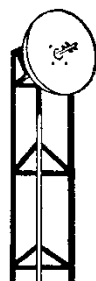


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SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1955

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

San Bernardino Microwave Society Newsletter

Tech Talk for the October 6th Meeting . . .

Wayne Overbeck N6NB (Tustin) will talk on . . .

**Hawaii to California: World DX records on 2.3, 3.4
... and now 902**



**Come and join SBMS at the Meeting at the American Legion Hall,
Corona: 11th and Main (See map below.)**

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>

We are honored to have world record holder Wayne Overbeck, N6NB, as an SBMS member. He is most famous for his Quagi Antenna, but it is his experience with ducting, leading DX-peditions, and radio sport trips all over the world, we will be hearing about.



With the help of Will Anderson, AA6DD, Wayne worked out the kinks of the Quagi antenna on a backyard antenna range in 1972. That led to the ARRL Technical Excellence Award in 1977 the Radio Amateur of the Year award at Dayton in 1980. He also received the John Chambers Memorial Award of the Central States VHF Society in 1978 and again 37 years later in 2015.

Most important to us, he is a teacher (professor at CSUF; Media Law) of radio science and radio sport and we will be his students this Thursday.



He served several terms as ARRL vice director and was chairman of the ARRL Contest Advisory Committee. He's written articles for QST, CQ and other Ham Radio magazines. He co-authored a book about amateur radio with Jim Steffen, KC6A, Computer Programs for Amateur Radio.

The Talk Thursday

He will be talking about the trans-Pacific tropospheric duct and the two most recent openings in June and July of 2016. The June opening led to a new world distance record on 902 MHz, breaking a 25-year-old record. He will also say something about the 2.3 and 3.4 GHz DX records set last year, with video clips from both years.

Wayne also wrote several college textbooks, including 20 editions of Major Principles of Media Law, and was a university professor for 37 years, mostly at California State University, Fullerton. He holds Ph.D. and J.D. degrees and has been a member of the California Bar since 1975 (now retired/inactive).

Activities of the August SBMS Meeting

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

Presiding: Rein Smit W6SZ

(14 in attendance... 17 last month)

Guests Or Members Not Seen In a Long Time

- Mark Fischer W6MAF
Active ATN dude



Pre-Meeting Discussion

was about recording the secretary's notes on the SBMS website.

ATN Check-ins

- Don Hill reported: 3 guests and 9 callsigns on the BATC-TV website.
- METS Video Check-ins:
 - Earl Haltman KJ6DQR
 - Dave Couch KA6DPS Rockin Chair Cathedral City
 - And of course Tom and Gary working the cameras.

Old Business

- Nothing

New Business

- Dave Glawson talked about the lab renovation and invited members to an open house in Wilmington.
(more on that visit below)
- Dave Glawson also announced that he is officially the ARRL Technical Specialist for LA area. That's on computers and radios.

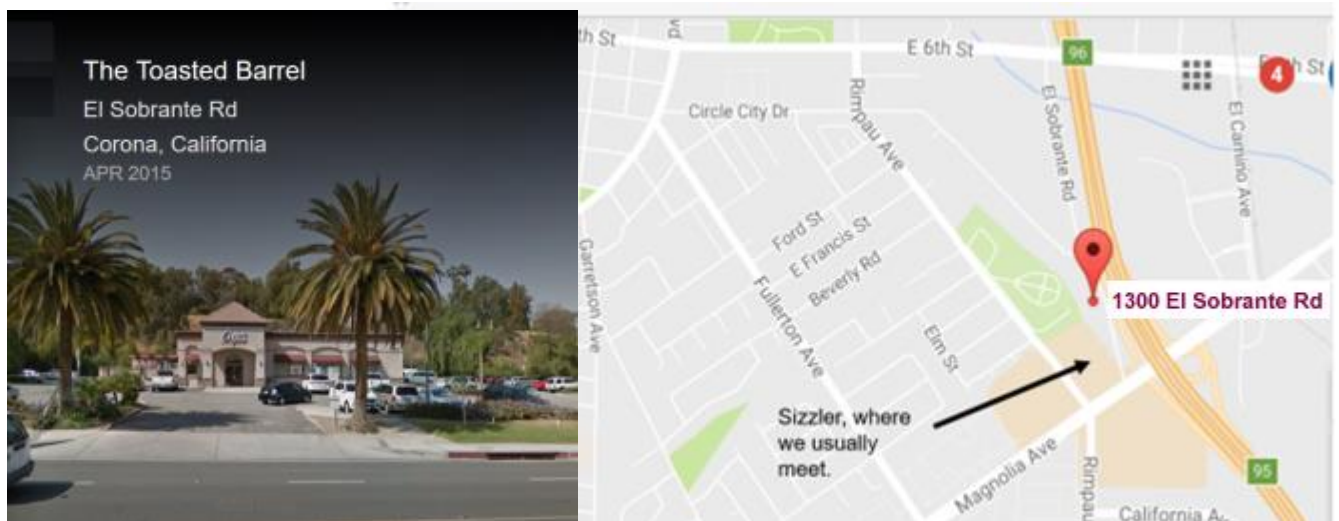


Dinner Before the Up Coming Meeting . . .

“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.

For October we are going to try **The Toasted Barrel** again. It’s just below Sizzler’s.
1300 El Sobrante, Corona
(Sobrante is the street between Sizzler and the freeway.)

The Toasted Barrel is where Coco’s used to be and they have been doing major renovation for months. It may be, there are still not be open yet !!! in which case we will eat next door at Costañeda’s.



Upcoming Events

- October 22–23: ARRL EME Contest –
50 MHz through 1296 MHz part 1
- Nov 19–20: ARRL EME Contest
50 MHz through 1296 MHz part 2

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 chate. On the right choose "Repeaters" and then on the left, you have to pick a stream. The stream to choose is: **W6ATN**. This should be easy to memorize: W6 for California, then ATN as in 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 its signal to the ATN repeater on Santiago Peak maintained by Mike Collis WA6SVT. From there Roland Hoffman, KC6JPG puts it on the internet by way of BATC.TV described above.

When Roland Hoffman is substituting for Gary Heston at the SBMS meeting, 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).



What Our Members Are Working On

(Remember you can watch these reports live on <http://atn-tv.org/live>)

Jim Blum KK6MXP (Ontario)

soldered hundreds of connectors for cactus. He is changing a bunch of T-1500 cavities over to N-connectors, cleaning, repairing and re-assembling them with silvered tuning sleeves and notch loops. Almost done with the first batch of about 100 cavities.

Jeff Fort KN6VR (Phelan)

made a few contacts. Big Bear Novak's old placed access.

Bill Locke N6WL (Baker)

used the club 10GHz loaner rig (Kolbly's unit). He tail-ended Robin Critchell WA6CDR during the recent contest. He got 1,500 points with five contacts. For the Aug. week end my first contact was to tail-end on one of Robins contacts. My next contacts were made by working Frasier after Robin had worked them. I then was able to work W6DL since the path from W6DL to Robin at Potosi was right over the top of Turquoise Mt (DM25ak). Made 5 contacts with the best distance of 282.8 KM. Point total was 1522.

In the September weekend I used cactus and was able to make 16 contacts and take the point total to 5815. Five of the 16 were still the result of using the tail-end action but using cactus created 3 times as many contacts and points. I spent a lot of time listening on 10 GHz and heard many carriers that were the result of other stations setting up for exchanges but was unable to tail-end or contact them on cactus before they moved on to another setup.

Dave Glawson WA6CGR (Wilmington)

made 18 contacts from his lab in Wilmington. Dave also listed the equipment that is ready for our use anytime we want to make it to Wilmington. Dave brought in a fun project like the kind that Walt brings in. It is a miniature Tesla Coil with fluorescent tube to demonstrate the field intensity. Very fun. He said there's a link to all of Tesla's patents.

Mel Swanberg WA6JBD (Upland)

was busy with the marriage of his son but made some microwave contacts during the contest. He installed a 10 GHz Omni at his house. It's 15' above the ground and runs 5 watts. He now has a "permanent" x-band station operating from home. Coming soon: 35 watts and a steerable panel antenna.

Pat Coker N6RMJ (Lake Los Angeles)

has Lazerous working again. He went to the Central Valley for the first part of contest. Had a lot of fun. Stayed in the high desert the second half. Thank you everybody for the contacts and participation. Still working on the home station, have the db6nt transverter working again, and purchased a 10 watt amp.



Mark Fischer W6MAF (Oak Hills)

is into 2.4 GHz for video, but listened in on Cactus during the contest.

Rein Smit W6SZ (Alta Loma)

suggested that the evening before the meeting in October we should try home contacts. (More on that below.)

He mentioned the wind blowing over his rig at the tune-up. The gain-control broke. The case of the 817 was damaged. The display blinks and there's no audio. Yesu thinks it is his PLL that needs replacing. The radio ended up at Yaesu for repair.

Brian Thorson AF6NA

spoke on his experience near San Diego with the San Diego group

Jason Sogolow WB6IEE (Burbank)

will try to do at least one weekend of the 10Ghz contest.

He solved his mechanical issue on his dish in 5 minutes having ignored it for a year. Here's is newly painted dish.

**WB6DNX Dick Bremer (Brea)**

worked on the repeater for the City of Brea emergency network. He had lots of good things to say about how much cooperation he got from the city. Then Walter reminded Dick that this was the City's radio.

Note from Brian Thorson on Frank Kromann, AG6QV

Frank, took part in a VHF contest in his home country of Denmark last month with several of his Amateur Radio friends. While the Danish team did not win the contest, they posted many contacts. Frank is a consistent attendee at the SBMS meetings in Corona when he is not out of town on business or pleasure. Frank brought 2, 10 GHz radios to the SBMS microwave Tune Up this year, his existing radio and a very tiny prototype that he is developing. Frank may be presenting to SBMS on his prototype design in the near future.

Here's a link to the Danish VHF team's involvement in the contest:

<https://5p5t.dk/BlogPost/ujg1/5P5T-region-1-VHF-2016-10th-contest-jubilee>

Don Hill KE6BXT (Mission Viejo)

reviewed the transmission sequence starting with the cameras at the club.

He said that this far into the meeting there's 17 people in the chat room talking to each other. Mark Fischer added some notes about what the chat room looks like on the BATC TV website.

Don later sent a screen capture of the callsigns watching the SBMS meeting on ATV...

AD7OI	KB6CJZrobbie
GaryAF7M	KC0ITF
guest380	KC6JPGroland
guest545	KE6BXTdonhill
guest774	KI5WL
guest918	n9rin
guest941	W6QIW
k6nkc	WA3QVU
KB6BZZeric	wa6kno
KB6CJZrobbie	

This larger than normal audience is because the amateur Television Network has been connecting the Arizona ATV repeater and California ATV repeater for events like the SBMS meeting. That essentially brings the September SBMS meeting attendance up to 33.

Courtney Duncan N5BF (Eagle Rock)

was absent but sent this activity report but emailed this in:

I have in-laws pouring in from all over the country starting tonight for Sunday's wedding of my daughter Katherine (KG6HUI) so I won't be able to break loose for the meeting tomorrow night. (This is a tougher call than it sounds like!)

Accomplishments this month:

First four completed EME QSOs: K2UYH, HB9Q, KD3WG, G4CCH.

Used a good sun noise measurement on the re-connected DSP-10 to get a better focus point on the feed (up from 7.0 to 8.5 dB sun noise) but haven't had a chance to try more QSOs since. You got the picture of the antenna in my announcement that you can show.

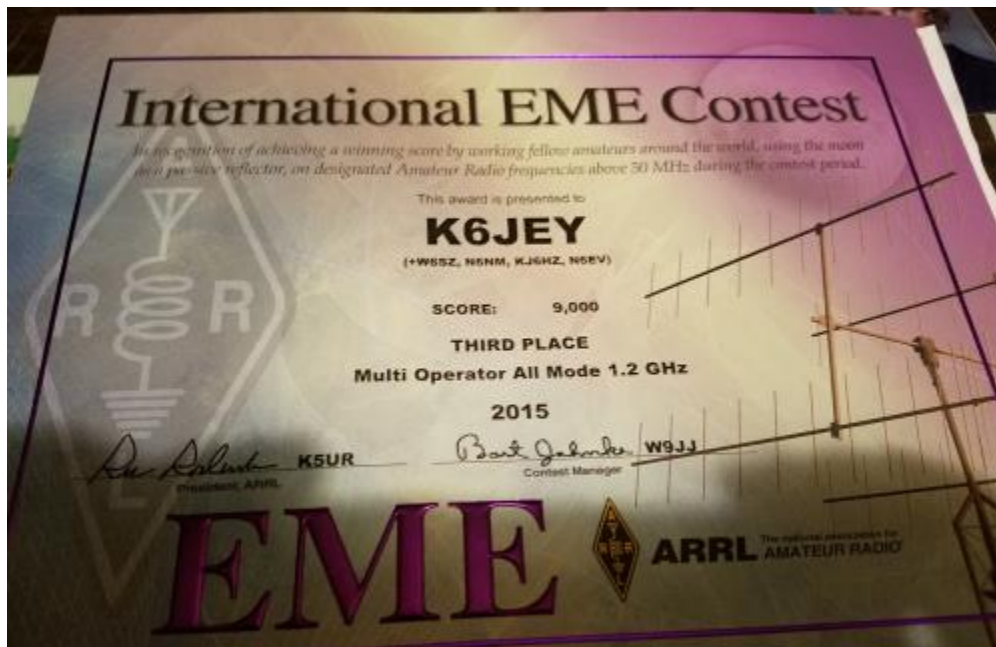
August 10 GHz. Main lesson learned: I'm not yet skilled enough to do a 60 minute rover cadence, and I was training a new operator, so the distance expectation was too high. Learned some things about the central valley. Seven stops total, three good ones out of five on Saturday and two great ones on Sunday. But, the big lesson: too much driving, not enough operating. For what I'm able to do, a smaller, smarter circuit would make more sense. Or, alternatively, I know what it would take to crank my rates up, but am not sure that it would be all that fun.

Rein reported some activity between himself and Courtney as a rehearsal for the Wednesday Home to Home Event

Courtney, N5BF and Rein W6SZ made contact during the late contest hours between Frazier mountain by using double bounces off Palos Verdes and a mountain peak north of Ontario. More here over next month.

Rein wants to express his appreciation to Courtney for setting time apart during the contest. Something that been in the planning for at least 2 contest periods in previous years.

Doug Millar's activity was getting this certificate.



Doug had lots of help:

Bill N6MN, John KJ6HZ, Paul N6EV, Rein W6SZ, and Courtney K6BF. We used about 250w output, a ten foot dish and a .18db NF preamp. We had deluxe hand pointing.

Doug Millar likes to do EME with a group of friends for a number of reasons. It is much more fun, It is less work for me and others get to flatten their learning curve about EME.

In one picture, Bill, John and Paul are hooking up the receive coax and control cable bundle. All the cables are color coded and labeled. You can't accidentally hook something up accidentally. We also tie wrap the cable groups.

In another picture it shows the set up 10foot dish. I have stripped it down to reduce its weight. Since it doesn't sit on an outside mount in the weather, it seems to have done very well. Much of the current version is the result of practical experience and Rein's genius with wood. One of the early decisions has been to use manual steering. Because of the size of the moon, the beamwidth of the antenna, and the fact that pavement lines go true NS-EW. That helps.

In the last picture is of the rig. The main part is the TS 790a tri bander transceiver modified for split TX/RX. You can see the GS15b 250w output amplifier above. The temperature indicator attached to the rock monitors the water temperature. We use CMOS keyers to closely control speed and memories. We have a minor Begali paddle club in the group as well. I think there are seven or so paddles between us. I use a toggle switch to go from TX to RX, as the physical time it takes to switch it acts as a sequencer. When we use JT mode, there is a natural rest period that makes for self sequencing.

The RX relay on the antenna shows a red LED when it is in the RX position.

For monitoring the band with a dongle SDR and computer, we use a splitter after the 35db gain preamplifier. It is very helpful and works well. Gain balancing between preamp, post amps and rig is critical and has to be done empirically. Having a signal source like the RF Explorer or a handi-talkie helps to check the antenna.

I have also spent a considerable amount of time establishing the accuracy of my watt meters. It is important in keeping the efficiency of the amplifier under control. It is easy to misadjustment of a microwave amplifier and end up with more heat than output.

A last thing- I owe a lot to my mentors. Among them are K1FO and N6CA and the members of the JEY group who help to put the rig on the air.

Dr.Doug Millar EdD.
K6JEY

Dave Glawson's SBMS Lab Open House (September 24th)



Top picture is Dave Glawson WA6CGR (Wilmington), Pat Coker N6RMJ (Lake Los Angeles), Bill Locke N6WL (Baker CA), Rein Smit W6SZ (Alta Loma) and Dick Bremer WB6DNX (Brea)

Below is Walter Clark (your Newsletter editor), Dave, and Pat. On the right is Jerry Martes KD6JDJ who is trying to charm Mary (WA6MEM's XYL) and Marilyn Glawson WB6OOM (Dave's XYL). Dave says the new LAB will be a lot better as it is work in progress and a lot of the on-going changes will be because of Marilyn's input.

Home to Home

This Wednesday Evening; (don't forget)

Rein Smit, W6SZ (Alta Loma), President SBMS is encouraging all Southern California microwave hams to try contacting each other from their QTH the night before the SBMS meeting. Here's others who are supporting ***Home to Home***.

Dave Glawson WA6CGR (Wilmington):
Remember, I am always available on 10GHz.

Mel Swanberg WA6JBD (Upland):
If there's any interest in restarting ***Home to Home***, I'm now up and running with a permanent omni antenna. I've replaced the lossy coax with waveguide and am now able to hear the PV beacon (currently wandering through 10368.143 as we speak) at up to S7.

Available for QSO's, ragchews, experimentation, providing a beacon source, or any other Part 97 appropriate use of 10,368 MHz Pwr out is 5 watts, 30 watts on request. This is intended to be permanently set up. We'll see how that works. Coming soon - a steerable panel antenna, and JT65 and other digital modes.



Dave Glenn N6TEB (Downey):

I will be working on a rooftop panel. Looking forward to doing 10ghz from home. It will be a 3 watt unit with an old db6nt as its foundation. I did take Mel Swanberg's advice and have built a new rig. > 1db noise figure and 20Watts (I hope). . . looking forward to microwaves from home.

Microwave Mystery Gizmo of the Month



<https://www.bonjourlife.com/flux-capacitor-usb-car-charger/>

If you can identify why, or would like to discuss this, use the SBMS Reflector by sending an e-mail letter to . . .

[SBMS at-symbol lists.altadena.net](mailto:sbms@lists.altadena.net)

If you don't have an account sign up at this website:

[sbms at-symbol ham-radio.com](http://sbms@symbol.ham-radio.com)

Last Month's Tech Talk

The Tech Talk was by Brian Thorson and Pat Coker.

What Makes a Good Rover QTH

Brian Listed things to do at each QTH. Each Rover's routine should be about one hour. He listed 15 steps.

Then Pat had a slide show where he took us on a tour of the places he stopped to make contacts. He took us through the Central Valley using Google Earth. It was very entertaining visually. Along the way he shared tips on how to find the best places.

One interesting observation (confirmed by other members) is if you are looking in the direction that a nearby fence is aligned to, place your dish just inches from the fence. You can get a noticeable improvement in gain even if you are pointing slightly away from the fence.



Needs, Wants and For Sale

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

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

His address is: 247 Rebel Road Ridgecrest CA 93555

- Andrews Microwave dish 8 ft solid aluminum *free*
- Long lengths of heavy tower guywire with insulators *free*
- Lengths of aluminum tubing, ½ inch to 3 inch diameters *free*
- Earth screws for anchors of guy wires *free*
- 1296 antenna 8 bays of 3 element Yagis \$5
- Radio Shack PRO 651 handheld digital trunking Police scanner and manual (paid \$400) and USB cable (paid \$35) all for **\$150**. Still new. Receives local weather channel just fine. Will receive all 3 modes of trunk radio signals as well as normal analog stations. AA battery holder and rechargeable battery holder. Receives 25-174 MHz, 216-512 MHz, 764-960 MHz (cell blocked), 1240-1300 MHz.

Member Ads

Sixty North Electronics (as of Sept 1)

Ed Cole has begun a new line of 2m 80w Linear Amplifiers which can be seen on my website:

<http://www.kl7uw.com/kits.htm>

Ed can no longer order kits from Down East Microwave which are to be resold as assembled units. However if you have purchased a kit and decide not to build it yourself, he can assemble that kit and for no shipping charge, send the working radio back to you. You will have to pay DEMI for shipping and of course pay for shipping the kit to Ed. For details and assembly rates contact Ed at the email address below.

Ed can now do PayPal Sales of the popular "WA2ODO" preamps built by Pete Manfre. This covers 50-MHz thru 2.3 GHz. If not wanting to use PayPal contact "Pete Manfre" pmanfre@symbolgmail.com, directly. http://www.kl7uw.com/WA2ODO_PayPal_Sales.htm

He will also make many of the kits offered by Jim Klitzing - W6PQL: http://www.w6pql.com/parts_i_can_provide.htm

Contact Ed for a quote.

All of Ed's work is covered with a 90-day warrantee on workmanship.
Ed Cole <kl7uw at-symbol acsalaska.net>

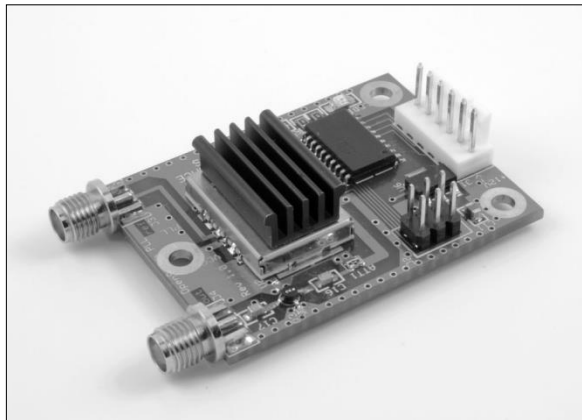
For examples of his work click on... <http://www.kl7uw.com/kits.htm>



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>



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).***

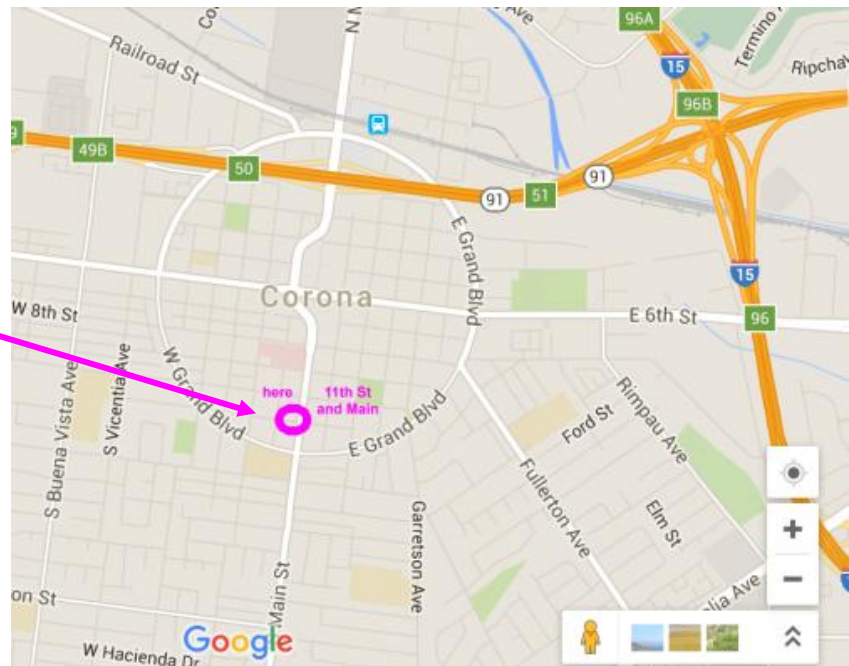
Official Address

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
Thursday of the
month, 7:00 PM**

**Google Map:
American Legion
Hall, Corona, CA**



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

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: Walter Clark: walterClark at-symbol roadrunner.com

The newsletter is distributed by way of 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

Contact San Bernardino Microwave Society (SBMS)

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

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