



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

**Dinner *before the November Meeting* Sizzler's**

**Tech Talk for the December 7th Meeting . . .**

**None**

ParTee

With Peet Zahhhh

Not sure this is happening . . .

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

Or watch the meeting "live" on the internet: <http://atn-tv.org/live> (see below for more)

# Activities of the August SBMS Meeting

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

**Presiding: Jason Sogolow WB6IEE (Norco)**

## **Visitor and those not seen in while:**

- Forrest Sibley K4IY from Atlanta, Georgia happened to be in California and looked up SBMS
- Don Hill KE6BXT who ordinarily checks in from Mission Viejo via the Amateur Television Network. Certainly not new but good to see him.

## **Old Business**

- Jason W6IEE asked for an update on the microphone upgrade situation.
  - Gary K6QVC gave instructions on proper use of the existing microphones.
  - Roland KC6JPG reported on a plan to use his 16 channel snake between the tables. He has three microphones and will need 3-4 more plus a wireless which he can get on E-Bay. Use of this setup will start next month. Tonight we are using IP video.
  - Chris W6NOB noted from online that no audio from the hand microphones was getting out at this time.
- Mel WA6JBD spoke with Dennis Kidder W6DQ at Microwave Update about Chuck WA6EXV's old trailer. SBMS was approved previously to take over this trailer, Chuck's daughter has signed over the pink slip, and the DMV fees are paid. The DMV wants a person's name on the title, not an organization. It was suggested that SBMS create a Trailer Master officer to whom to assign the title.
- Larry W6HLH asked for status on the new SBMS badges. Dave WA6CGR has all the official information and is working on the callsigns.
- Dave WA6CGR reported on the South Bay Microwave Society activates, people working on microwave transverter boards. He brought kits tonight to use to build up the previously available 5 GHz and 10 GHz boards from W1GHZ. Dave also has some of the boards left which will be available as long as they last.

## New Business

- Pat N6RMJ asked if a club Christmas Party was planned. Dave W6DL suggested having it here at the American Legion Hall in Corona in conjunction with the December 7, 2017 regular meeting. Walter Clark so moved noting that the meeting date was Pearl Harbor Day. The motion was seconded by Bill N6WL and passed without opposition. Brian AF6NA was agreed in absentia to bring pizza of the same type that provided at the June 2017 workshop meeting. Brian, monitoring online, agreed to this.

## What Our Members Are Working On

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

### **Forrest Sibley K4IY - Atlanta, Georgia**

has been doing some PCB fabrication at home with Rogers 4003 and 4350 substrates using instructions from the internet using vias and through-holes. He bought a CNC machine and is working a lot with that getting it working down to a few thousandths and planning to use it to make filters, amplifiers, patches, etc. He has here with him tonight a digital project: a \$5 Raspberry Pi with camera and GPS attached. He is now writing software for it (although he is usually a hardware guy) to do video encryption, GPS logging, and send data to servers.



### **Robert Carter (Riverside)**

is getting his ham license reinstated and is being mentored on microwaves by Brian AF6NA. Most of his work has been at 473 THz (*Terra* Hz) plus ATV and internet.

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

as in Viet Nam from which he checked in with us here via video phone last month. He has been listening to microwave beacons from his first day back. In the home-to-home event last night he worked Kevin AD7OI in Phoenix by airplane bounce using the ISCAT-B digital mode. (The only problem with WJST is that they don't natively do 6-digit grid squares although this is possible with the 13 character free form message payload.) Lake Los Angeles to Phoenix is 535 kilometers. The airplane was somewhere around the midpoint. Will try tropo and other modes in the future. Will get his Kenpro elevation rotator going on the system before the next home-to-home. This will allow him to work over the mountains better. Pat is open for anyone wanting to try digital modes.

**Dave Laag W6DL (Marino Valley)**

is very appreciative of having the Santiago beacon back on the air on 10.368.330. Thanks to all who were involved in the repair. Took out his rig with the 27 dB gain flat antenna last night and also brought it to this meeting (pictured).

**Steve Barden WA6OXN (Riverside)**

was invited last month by Mel WA6JBD. At that meeting Dave W6DL handed him a bunch of microwave parts and said, 'Make them work.' Using an LNG, SDR, Android Pad, and Baeofeng on 432 MHz, saw a signal on 10.368 GHz. Will try to receive the Santiago Beacon tomorrow from work.

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

has finished his 10 GHz transverter which uses the scheme of multiplying 3448 up to 10340 MHz to mix with 28 MHz. It now puts out about -2 dBm so it still needs work. (See picture.)



**Rein Smit W6SZ (Alta Loma)**

remarked that there was no need to stay home for the home-to-home event monthly. People can operate from anywhere. He goes out in the street in front of his house to work N6RMJ and K6HLH. He also had an FT8 QSO a few days ago while his wife held the dish stable in the wind.

**Bill Locke N6WL (Baker)**

is curious about White Tanks beacon near Phoenix on 10.368.375 GHz. Nobody here has heard it.

**Stewart Landau K6YAZ - West Hills**

worked on microwave parts and test equipment this month.

**Don Hill KE6BXT - Mission Viejo**

went to the ARRL convention in Torrance and Pacificon. Most microwave activity is MESH networking or ATV. MESH will be used for the Baker to Vegas race for the first time in 2018, particularly to cover staging areas 2-9 on the California side that do not have good cellphone coverage. Was able to tunnel into the Orange County MESH on a test run last weekend and make VOIP phone calls. This could be used for 911 at these locations. Don has a website that has further information about this.

**Courtney Duncan N5BF (La Canada)**

was at Microwave Update in Santa Clara with fellow SBMS members Larry K6HLH, Mel WA6JBD, Dennis W6DQ, Bill N6MN, Steve W6QIW, and Doug K6JEY. There were talks on everything from SDRs to antenna ranges, 10 GHz omni antenna designs and 47 GHz EME, plus aftermarket use of automotive radars on 76 and 24 GHz. Winner of the Hilliard Award this year was Sergie RW3PB who is looking for a 77 GHz EME QSO partner. Both talks given by Courtney (his own, given at SBMS last month and for Brian AF6NA, given at SBMS earlier this year) were well received.

**Mel Swanberg WA6JBD - Rancho Cucamonga**

attended Microwave Update last weekend and had a good time. He said there were many excellent talks. He traded with Doug K6JEY for a 3456 MHz transverter. He worked Pat N6RMJ last night in the home-to-home. He confessed that it would have been easier on CW.

**Jason Sogolow WB6IEE (Norco)**

has been busy this month working on his new house.

**Dan Slater AG6HF La Habra Heights**

gave a talk at HamCon on microwave antennas last month and has been conducting miscellaneous microwave experiments. He picked up some mixers but doesn't know yet if they work or not. (See Microwave Mystery Gizmo of the Month on page 11.)

**Walter Clark (Fullerton)**

has the same setup as Steve WA6OXN with which he went out to his sites and used a compass to find the Frazier beacon. At home he has been looking for tree scattering and waiting for airplane bounce.

**Dave Glawson WA6CGR (Wilmington)**

worked everyone in the home-to-home last night and worked Pat N6RMJ on FT8 Saturday. KI6CHA came over to the lab and put up new antenna on pushup mast so now Dave is able to work everyone around town. Offered kits of parts for 10 GHz to those who bought boards last month. These kits include connectors. →



**Jim Blum KK6MXP (Ontario)**

on the home-to-home last night, he worked everyone except Kevin AD7OI in Phoenix although he did try. He did not copy the co-located White Tanks beacon.



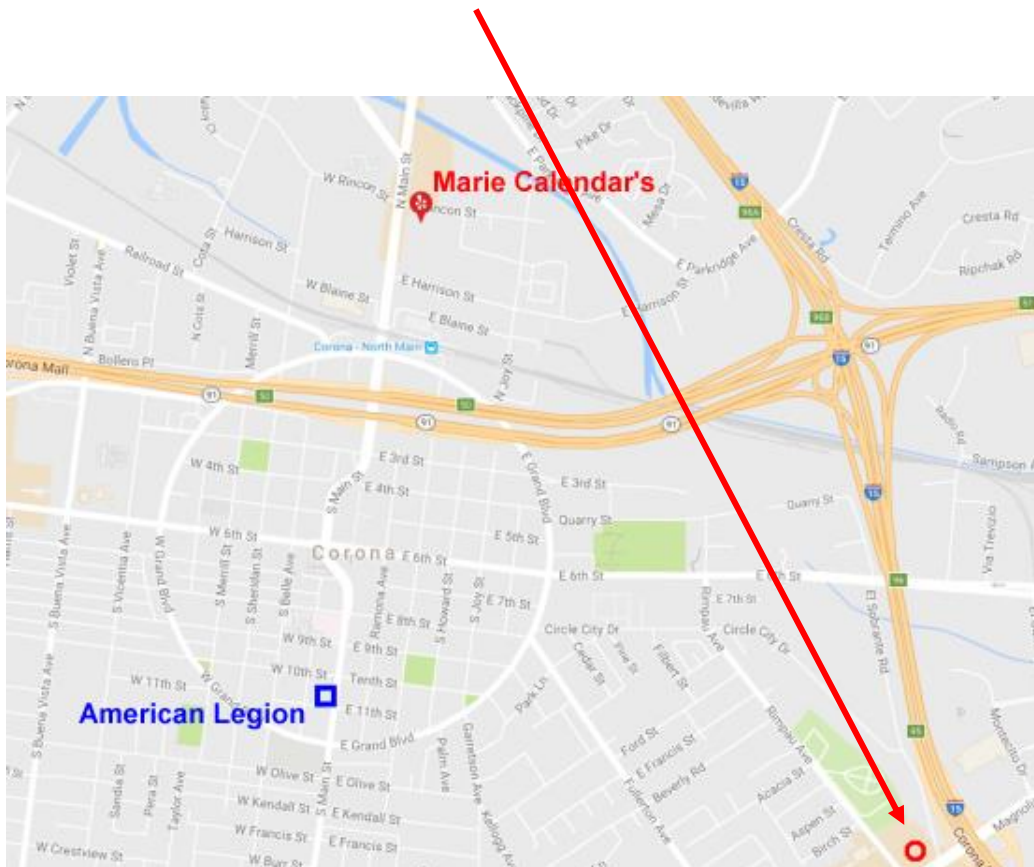
# Events of Interest to the Microwave Ham Community

November 4 – 5 ARRL EME Contest, 50 – 1296 MHz, 2<sup>nd</sup> 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.**

## **Dinner before the upcoming 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. (Gawd I’m tired of that place. ed)



# 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    K6QPVB/B    1W

5760.300MHz    K6QPVB/B    2W

3456.300MHz    K6QPVB/B    10W

1296.300MHz    K6QPVB/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; (don't forget)**

### **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.**

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 stand alone mode so it doesn't bother anyone.

Mel - WA6JB

Pat Coker's Prodelin on  
his tower. 9 watts at 75'

"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."

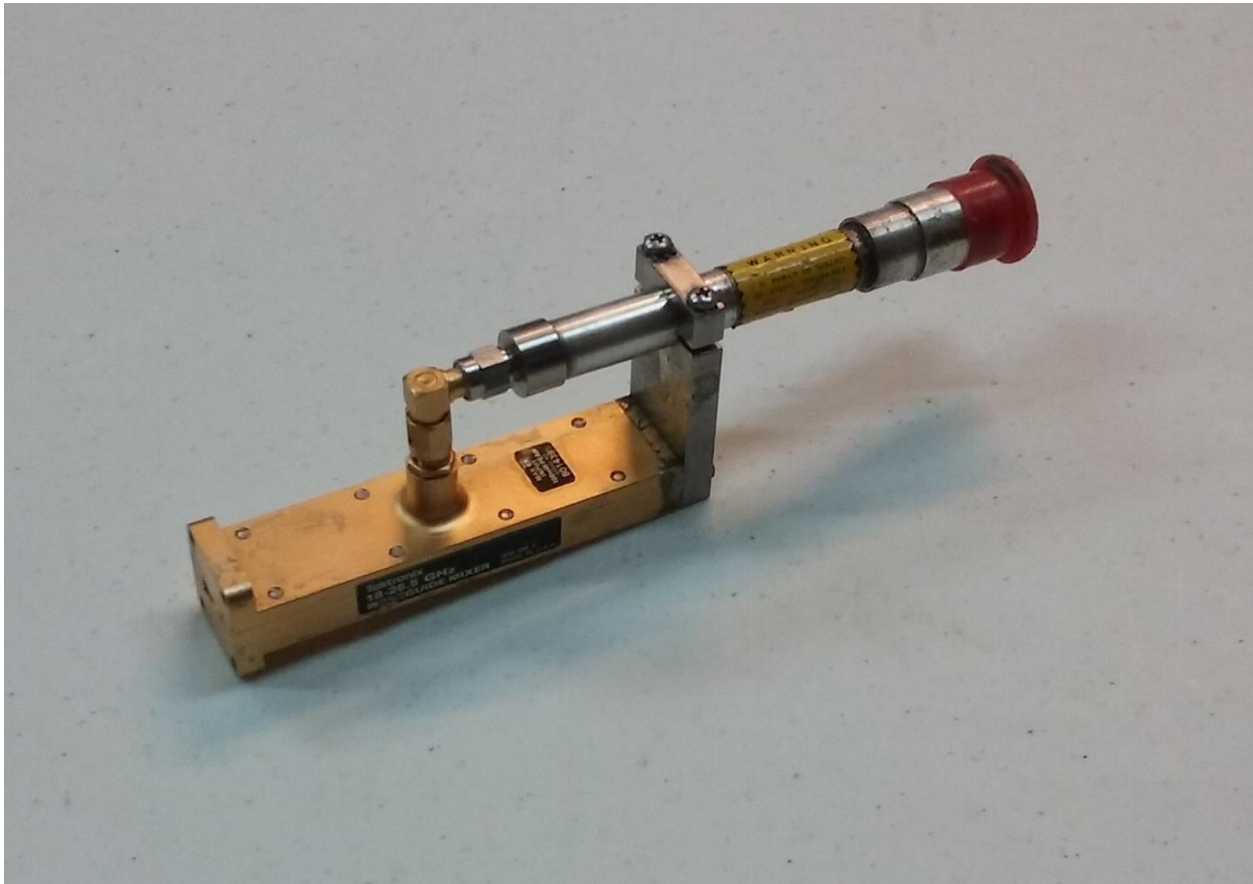
Rein W6SZ

# Microwave Mystery Gizmo of the Month

**From Dan Slater's  
Collection...**

If you would like to discuss this, use the SBMS Reflector by sending an e-mail letter to [sbms@ham-radio.com](mailto:sbms@ham-radio.com)

If you don't have an account sign up at this website: <http://lists.altadena.net/mailman/listinfo/sbms>



## 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.
- 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).

# The November Meeting Tech Talk:

**Wayne Overbeck, N6NB**, is a “man of action” in Amateur Radio. SBMS was fortunate last month to hear from Wayne about his recent radio contest trip to Colorado. He builds radio systems, invents and develops antennas, wins contests, travels to distant places and takes his radios with him.

When Wayne is not at our meetings, you just know he is off somewhere launching some radio or microwaves into the atmosphere. Radio clubs

all over the map invite him to come and speak. A retired CSU professor and attorney, Wayne is also an expert on RF safety.



## Needs, Wants and For Sale (updated 1 June 2017)

**For Sale from Bill Burns:** Bill will only rarely come 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](mailto:bburns@symbolmediacombb.net)

His address is: 247 Rebel Road Ridgecrest CA 93555

### For Free/ Sale

- Henry Electronics 2meter RF amplifier 1-4w input 30w output 12v **free**
- Roof mount antenna mount tripod **free**
- Aluminum chassis big and small **free**
- Large insulators with wood screw attached **free**
- Large turn-buckles for guy wires **free**
- Steel TV push-up masts **free**
- Power pole 14.5 ft tall by 1 ft diameter **free**
- Many feet Romex #14, #12 copper wire **free**
- Heat sinks, many sizes **free**

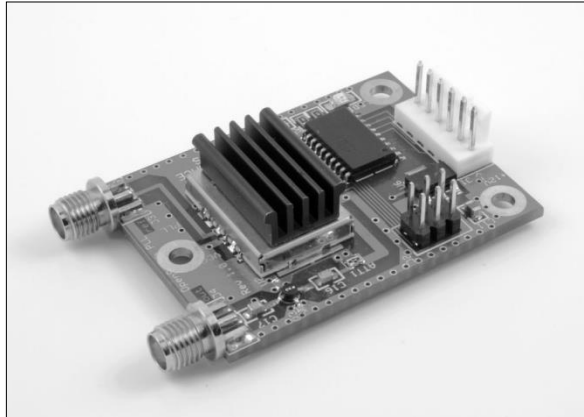
- Linksys broadband firewall 4 port router model befsx41 **free**
- Alinco DJ-280t 220 MHz handheld 4w with manual **free**  
(replacement batteries available)
- 4 ft Aluminum dish **\$30**



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.

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- ⤴ 2" x 1.5", 12V @ 140 mA typical

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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

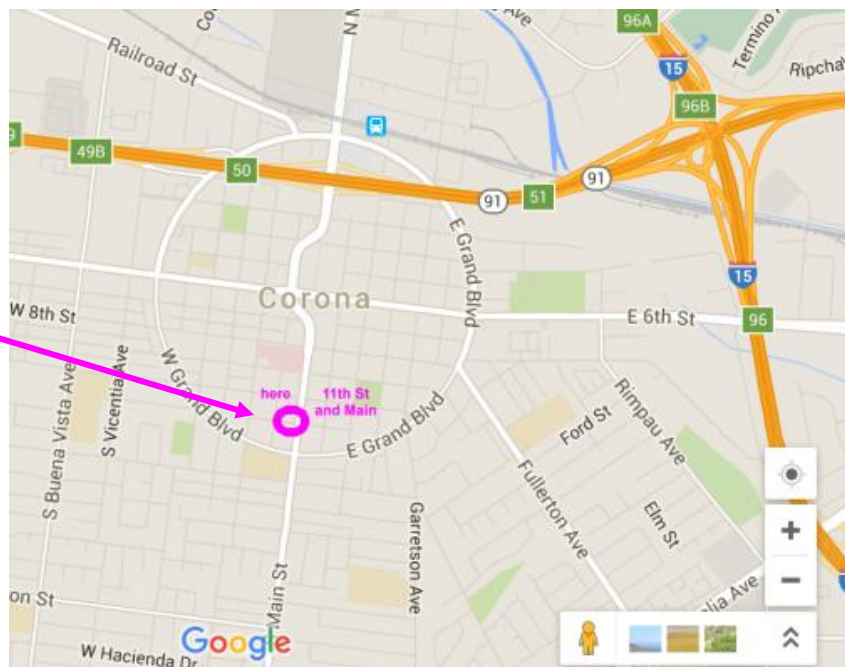
SBMS dues are \$15 per year, which includes a badge and that's about it. The dues are more in the way of a donation to pay for outreach things such as video portals, a bank account, and rent for the building. When to pay is not a matter of remembering. The Corresponding Secretary will contact you by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





# 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](mailto:walterClark at-symbol roadrunner.com)

The newsletter is distributed by way of the SBMS Website: [www.ham-radio.com/sbms](http://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 the above

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  - 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>



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