



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1955

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

SBMS Newsletter (for February 2019)

Dinner Before the next Meeting; Sizzler: –see map way below)

Tech Talk for the February 7th meeting will talk about . . .

Entering the Inner Circle



of Amateur Microwave

There's a unique excitement in making a microwave contact with the radio you designed and built. Most SBMS members have done just that, built their own radios. Some have built several. Some are loaning out their radios to newcomers, enabling others to catch the excitement just as they have. Our microwave friends to the north are already planning for the 2 GHz and Up Contest in May. Brian, AF6NA will review some of the activity of our members and colleagues in 2018 and will throw out "the SBMS Challenge" for 2019. Come and hear about ways to get into the inner circle at SBMS and have some of the most fun doing it!



Inner circle dudes (?)

Activities of the January 2019 SBMS Meeting

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

Jason Sogolow W6IEE, President

Guests (or Not-Seen-In-A-Long-Time)

- Dan Sherwood W6DAS (Palmdale) Wow, that's a bit of a drive.

Amateur Television Network (ATN) checkins

(Gary wasn't there.)

Old Business

Dick Bremer informed us that dues are first of the year. That means this meeting everyone !!

New Business

none

What Our Members Are Working On (Activity Reports)

Larry K6HLH (Lake Los Angeles)

took his newly acquired ADC5355 VCO (54 to 13 GHz) to Mel's to have its phase noise measured. Turns out it's 30 dB worse than Mel's standard. For some reason Larry thought that'd be OK. \$110 + power supply about \$200. The one something other has yet to be measured. It's a Paul Wade transceiver which normally goes to a Elecraft or Flex5000.

His 10 GHz stopped working. It's hard to work on it because what's wrong is on the top of the tower. Chris Williams (Wrightwood W6NOR is re-engineering SSB electro.

Pat Coker N6RMJ (Lake Los Angeles)

is playing with his new toy; a \$300 Parrot drone. He participated in home to home with Mel. Robert Carter tried; bad propagation.

Dan Sherwood W6DAS (Palmdale) our guest and friend of Pat Coker's

is new to microwave. He's interested in cavity design filter software. He's recently retired from I-T support and nuclear medicine.

Jim Blum KK6MXP (Ontario)

is currently working on a rebuild of his radio due to a severe loss in receiver sensitivity.

Robert Carter KM6RXN (Riverside)

tried to contact RMJ at the last home-to-home. Did reach Mel with his 1/4 watt

transmitter. He has a new 3 watt he will be using shortly. His present project is a beacon for 10 GHz able to do narrow band FM, sideband and PSK31. It's in Riverside but will be mounted on Box Springs.

George Kashmar KM6UKI (Irvine)

has a Lime SDR Mini (<https://limemicro.com/products/boards/limesdr-mini/>) about \$350 From HF to 3.5 GHz and is trying to make it a standalone network analyzer.

Walter Clark (Fullerton)

brought in to share some old projects that have something to do with microwave, UHF anyway. The picture shows a pair of GPS (1,575.42 MHz) recorders (on the right) which he uses in conjunction with a website that parses the data for a spreadsheet where Walter calculates the glide angle of the modifications he makes in his R/C gliders.



The project looking thing is an X-Bee (2.4 Ghz) ground station he put together for R/C model telemetry. The airborne X-Bee transmitter is the red thing. The sensors are for air speed (pitot tube) and motor current. He talked about the use of folded steel (hardware store gutter flashing) instead of a project box. It makes for a convenient and very cheap chassis.

Mel Swanberg WA6JBD (Upland)

is working on his 10 GHz rig and the 2 GHz beacon. More about the beacon is what the tech talk is about. He has in the beacon-message something of an Easter Egg and those who figure it out get a fun certificate reminiscent of what Chuck Swedblom, WA6EXV had with the old Heaps Peak beacon. He worked Robert Carter and Pat Coker on the last Home-to-Home.

Sorry if I was unable to capture notes from everybody. It's really hard.

Picture Gallery

Here's Roland Hoffman struggling to get us on the air . . .



Here's Brian with his "shielded" hat. And apparently it's true; he measured it. He bought it from a company that caters to pseudo-science nervous nellys. (By the way Brian used to be a professional in radiation safety and so yes this indeed is a joke.)

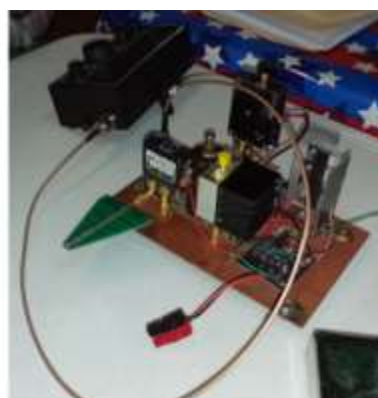


The beacon that Mel talked about at the tech talk.





(The caption here is from Dave Laag.) From left to right: Items brought to the meeting for giveaway include Western Electric LO assembly and aircraft X-band weather radar down-converters. Robert Carter is holding a low power 10.368 GHz omni-directional beacon built he built. According to Robert, the antenna seems to have some-what equal vertical and horizontal components.



By the door to the American Legion meeting room is a podium and some sort of register. On the register at this meeting was Roland's Hot Spot. Since Gary wasn't there to connect to the ATV network, Roland went directly to the internet.

Most cellphones have WiFi in them and of course they can speak to their cellphone motherships. So it makes sense that with the appropriate software they can connect whatever

local net that's going on in the room with the internet. This standalone (about \$200) version is better with multipath and of course can't be interfered with if someone calls you.

Dave Laag said these 10 GHz 2W Harris Solid State PA amplifiers are readily available on the surplus market. Typically they are selling on eBay for \$300-\$350... They require approximately +17 dBm of drive for full output. They have 3 active X35V devices. Some people say that you can get as much as 5W out of them, probably severely compressed. In my testing of a handful of them I saw about 3W at the point where they were just beginning to saturate.

This particular unit he brought to the meeting was for Robert Carter since he already had a radio on the air and working and just needed the extra power.

When I asked Dave to smile, he said he was.



**Notes above were recorded by Walter at this meeting.
Normally it is done by Courtney Dunkin. (It's rilly hard you guys.)**

More Tech Talks

Please think about putting together a Tech Talk. Everyone would be so grateful. It doesn't have to be long or even very good. Just take pictures and put them on a flash drive. Then put them in an order that you can narrate for us.

Contact Mel Swanberg (email: wa6jbd (at-symbol) Verizon dot net)

Events of Interest to the Microwave Ham Community

Thank you Marty Woll N6VI

March 7	SBMS Meeting
April 4	SBMS Meeting
May 2	SBMS Meeting
May 4	CSVHF Microwave Spring Sprint (902 MHz & Up)
May 4 – 5	SBMS 2 GHz & Up Contest
May 17 – 19	Maker Faire, San Mateo, CA
June 6	SBMS Meeting
June 8 – 10	ARRL June VHF Contest
July 4 (?)	SBMS Meeting

July (date TBD)	SBMS Microwave Tune-up
August 1	SBMS Meeting
August 3 – 4	ARRL 222 MHz & Up Distance Contest
August 17 – 18	ARRL 10 GHz & Up Contest – Part 1
September 5	SBMS Meeting
September 14 – 16	ARRL September VHF Contest
September 21 – 22	ARRL 10 GHz & Up Contest – Part 2
September 29 – 30	ARRL EME Contest, 2.3 GHz & Up
October 3	SBMS Meeting
October (date TBD)	Maker Faire, San Diego, CA
October (date TBD)	Microwave Update, Dallas, TX
October 27 – 28	ARRL EME Contest, 50 to 1296 MHz. Part 1
November 7	SBMS Meeting
November 24 – 25	ARRL EME Contest, 50 to 1296 MHz. Part 2
December 5	SBMS Meeting

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
DM14ed -117 39 06.0 34 09 14.0 6436'

Frazier Mtn. 10368.310MHz N6CA/B 1.3W in repair
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 (email: wa6jbd (at-symbol) Verizon dot net)

Home to Home This Wednesday Evening

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 them.

Wednesday before the meeting:

10,368.100 MHz, SSB, CW and Digital available.

WA6JDB, N6RMJ and W6SZ will be looking/listening for your signals. For liaison, we will use the Cactus repeater located on Heaps Peak, so desert dwellers can check in.

We'll be listening to cactus starting at around 20:00 PDT and going until the last person gives up.

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

Mel -

WA6JB

"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:

<https://batc.org.uk/live/w6atn> That should take you directly to the camera at the SBMS meeting. (batc.tv is British website, W6ATN is the local callsign.)

← What you will see is this

not need to log in to be able to watch the video and participate in the chat. In case you are not automatically put right video channel. It is W6ATN. The "W6" for California of and the ATN is for Amateur Television Network. W6ATN is the sign for eight ATV repeaters that are a part of the Amateur Network in Southern California. (ATN-CA)

Gary Heston's mobile studio beams a 2.4415 GHz FM video signal to the ATN repeater on Santiago Peak maintained by 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.

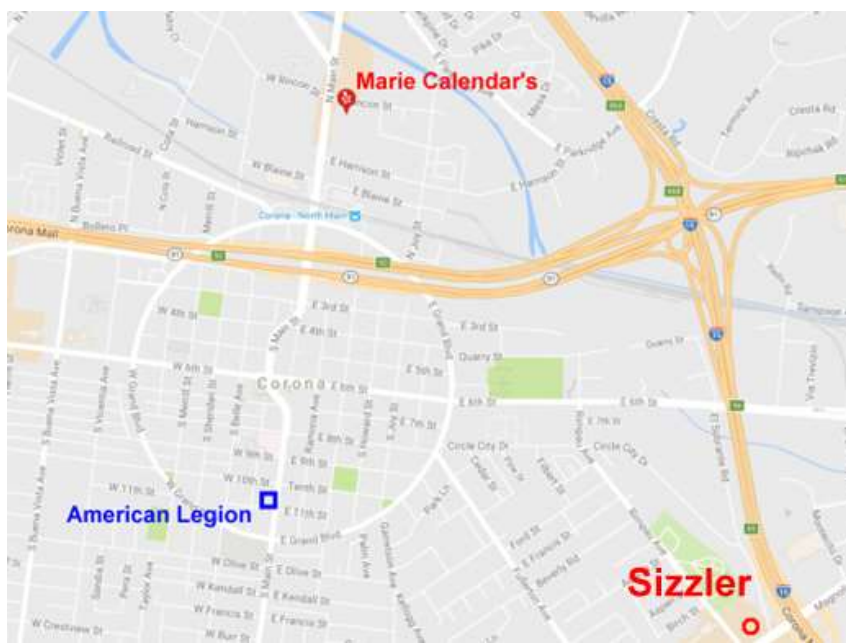
- Gary transmits analog first.
- Snow Peak is the first digital station.
- There is a 2-3 second delay to digital users.
- There are also nodes on Mt. Potosi and Mt. Lemmon.



You do
into the
course
club call
Television

(analog)
Mike

- Note: some meetings are recorded for archive.



When Roland Hoffman is substituting for Gary Heston, he streams to the internet directly by way of a mobile hotspot to a cell phone tower, thereby eliminating two lower bandwidth RF paths (SBMS to Santiago and Santiago to Roland's QTH).

Dinner before each meeting

Sizzler:

"Dinner-Before" is like a people capacitor in that it is a gathering place for those who

are trying to beat the traffic and have a variety of distances to come from. Some arrive as early as 4:00. Magnolia exit then two right turns. (I'm Sooo tired of that place. ed)

For those who prefer attractive waitresses and fine dining, Marie Calendar's is available.

Needs, Wants and For Sale

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

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).***

Official Address

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

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.

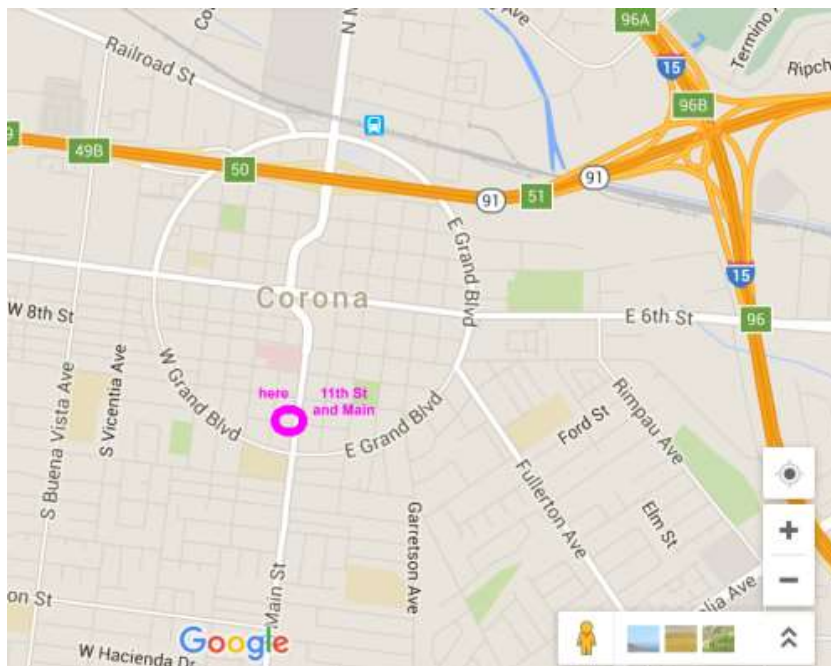
**Meetings are first
of the month, 7:00**

**Google Map: Keywords:
Legion Hall, Corona**

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

If you can't make it:
online through Gary
mobile video facility
way of the internet out

<http://atn-tv.org/live> (More details on that above.)



**Thursday
PM**

American

Orange

watch
Heston's
W6KVC by
of England:

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.

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:

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