



**SAN BERNARDINO MICROWAVE SOCIETY, Incorporated**

FOUNDED IN 1955

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

# **November 2014 Newsletter on the Activities of the San Bernardino Microwave Society**

**Walter Clark, Editor**

## **Tech Talk for the November Meeting Nothing Scheduled**

### **Announcement**

Bill Burns will be with us at the November meeting.

He is coming down with Chuck to the 6 November meeting with a pickup load of stuff he wants to get rid of. Otherwise it is going to the dump.

**Business cards with this address are available from Dick Bremer.**

### **Official Address**

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

# **Activities at the August Meeting of the SBMS**

**(that would be of interest to the General Ham Radio Community)**

**Presiding: Chris Shoaff      (14 in attendance... 17 last month)**

## **Visitors or Members We Haven't Seen in a Long Time:**

- **Keith Board (N6GKB) from Yucca Valley**  
Keith is Tom Board's brother (WB6HYH, our stage right cameraman). Keith is a past president of ATN and a member of the Inland Empire Radio Club.
- Viann Duncan (WD5EHM), N5BF XYL. (Wife of our speaker.)

## **Old Business**

- Larry Johnston (K6HLH) asked the status of the 2304 beacon. Answer: Unknown.
- Next month Pat Coker (N6RMJ) will start looking for volunteers to help with Microwave Update (MUD) 2015 duties.
- Doug Millar (K6JEY) has received requests from Japan and Alaska to dovetail some EME meeting activity with MUD. The next actual EME conference will be in Venice, Italy but some Pacific Rim EME operators would like to meet during the MUD that we are hosting next fall. This would have minimal impact on MUD itself, which often has EME topics anyway. It would involve a few talks and some social time for the EME specific group. It would also make for a richer conference. Mel Swanberg will check our contract with the hotel for possible schedule or occupancy issues. None are expected. This will be discussed more next month.
- Ed Munn (W6OYJ) read more of Dick Kolbly (K6HIJ)'s history including several microwave records established in the 1950s through 1970s.

## **New Business**

- Chris Shoaf (N9RIN): It is time to begin preparations for the annual Christmas Party.
- Brian Thorson (AF6NA) will contact Dave Glawson (WA6CGR) to see if his offer of his home as a venue from last year is still open.
- Chris Shoaf: Everyone make sure you get your 10 GHz and up logs in before the deadline.
  - We need a membership chair to facilitate getting new members.
- Doug Millar (K6JEY): Attendance a few years ago averaged 27. What has happened?
- Proposed duties: Help new people become members and retain existing members.

- Pat Coker: Contest activity this year was also down.
  - Discussed: Possible different or multiple venues. Internet based participation. (But there is no high speed internet here at the American Legion Hall.)
- Doug Millar volunteered to lead membership maintenance activities. Thorson volunteered to help and to work on options over the next quarter.
- Pat Coker (N6RMJ) invites us to a ham get together at his house Saturday 10/11/14 for those not going to Pacificon. There will be VE Testing, a Swap Meet, BBQ, "Opportunity Drawings." Open to all hams, use [QRZ.com](http://QRZ.com) address.

Courtney Duncan (N5BF), Recording Secretary
---

## What Our Members Are Working On

- **Brian Thorson AF6NA (Corona)**

talked about the contest

- He also took readings of field strength of his own rig. Surprised at how repeatable the readings were. Also close to calculated. Will be doing it at the MUDD next year.

- **Pat Coker N6RMJ (Lake Los Angeles)**

was, for the second half of the contest he was with Mel at Podicy.

- He fixed a flat tire. All radios work. Had a good time. 20 over noise.
- He also worked on the garage and kitchen making wife happy

- **Larry Johnston K6HLH (Lake Los Angeles)**

will send in a log for a change.

- He tried to use Open Office but used his own form.
- During the contest, he made 43 contacts 13 over 100 mile best was 290 Km to Nevada.

- **Rein Smit W6SZ (Alta Loma)**

was at Blue Ridge for the contest.

- He was disappointed about using digital; going to all that effort! (everyone was very supporting of him. Don't give up.)

- **Doug Millar K6JEY (Long Beach)**

was busy with the EME banquet.

- He built a pan adapter for K3. Elecraft. Pretty cool piece of gear.
- Bill sends his greetings from Vancouver. Saw lots of whales.
- Doug also bought a signal generator and a counter 14 digits to 2 GHz plus a box to 18 GHz.
- Doug led lots of discussion on sidewalk EME.
- Next stop is Palos Verdis club

- **Frank Kromann AG6QV (Trabuco Canyon)**

was in Denmark and participated in IARU region 1 VHF contest operating as 5P5T.

- The event was 4 hours of contacts. He made 735 contacts with stations all over Europe; the longest was with Italy and Ukraine. Based on more than 1000 log entries the test can be summarized in this short 5 min video.

[http://www.slovhf.net/obiskovalec/VHF\\_2014/iaru\\_201409\\_calls\\_1.mp4](http://www.slovhf.net/obiskovalec/VHF_2014/iaru_201409_calls_1.mp4)

It was created by Miha, S51FB.

- Frank thinks it would be fun to do something similar for our microwave tests.

- **Mel Swanberg WA6JBD (Upland)**

- Mel, Chuck and pat were at Podisy. Always works a long way.
- He was very pleased with his rig. Chuck is the one that got the flat.
- Mel did some mobile 10 Gig on the way back.
- He added some notes on October newsletter about digital. The gist of it is that because most activity is 2 weekends a year we can't do much experimenting.
- Mel ask the member to talk to him if you want to experiment with a bunch of guys and need liaison network to support it.

- **Jim Blum KK6MXP Corona**

was on Soledad Saturday. No Sunday contesting.

- He had all the gear in his driveway and found a bounce to get Pat Robin Mel and two beacon. He said he's leaning from the members and activities like the contest.
- His present project is working on an interface for his Kenwood.

- **Gary Heston W6KVC (Running Springs)**

On labor day weekend he went in the hospital. Was there a week. All better, all fixed. That's why no ATV last month.

- **Keith Board (N6GKB) Yucca Valley (Guest)**

watches us on ATV. Past president of ATN. Gary Heston thanked him for all his work for ATN.

- **Jason Sogolow W6IEE (Burbank)**

"has been working with DDS modules;

- He showed the club a simple VFO he made that was "slapped together in an evening." Controlled by a PIC microcontroller that's cheaper than an Arduino, but more complicated to work with and requires programming hardware. He uses it with a superhet receiver for 7 Mhz.
- He also thanked the club for encouragement, surplus parts, and assistance in getting his 10 Ghz rig together in time to participate in the contest.

- **Courtney Duncan N5BF**

thanked Doug for coming out to JPL to give his EME talk.

- He's making progress on EME 1296 setup. He has tv camera to aid in pointing the array. Doing eme two tests but is having trouble understanding how the noise equations work.
- He has a cheap U110 rotor and discovered that there's no position feedback. It times how long the motor runs. It quickly becomes incorrect with repeated, un-re-synchronized use.
- DSP-10 EME2 attempts are still inconclusive. Don't understand something about the averaging and its relationship to the noise. Should be able to see my echoes down to about -40 SNR (normalized to 2500 Hz SSB bandwidth, as is common in this field) and the system should be close to that but do not have definite detections yet. Learning things about libration - and very low level birdies. Have a horrendous noise situation - one second on and one second off all the time, directional, and noise 22 dB above floor in worst direction. Proves (at least) that the new preamp and cables are working. Switching from a 0.5 dB lab hookup cable to a 0.05 dB piece of 1/2 inch at the antenna made a huge difference.
- He asked if anyone knew anything about JT echo mode? Any suggestions for an FT-817 interface. (Need only -8 dBm to drive amplifier to full output ~400 W.) Any ideas about what my 1296 noise might be?

- **Dennis Kidder W6DQ (Inyokern/Fullerton)**

said no microwave activity.

- He made a plug for Pacific Con in the Bay area. He will be doing two talks on maker fair and the Collins extraction from Delano

- **Ed Munn W6OYJ (San Diego) Reporting on the Activities of the San Diego Group (They normally meet 3rd Monday at Karry Banke's house.)**

He enjoyed the contest. There were 13 San Diego, both weekends

Some went to Soledad Mountant, some to Mount Megel and Mt. Otie which is 1000 ft higher.

There was activity with double peak park just west of Escondido. Queen McAbee. By bicycle. So steep. Los Pinos, Dan went to spirit mountain in Nevada and Turquoiz mountain near Baker. And Palomar. Kerry Banke sent a note about next meeting. Direct conversion to 10 GHz where he say the beacon. Put a box test equip for the July set up. Maybe even wireless to the tower. No generators.

- **Chris Shoaff N9RIN San Clemente**

was at Sandidge first week, Orange County second week.

- He brought a bright red LED to show us.

---

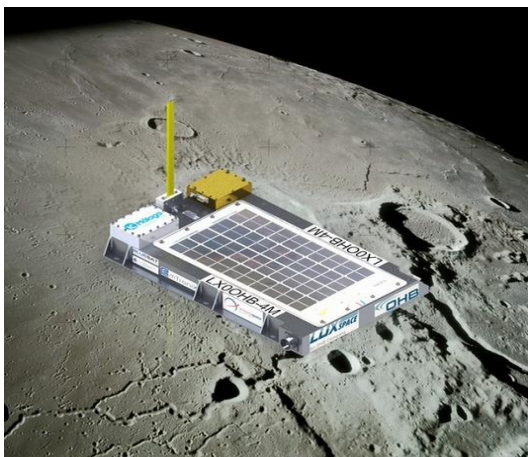
As you may have noticed, your editor on occasion brings you news from other radio group emails besides the SBMS Reflector. Among them are:

- DSN (who like to track spacecraft as they leave earth orbit)
- SARA (who like to observe astronomical sources that flare up from time to time.)  
And a new one
- NRP (Natural Radio Phenomena (who will be monitoring interesting natural phenomena such as Schuman waves)

***But I think our own Rein Smit has beat these guys to the punch with his attempt to follow the recent Chinese moon ship. Here's his report...***

**Rein Smit W6SZ**

On Oct 23 2014 in the morning, I noticed an e-mail message mentioning a small Amateur Radio package being carried to the Moon on board of a Chinese Moon Mission Rocket. The package was basically a 1 W output transmitter, a simple monopole 1/4 wave antenna, a WSJT65B coding module for the transmitter and some sensors.



Transmissions by the package would be around the clock on 144.980 MHz and one should be able to copy, at least shortly after launch, the WSJT65 coded transmission. Upon reading the e-mail, I decided to give it a try to see whether I would be able to copy the signals and learn what more will happen. Well it kept me busy until Nov 1 so far at least.

I'm surprised that I did not hear about it earlier and that the time before launch was only a few hours and that I would have to get receiving capabilities in place for 2 M in an hurry.

(LX00HB is the call sign of the package.)

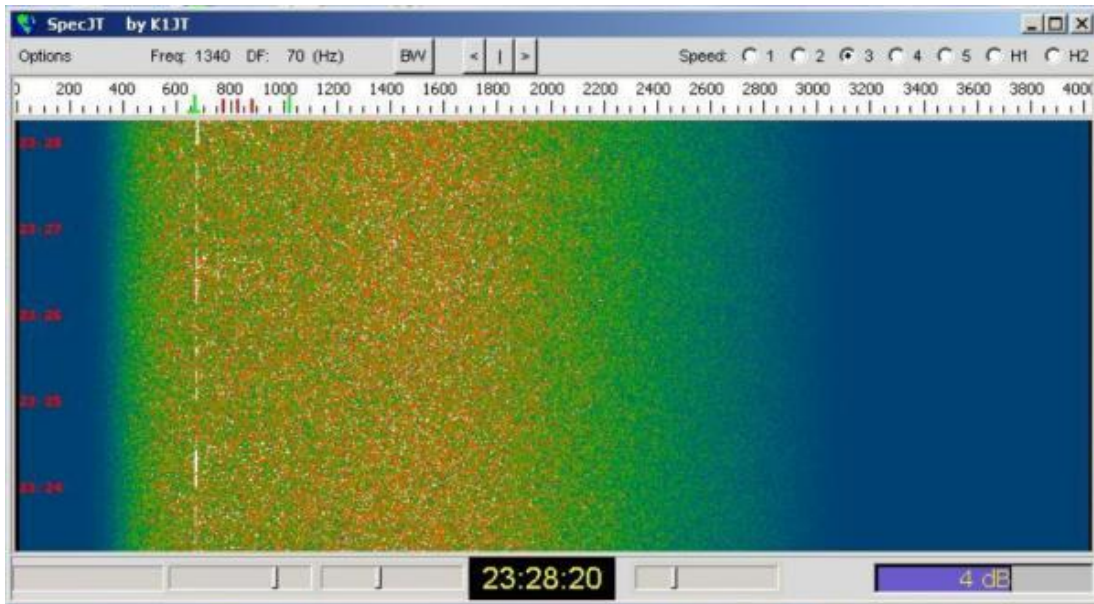
Later, I discovered that the plans had been made public at several places, at EME2014 in France in particular. Check this link:

<https://ukamsat.files.wordpress.com/2014/09/lxs-4m-eme2014.pdf>

I am participating in the monitoring of the payload over the next 2 weeks, and will learn more about the process, tracking and reporting of reception reports.

<http://moon.luxspace.lu/receiving-4m/>

In spite of the short notice for the launch from China I was able to pick its signals about an hour after launch with a simple yagi antenna (8 ft ), pre-amp and TS-2000. The antenna was supported on a step ladder. On the next page is my first observation...



This is 48 minutes after turning on transmitter at launch.

Knowing that the signals would rapidly get weaker when the transmitter got away from earth I changed the next day to a big antenna with somewhat better manual control of the pointing of the antenna. ( 3 WI HB LFA Yagi )

The trajectory and thus the pointing of the antenna was different every day with the max elevation decreasing over the 2 week period with at the end, the elevation getting smaller than 10 degrees.

Bottom line in the end, 1 W radio signals with a simple using WSJT65B could copied over a distance of 400000 Km.



More info on the operation is here: <http://moon.luxspace.lu/blog/>  
Nov 2 2014 W6SZ

ARRL News: On the same subject . . .

### **4M Moon Orbiter Signals “Quite Weak,” Onboard Messages to Loop**

<http://www.arrl.org/news/4m-moon-orbiter-signals-quite-weak-onboard-messages-to-loop>

## **Natural Radio Phenomena**

For those microwavers interested in natural radio here's a letter from Thomas Ashcroft on a new group email...

This is a scientific discussion group concerning the subject of natural radio phenomena. It is broad spectrum, physical and observation oriented. Topics include: natural terrestrial radio emissions such as lightning, VLF-ELF, Schumann resonances. Radio astronomy topics such as Jupiter, solar, meteors, galactic background, and deeper space can also be discussed.

Differentiating natural radio phenomena from man-made radio emissions can be discussed.

Philosophical topics are not in the scope of this group.

[https://groups.yahoo.com/neo/groups/natural\\_radio\\_science/info](https://groups.yahoo.com/neo/groups/natural_radio_science/info)

Thomas Ashcraft - New Mexico

## Upcoming Events Identified by Readers

- Nov 6: SBMS monthly meeting
- Nov 8-9: ARRL EME (moon bounce) Contest – 50 MHz through 1296 MHz
- Nov 7-8: 1.2GHz CW and digital EME at Doug Millar's K6JEY  
(Contact Doug ...drzarkof56@yahoo.com starts around 4 PM goes to midnight)
- Dec. 4: SBMS monthly meeting
- Dec. 6-7: ARRL EME (moon bounce) Contest – 50 MHz through 1296 MHz

**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](mailto:walterclark@roadrunner.com)**

## Checking in Those Watching on ATV.

- k6dJ Ventura checked in.
- ka6dps Dave checked in
- Gordo invited SBMS to Pacificon



## Gary Heston's ATV Mobile Studio

Not only can you watch our meetings live (well delayed by 240 milliseconds) You chat to 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](http://www.batc.tv/ch_live.php?ch=2&id=139)

Better yet memorize the following

Keywords: BATC TV

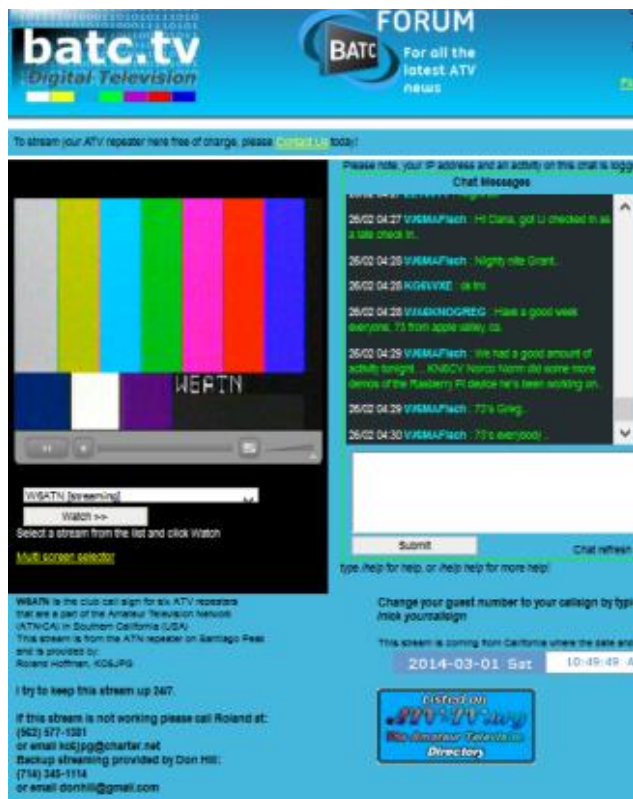
and use Google

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, on the left, you have to pick a stream. The stream to choose is:

**W6ATN.**

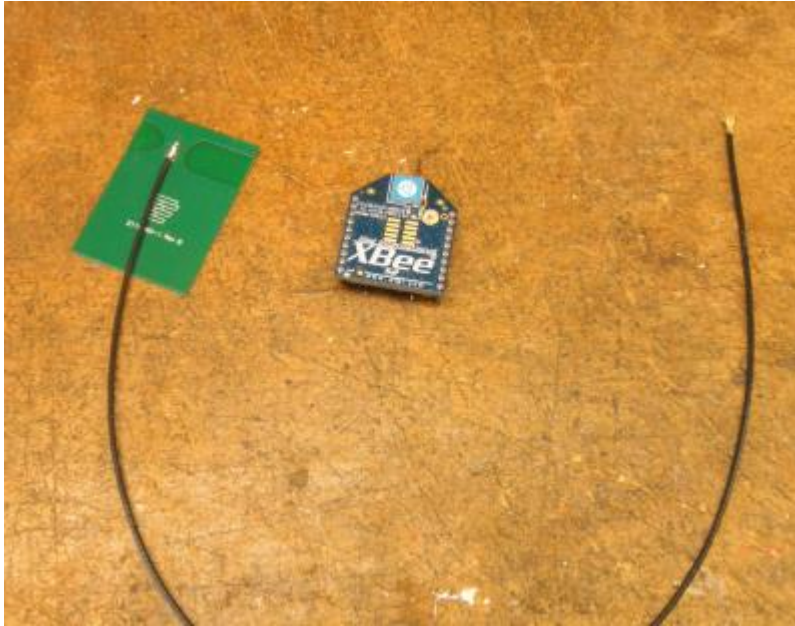
Memorize W6ATN as ATN in California. W6ATN is the club call sign for six ATV repeaters that are a part of the Amateur Television Network in Southern California. (ATN-CA)

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



- The newsletter is to keep member informed on current activities of the “active” members; the members that come to the meetings or use ATV to report in.
- The website is for articles and all activities of the past.
- But questions or even bragging is for the SBMS Reflector. Send your email message to: [sbms@ham-radio.com](mailto:sbms@ham-radio.com). More than 80 people will see your question or your bragging. (To sign up go to: <http://lists.altadena.net/mailman/listinfo/sbms>.)

# Microwave Mystery Gizmo of the Month



## The prize?

To show off how smart you are on the SBMS Reflector.  
(That's all we live for anyway, isn't it?)

If you think you know what it is or want to discuss  
it, go to SBMS Reflector... ([sbms@ham-radio.com](mailto:sbms@ham-radio.com))

## Needs, Wants and For Sale (Updated 28 September)

- **For Sale from Chris Shoaff:** N9RIN cshoaff@yahoo.com
  - 30w 1296 MHz PA kit \$50 + \$5 for US shipping
- **For Sale from Mel Swanberg:** [wa6jbd@verizon.net](mailto:wa6jbd@verizon.net)
  - HP 141T w/1200 MHz Plug-in And 3 18 GHz Plug-ins. Make offer, so cal local only.
- **Wanted by Jim Blum:** [tenbakerst@aol.com](mailto:tenbakerst@aol.com)
  - Source material; papers; on microwave and microwave construction.
  - Info on digital modes for microwave (WSPR, etc.) Info on beacons/beacon construction
- **For Sale from Bill Burns:** Bill will only rarely come to the meetings, so if you want any of this, please contact him by email at . . . [bburns@mediacombb.net](mailto:bburns@mediacombb.net))  
His address is: 247 Rebel Road Ridgecrest CA 93555 and phone: 760-375-8566
  - 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>  
Contact him at [kl7uw@acsalaska.net](mailto:kl7uw@acsalaska.net)

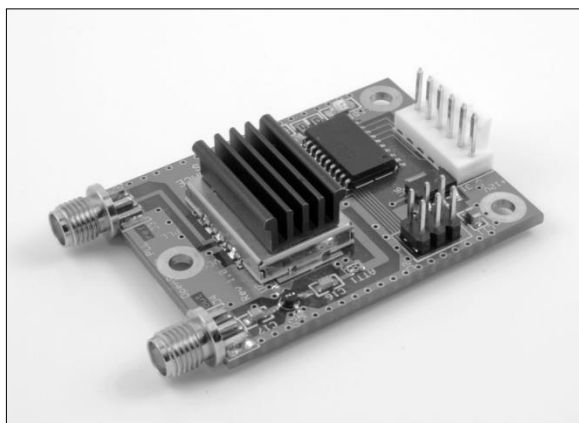
## Member Ads Continued



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>



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](mailto: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](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.

### **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](mailto:cshoaff@yahoo.com)

**Vice President: Brian Thorson AF6NA**

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

email: [Brian.af6na@yahoo.com](mailto:Brian.af6na@yahoo.com)

**Recording Secretary Courtney Duncan N5BF**

4402 Rockmere Way

La Canada, CA 91011 phone: 818.957.8455

email: [courtney.duncan.n5bf@gmail.com](mailto:courtney.duncan.n5bf@gmail.com)

**Corresponding Sec Jeff Fort, KN6VR**

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

email: [jnfort@Verizon.net](mailto:jnfort@Verizon.net)

**Treasurer Dick Bremer, WB6DNX**

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

email: [rabremer@sbcglobal.net](mailto:rabremer@sbcglobal.net)

**Newsletter Editor Walter Clark**

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

email: [walterclark@roadrunner.com](mailto: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](mailto:remunn@earthlink.net)

**Lab manager Dave Glawson, WA6CGR**

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

email: [wa6cgr@ham-radio.com](mailto:wa6cgr@ham-radio.com)

**SBMS Website Editor Rein Smit W6SZ**

8333 Pumalo Alta Loma, CA 91701

email: [rein0zn@ix.netcom.com](mailto:rein0zn@ix.netcom.com)

**Webmaster Dave Glawson, WA6CGR**

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

email: [wa6cgr@ham-radio.com](mailto:wa6cgr@ham-radio.com)