in and said that early in the meeting there were 8 watching with call signs and 4 without.
- Robbie checked in by way of audio.  
Your newsletter editor was a speaker at OCAR meeting this month and had a nice visit with Robbie. He's a member there. I found out why he only checks in by way of audio. Somebody put a building in his line of sight to Santiago. (The temerity!) We talked about a flyswatter reflector and early building demolition. He's OK with audio only and visual by way of BATC TV.

## **Election of the Board of Directors**

Since there was no contest, the secretary (Walter Clark) certified the board to be the list as nominated. The only change from the previous year was Chuck Swedblom WA6EXV is taking over from Brian Thorsen, AF6NA as Vice President

### **Officers of the SBMS for 2013:**

President: Chris Shoaff, N9RIN  
Vice President: Chuck Swedblom WA6EXV  
Recording Secretary: Walter Clark  
Treasurer Dick Bremer, WB6DNX

### **Unelected Positions of Responsibility**

Corresponding Sec: Jeff Fort, KN6VR  
Newsletter Editor: Walter Clark  
ARRL Interface: Frank Kelly, WB6CWN  
W6IFE License Trustee: Ed Munn, W6OYJ (call sign for club beacons)  
SBMS Lab Manager: Dave Glawson, WA6CGR  
SBMS Website Editor: Rein Smit W6SZ  
Webmaster: Dave Glawson, WA6CGR

### **Tech Talk at the March Meeting**



Dan Slater, AG6HF spoke about antenna and electromagnetic field measurements. Much of the talk was on aerospace near-field antenna measurements that his company does, but the most interesting parts had to do with EM field visualization, amateur

radar and interferometry.



## Important Points of the March Business Meeting

- **ARRL**

- Dan Welch reminded us of our responsibility to update ARRL on our activities.

- **The OVRO Mount**

- Chuck Swedblom WA6EXV reviewed the situation there after a visit. It's sad. . .

- There's no power there.
- The trailer is loaded with junk that isn't ours to throw away

That's the bad news. Here's the Good News:

- He talked to Mark (our contact to OVRO) about another pad; one with power. It's just a pad though.
- He is going to offer to SBMS the mount he uses for his test range. He would retire that installation for us to have a mount.
- He is presently designing a transition to go between his gimbal and the pad that we may be offered.
- He is in need of a hoist that could be moved with the 230 pound mount when it is moved to OVRO. Hoist rental was estimated to be < \$200
- It needs a controller, which Larry Johnston volunteered to assemble for less than \$100.
- (What didn't come up was a discussion for why we need to have an SBMS facility there. It is after all a 3 hour drive.)
- There was a motion passed that authorizes Dennis to spend up to \$100 for the hardware needed by Larry Johnston for the controller.
- There was no motion for the hoist rental.
- Mel spoke to the members on 501c3 status for the club:
  - Potentially expensive

- We would be under the scrutiny of the IRS
  - There's annual paper work to fill out to the IRS
  - The officers run the risk of penalties if tax returns are not filed in a timely manner.
  - Mel recommends it only for larger organizations, a club the size of SBMS would not benefit from all the added responsibilities.
  - The discussion that followed up had this most significant comment: We should consider becoming a simple corporation if only to protect the officers.
  - Dennis Kidder reported that Wayne Yashida has confirmation that the SBMS (Ain't Your Father's Radio) exhibit was accepted by Maker Faire.
- Members going: Dennis Kidder, Brian Yee, Tony Long and Walter Clark

## **What Our Members Are Working On**

### **Larry Johnston W6HLH**

Reported on the progress Pat Coker has made on his Omni. Pat and Larry made contact (only a mile) to confirm it was working. Larry also said Pat wants to do a net going on 10 GHz.

Larry himself went to M-Squared where the wife won a strainer.

Larry did some aircraft scatter with (K6???) but was unsuccessful.

(Pat by the way works where the commute is just too far to make it the meetings anymore.)

### **Rein Smit W6SZ**

Also wants to get a net going on 10 GHz. ... and on 1296. There was some discussion on whether this was a round table or a net with operator. It is too soon to see of course which one it will become. The point is that we should be contacting each other with microwave more often than just during contesting events.

### **Jeff Fort KN6VR**

is being distracted at home with a new critter, but is Also looking forward to participating in the 10 GHz net/roundtable, whatever.

### **Dan Welch W6DFW.**

is still working AMSAT parts and taking orders for 5.7 and 10 GHz antennas.

### **Mel Swanberg WA6JDB**

seconded, thirded or fifthed interest in an at home microwave regular activity. Mel did some more work on the Sunset Ridge to Johnstone Peak microwave link, for Cactus.

### **Jason Sogolow W6IEE**

He had some fun with his C-Band radar altimeter receiver. He tried it on a 4' dish.



He is still working on his Qualcomm conversion. Jason attempted to down-convert some ATV signals to Channel 3.

### **B B Odenthal KG6YGC (Eastvale)**

Joined cactus group and found them to be friendly and accepting to new people.

### **John Stanford KF6I (Placentia)**

described his work at the DNB. He also told us of his 6 meter meteor scatter work at 5:00 in the morning.

### **Courtney Duncan N5BF (La Canada)**



Was at M-squared (as was Larry) and he too won something there; an ARRL gift certificate which he spent on a book on WW2 Radar History. Courtney is trying to renew interest in the JPL radio club. He's on the board. W6JIO and W6JPL.  
← here's some pictures of M-squared facilities.

**M-Squared is an antenna designer and manufacturer. Every March M<sup>2</sup> has a big open house and BBQ, on them. They have amateur testing sessions,**

**swapmeet, and tours of the plant where the antennas are made. It's an industrial site with a couple of hangar sized buildings. This year they had a 2 meter EME demonstration. Fresno, mid-March.**

### **Dennis Kidder W6DQ**

Dennis Kidder got the Flex 1500 going and played around with it a little bit. (He prefers the 5000A, but the 1500 is pretty cool.) Should now be a simple matter to add the 2 M transverter and the 10/24 GHz transverter he bought at MUD. Looks like it will make a neat little microwave station! He has a portable rig with dish for contesting. This project is for a fixed Omni above the house in Inyokern. He can add other bands as well ... He has a transverters for 220 MHz, 432 MHz, 1296MHz and 2304 MHz in addition to 144 MHz and 10/24 GHz.

### **Chuck Swedblom WA6EXV**

Reminded us to be on the lookout for an 8 to 16 foot trailer to go with the mount he is donating.

### **Dick Bremer, WB6DNX Brea**

Reminded us all about the tune-up party in July. Kerry needs to be notified about the date and he himself has to send a check to reserve the park.

**Chris Shoaff N9RIN**

on the oscillator for the 10 GHz beacon project, he discovered a short which he fixed by unsoldering all the leads on a rather large IC and cleaning out underneath it. He is going to Dubai.

**Don Hill K6BXT**

told us that one of the call ins looked up on a state of California website and found that the SBMS corporation status is: suspended.

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**JPL's "Building 173" ham shack.**

There is another on top of Building 180, the iconic nine floor administration building. Courtney Duncan is doing his best to bring these facilities back to life.





Pat Coker, one of the most important members of the club, is working in El Segundo and unable to attend our meetings, but he sent these pictures of his tower which is now up and running.

He is now on the air 24/7 (or can be). Dan's 10 GHz slot array is on there (somewhere.) It is fed by EW90 waveguide. He is presently using his second radio of 8 watts in the shack. He's looking for schedules to try and work anybody.

## **SBMS Contest Coming UP**

**The San Bernardino Microwave Society (SBMS) is sponsoring a 2 GHz and Up Club Contest in May.**

Get ready. For this year, the 2013 contest period runs from 6 a.m. Saturday May 4 to 8 p.m. Sunday May 5 local time.

For more on this Contest... on OUR contest... on our SBMS CONTEST see "Activities" in the SBMS website. You should have it memorized by now. . .

- Google then SBMS
- click on our website
- then Ctrl-F and "Activities"

## Upcoming Meeting Tech Talks

**June 6 SBMS meeting-** show and tell on the 1 to 5 GHz bands. What does the equipment look like and what can you do on these bands.

**July 4 SBMS meeting-** Beginner microwave talk for other clubs. Dennis, W6DQ will show us how to do such a talk.

**August 1 SBMS meeting-** contest preparation

## Wants and Gots for sale.

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

**For Sale:** 10 GHz slotted waveguide antennas \$55 kit, \$80 assembled plus shipping Dan  
W6DFW [W6DFW@apex-scientific.com](mailto:W6DFW@apex-scientific.com)

**NEED-** HP 8694 8-12 GHz sweeper plug-in for 8690 main frame Chuck WA6EXV  
760-382-0709

**Want-** an X-band plug-in for HP8620 sweeper. Bill WA6QYR [bburns@mediacombb.net](mailto:bburns@mediacombb.net)

For Sale- Pre-estate sale- Ask Bill what you are looking for and he may have it for a good price.

Bill WA6QYR [bburns@mediacombb.net](mailto:bburns@mediacombb.net)

Bill is also offering for sale and in some cases given away:

Solar panels 12v 12 inches by 24 inches free.

40 meter vertical \$5

Butter-nut 4 band vertical \$20

Homemade 6 meter j-pole ½ inch copper pipe \$15

4 homemade 220 MHz 9 el beams- free

**More Items Available from Bill Burns**

Cushcraft 220 MHz 7 el beam \$20

2 Cushcraft two meter 11 el beams \$30

2 meter 13 el beam \$15

Many 920 MHz 9 el M Squared beams less feed \$5 each

Homemade 2 meter 5 el cross polarized satellite beam \$10

Cushcraft 440 MHz 9 el cross polarized satellite beam \$10

Az/el rotors for satellite beams with fiberglass boom \$20

TVRO dishes 10 ft, 6 ft and 5 ft free

2 motor home motorized Az/el 5 ft TVRO dishes \$10 each

Teco 108-156 MHz helical antenna 4ft long \$10

6ft 19 inch open rack \$5

6 ft 19 inch rack \$5

Andrew LDF-4-50 (1/2 inch 50 ohm) heliax coax cable in 50 to 70 foot lengths \$5 each

Guy wire 3 strand #12 copper plated steel by reel or by coil free

Commercial CB vertical 10 ft long Free

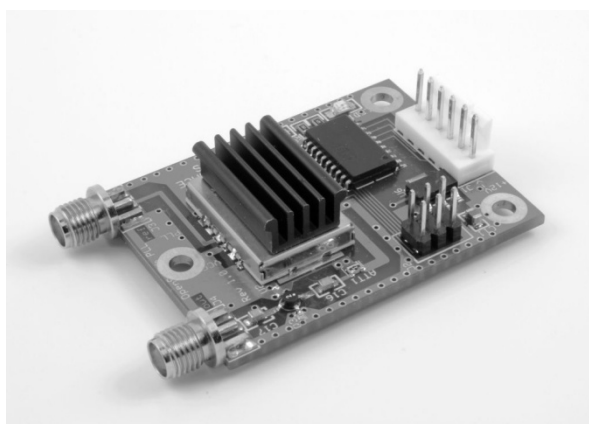
Misc steel plate, pipe and rod free

Bill WA6QYR 247 Rebel Road Ridgecrest 760-375-8566 [bburns@mediacombb.net](mailto:bburns@mediacombb.net)

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## Member Ads

**60 degrees North Electronics Company.** I am starting up a kit making service for assembling certain kits made by Down east Microwave. For those that do not want to make their own kits or maybe it's gotten too difficult, or just don't have the time or want assembled kit faster than DEMI can supply it. This one-man business so I will only be able to build a limited number per month. My price is the same as offered by DEMI assembled, plus shipping which should be medium-size flat-rate priority mail in the US. I am expecting to be able to deliver within 30 days of receipt of paid order. Contact Ed Cole: <http://www.k17uw.com/60NE.htm>



Introducing the **OpenSynth** line of frequency synthesizer kits. Available in standard frequencies of 2556, 2952, 2160, 1152, 3312, 3006 MHz, also available from 400 MHz to 3500 MHz.

- Low phase noise, Buffered output
- Ultra low noise voltage regulators
- Open Source code and design, made to be modified
- 2" x 1.5", 12V @ 140 mA typical

**Available at** <http://reactancelabs.com>



← 10 GHz slotted waveguide antennas \$55 kit, \$80 assembled plus shipping Dan W6DFW [W6DFW@apex-scientific.com](mailto:W6DFW@apex-scientific.com)

Member Dan Welch is taking orders for the next batch which will be sometime around August; in time for MUD.

## Mystery Microwave Gismo of the Month



### The prize?

You get a momentary bit of respect from the other readers of the SBMS Reflector who know your name. That may not seem like much, but what else is there to live for . . . other than showing off?

## 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 car pooling 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](mailto:walterClark@roadrunner.com)

**Website: Rein Smit:** [rein0zn@ix.netcom.com](mailto: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.

## **About the San Bernardino Microwave Society (SBMS)**

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