



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1988

A NONPROFIT AMATEUR TECHNICAL ORGANIZATION DEDICATED
TO THE ADVANCEMENT OF COMMUNICATIONS ABOVE 1000 MC.

San Bernardino Microwave Society Newsletter

Before the Meeting: Sizzler's yet again.

Tech Talk for the Meeting of May 3rd . . .

Brian Thorson has been working with a red laser light wave system on his bench and will be doing a presentation. This is derived from Robert Carter's presentation last month.

As always, the best seats are at our meeting in Corona, CA, but those who want to follow online, can do so at the following link.
http://www.batc.tv/ch_live.php?ch=2&id=139 California Hams can check in on the ATN net

Activities of the March SBMS Meeting

(... which would be of interest to the General Ham Radio Community)

Jason Sogolow W6iEE Presiding

Guests, or been gone a while

Curtis W6NOB from Wrightwood

Old Business

Recording Secretary Courtney Duncan N5BF read the list of those nominated for officer positions from last month. These are:

- President: Jason Sogolow W6IEE
- Vice President: Mel Swanberg WA6JBD
- Treasurer: Dick Bremer WB6DNX
- Recording Secretary: Courtney Duncan N5BF
- Corresponding Secretary: Jeff Fort KN6VR
- Newsletter Editor: Walter Clark, 377 ohms
- ARRL Interface: Frank Kelley WB6CWN
- Lab Manager and Webmaster: Dave Glawson WA6CGR
- W6IFE License Trustee: Dave Laag W6DL

Dave Laag is now serving the first year of a ten year FCC license grant. All positions were filled and none were contested. Nominations were closed and the slate was passed by acclamation on a voice vote.

New Business

Pat Coker N6RMJ inquired who would be active in the SBMS 2.3 GHz and up contest next month. The contest period is Saturday May 5 at 0600 local to Sunday May 6 at 2400 local. W6IEE, AF6NA, WA6JBD, N5RMJ, and N5BF indicated plans to be active, most of them from home stations.

Brian Thorson AF6NA plans to go to Costa Mesa next week to reserve the park where we usually have the Tune Up on the fourth Saturday in July. Gordon West WB6NOA lives in Costa Mesa and is able to get us the lower residence rate.

Old Business

Courtney N5BF reviewed this list of outstanding club actions:

Nov '17 - KC6JPG - Microphone Upgrade (also discussed in October and July)

Nov '17 - WA6JBD - Pink Slip for WA6EXV Trailer donation (also discussed in August, July, and May)

Nov '17 - W6DL / WA6CGR / N6WL - SBMS Badges (also discussed in September, August, July, April, January, and back to November 2015 following SBMS hosted MUD in San Diego)

July '17 - WA6JBD - 2 GHz beacon progress

July '17 - KK6MXP - Capability to record and archive meetings when ATV is not set up.

Mar '17 - AF6/NA - Make SBMS meetings into U-Tubes.

May '17 - WA6JBD - Early notebook of WA6EXV containing original SBMS Constitution to be put on SBMS website.

May '17 - WB6CWN - Has a book with SBMS meeting notes from the 1980s from then recording secretary EA6ECD. Plans to pass to current recording secretary

What Our Members Are Working On (Activity Reports)

Brian Thorson AF6NA - Corona showed plots of his Santiago beacon reception with and without preamp that were taken with his new spectrum analyzer. They show the noise 3 levels up and the signal 4 levels up in the plots.

Larry Johnston K6HLH - Lake Los Angeles has a high power 2 meter amplifier almost working. Its box is about a two foot cube, runs a 4CX1500, is home-brew, and weighs a few hundred pounds. Has four more tubes including one new one in a box. He wants to give it away (as it was given to him) to someone who will use it and not sell the parts. Pick up only at Larry's QTH.

Eric Fort AF6EP – Phelan has been reading about AMSAT's 5 and 10 GHz geosynchronous plans. Would like to join Michele Thompson W5NYV's group that is working on the ground equipment. Picked up some parts out of the bin tonight to finish a voltmeter project. Has information on 8020 T-slot material to pass around. This suggests ways to build structures like dish mounts, etc.

Jeff Fort KN6VR - Phelan

currently removing unwanted oscillation from 1296 preamp which otherwise still works.

Mel WA6JBD - Rancho Cucamonga

showed his completed 10.224 GHz LO from his new 10 GHz construction project. Has an N7EM 2756 synthesizer in it. In Mel's design he brought out the lock light and put diode detectors on 2 GHz and 10 GHz outputs. The unit's operation is very clean in terms of phase noise, expected to be better than what he's been working with by an order of magnitude. Playing with SDR dongles he has been able to see Frazier beacon just about every night, with signals 20-30 dB below audible noise floor. To round out his test capability, he acquired a 8712 ES network vector analyzer that goes up to 3.3 GHz from E-Bay.

Pat Coker N6RMJ - Lancaster

is busy on 10 GHz. Went over to WA6JBD's to test his amplifier which puts out 3 W instead of 10 W that it used to. It has been returned to Germany for repair. He has also been playing with SDR dongles which makes it possible to find signals in the first place. Plans a trip to Alaska in July

Bill Locke N6WL - Baker

was only VHF and UHF activity this month

Roland Hoffman WA6JPG - Rancho Cucamonga

is working on 2.4 GHz transmit and 5.8 GHz receive for ATV and digital.

Robert Carter (used to be KA6MQQ) – Riverside

is building 24 GHz and 10 GHz systems. Was able to hear Santiago Peak last night. Has gotten his license reinstated and will know his new callsign as soon as it is posted by the FCC. Is giving tonight's Tech Talk.

George - Irvine

has been putting together a 3rd order filter with filter design software called "Kukes – Microstrip Filter Designer." Design is done in two iterations. He passed around plots of his results.

Dave Laag W6DL – Moreno Valley

has a whole pile of parts to work on his LO project and is ready to drill holes.

Chris Williams W6NOB – Wrightwood

is building a permanent mobile mount for a microwave rig.

Courtney Duncan N5BF - La Canada

rebuilt his 10 GHz rig and uses the "MON" tap on both the exciter and amplifier to verify that things are working. Last night in the home-to-home activity, worked KK6MXP S-2 on SSB, WA6JBD S-2 on CW (and was heard by W6SZ in this QSO), WA6CGR S-9 on SSB, and WB6CWN S-9 on SSB. N6RMJ heard N5BF 2 dB out of noise, but only had

0.25 watts so was not copied at N5BF at the "Highway Two Overlook". Worked one new station one on 23 cm EME: G3WDG who runs only 40 W. He appeared at WJST SNR -30 dB in the average

Events of Interest to the Microwave Ham Community

May 5 – 6	SBMS 2 GHz & Up Contest
May 5 (8am – 2pm)	CSVHF Spring Microwave Sprint (902 MHz & up)
June 7	SBMS Meeting
June 9 – 10	ARRL VHF (& Up) Contest – get on the microwave bands
June 23 – 24	ARRL Field Day – do microwave demo for your local club
July 5	SBMS Meeting
August 2	SBMS Meeting
August 4 – 5	ARRL 222 MHz & Up Contest – Theme is: distance
August 18 – 19	ARRL 10 GHz & Up Contest – 1 st weekend
September 6	SBMS Meeting
September 8	ARRL VHF (& Up) Contest – get on the microwave bands!
September 15	ARRL 10 GHz & Up Contest – 2 nd weekend
September	ARRL EME Contest – 2 GHz & Up
October 4	SBMS Meeting
October 12 – 13	Microwave Update 2018 – Fairborn, OH Holiday Inn
October ? - ?	ARRL EME Contest – 1.3 GHz & Down – 1 st weekend
November 1	SBMS Meeting
November ? - ?	ARRL EME Contest – 1.3 GHz & Down – 2 nd weekend

If you have other events or more information on the ones listed; information that would help people decide whether to go or not, please send it to the editor at the email address below.

Microwave Beacons for Southern California

Los Angeles

San Antonio Heights 2304.320 MHz W6IFE/B 27dBm

Transmitting grid for Johnstone PK

DM14ed -117 39 06.0 34 09 14.0 6436'

Frazier Mtn. 10368.310MHz N6CA/B 1.3W
DM04ms -118.96948 34.7751 8027'

Santiago Peak 10368.330MHz AF6HP 2W
DM13fr -117.53401 33.71098 5681'

Palos Verdes 10368.300MHz N6CA/B 1.6W Out of Service
DM03ts -118.37642 33.76761 1200'

Phoenix

White Tanks 10368.375MHz W7ATN/B 2W
1296.270MHz W7ATN/B 10W
DM33rn -112.56000 33.56861 3992'

San Diego

Mt. San Miguel 10368.360MHz K6QPV/B 1W
5760.300MHz K6QPV/B 2W
3456.300MHz K6QPV/B 10W
1296.300MHz K6QPV/B 12W
DM12mq -116.93516 32.69793 2500'

All beacons are horizontally polarized.

To update this list:

- contact Mel Swanberg or if you don't have his email,
- use the Reflector. Mel or the Newsletter
- Editor will see it there.

Home to Home

This Wednesday Evening (Get Ready Tomorrow Night)

Rein Smit, W6SZ (Alta Loma), Past President SBMS

is encouraging all Southern California microwave hams to try contacting each other from their QTH the night before the SBMS meeting.

**The intent is to learn home
to home capabilities and to
discover tricks to use**

The Wednesday before the meeting: 10,368.100 MHz, CW or SSB.
WA6JDB, N6RMJ and W6SZ will be looking/listening for your signals.

We'll be listening on 10368.100 starting at 21:00 PDT. We have been using the LARA Santiago repeater for liaison. Since that doesn't cover the high desert, we will use the LARA/Cactus repeater located on Heaps Peak, so the desert dwellers can check in,

The frequency is 448.86- PL 100.0 It will be configured in a standalone mode so it doesn't bother anyone.
Mel - WA6JB

← Pat Coker's Prodelin with 9 watts;



no-longer on his tower but now with added elevation control.

Currently the transverter is dead and preamp, have new ones ordered. He will be on Wednesday as portable and for the 2ghz and up contest portable.

"Provided a time sufficiently before or after the QSO party's time, W6SZ can position his radio before his home and can then utilize Keller Pk as a bouncing point for working points to the north.
Rein W6SZ

Gary Heston's ATV Mobile Studio W6KVC

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).

This is how to watch SBMS meetings from home:

<http://atn-tv.org/live>

What you will see is this →

It's a British website (that's the B in batc.tv) You do not need to log in to be able to watch the video and participate in the chat. You will be automatically put into the right video channel. It is W6ATN. The "W6" for California of course and the ATN is for Amateur Television Network. W6ATN is the club call sign for eight ATV repeaters that are a part of the Amateur Television Network in Southern California. (ATN-CA)

Gary Heston's mobile studio beams a 2.4415 GHz FM video (analog) signal to the ATN repeater on Santiago Peak maintained by Mike Collis WA6SVT. (Gary monitors the signal from the repeater on 5 GHz.) From Santiago Peak on 5 GHz Roland Hoffman KC6JPG puts it on the internet by way of the website BATC.TV described above.



The ATN network linking is all done using FM microwave links on 2.4 GHz and 5 GHz bands. All ATN repeaters in Arizona, California and Nevada now have DVB-T (Digital Video Broadcast-Terrestrial) on 434 MHz input. Analog on 434 still works as well as the FM standard on 2,441.5 MHz. The DVB-T is the European standard for over the air TV. The T part, "terrestrial" is a format that is better with multipath. The only difference (which the US based) ATN has done to that standard is use 2 MHz B/W to fit within the 433-435 space between the weak signal and satellite sub bands.

- Gary transmits analog first.
- Snow Peak is the first digital station.
- There is a 2-3 second delay to digital users.
- There are also nodes on Mt. Potosi and Mt. Lemmon.

Needs, Wants and For Sale

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 the editor at: WalterClark at roadrunner.com



Official Address

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

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).***

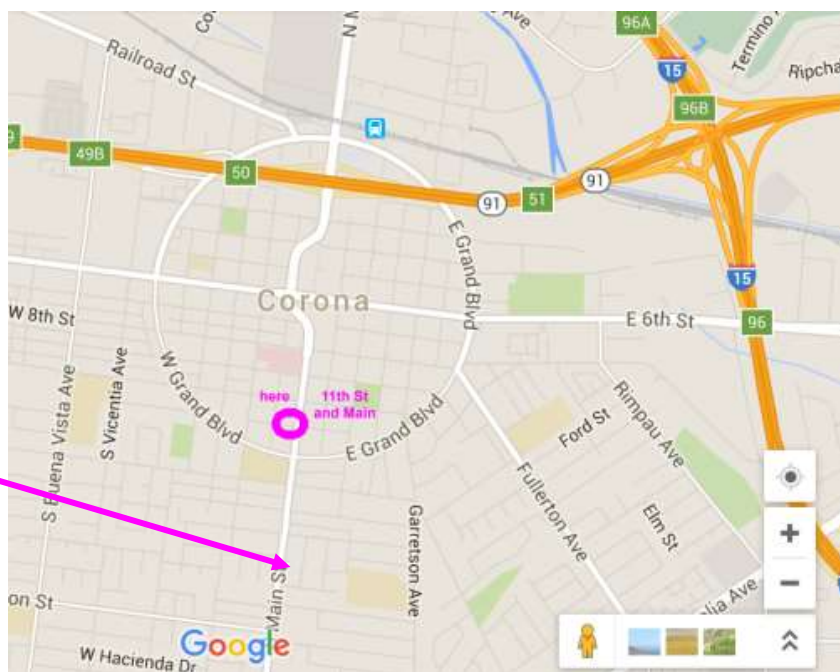
SBMS dues are \$15 per year, which includes a badge and that's about it. The dues are more in the way of a donation to pay for outreach things such as video portals, a bank account, and rent for the building. When to pay is not a matter of remembering. The Corresponding Secretary will contact you by 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**

Google Map:

**Keywords: American
Legion Hall, Corona**

For carpooling from North
Orange County call Dick
Bremer at: 714-529-2800



If you can't make it: watch online through Gary Heston's mobile video facility W6KVC by way of the internet out of England: <http://atn-tv.org/live> (More details on that above.)

The newsletter is distributed by way of a reminder on the reflector to visit a particular URL within the SBMS Website: www.ham-radio.com/sbms

- The purpose of the SBMS Newsletter is to keep hams everywhere in the world informed on current activities of the “active” members of the San Bernardino Microwave Society. Active Members include those who:
 - come to the meetings and share their progress
 - use ATV to report in and describe their projects
 - send by email words and pictures of progress to: walterclark at-symbol roadrunner.com
- Time sensitive questions, reports or just plain bragging is for the SBMS Reflector. Send your email message to: sbms at-symbol ham-radio.com. To sign up go to: <http://lists.altadena.net/mailman/listinfo/sbms>

Services Sponsored by SBMS

The Reflector (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> After that, Send your email message to: sbms at-symbol ham-radio.com. (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.)

Responsible person for this: Dave Glawson WA6CGR wa6cgr at-symbol ham-radio.com

Website: Rein Smit W6SZ: rein0zn at-symbol ix.netcom.com

The URL is: <http://www.ham-radio.com/sbms/> But you don't have to memorize that or write it down, just enter SBMS into any internet search engine.

Newsletter editor: Walter Clark: [walterClark at-symbol roadrunner.com](mailto:walterClark@roadrunner.com)

Contact San Bernardino Microwave Society (SBMS)

President: Jason Sogolow WB6IEE

w6iee.73(at-symbol)gmail(dot)com

Past President Rein Smit W6SZ

8333 Pumalo Alta Loma, CA 91701

email: rein0zn at-symbol ix.netcom.com

Vice President: Brian Thorson AF6NA

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

email: brianaf6na at-symbol gmail.com

Recording Secretary Courtney Duncan N5BF

4402 Rockmere Way

La Canada, CA 91011 phone: 818.957.8455

email: courtney.duncan.n5bf at-symbol gmail.com

Corresponding Sec Jeff Fort, KN6VR

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

email: [jnjfort at-symbol Verizon.net](mailto:jnjfort@verizon.net)

Treasurer Dick Bremer, WB6DNX

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

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

Newsletter Editor Walter Clark

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

email: walterclark at-symbol roadrunner.com

ARRL Interface Frank Kelly, WB6CWN

PO Box 1246, Thousand Oaks, CA 91358 phone: 805 558-6199

mailto:wb6cwn at-symbol gmail

W6IFE License Trustee is Dave Laag W6DL (call sign for club beacons)

David E. Laag, P.E, W6DL 11614 Indian Street, Moreno Valley, CA 92557

email: Dave Laag <[dlaag at-symbol clubnet.net](mailto:dlaag@clubnet.net)>

Lab manager Dave Glawson, WA6CGR

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

email: wa6cgr at-symbol ham-radio.com

SBMS Website Editor and Past President; Rein Smit W6SZ

8333 Pumalo Alta Loma, CA 91701

email: rein0zn at-symbol ix.netcom.com

Webmaster Dave Glawson, WA6CGR

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

email: wa6cgr at-symbol ham-radio.com