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

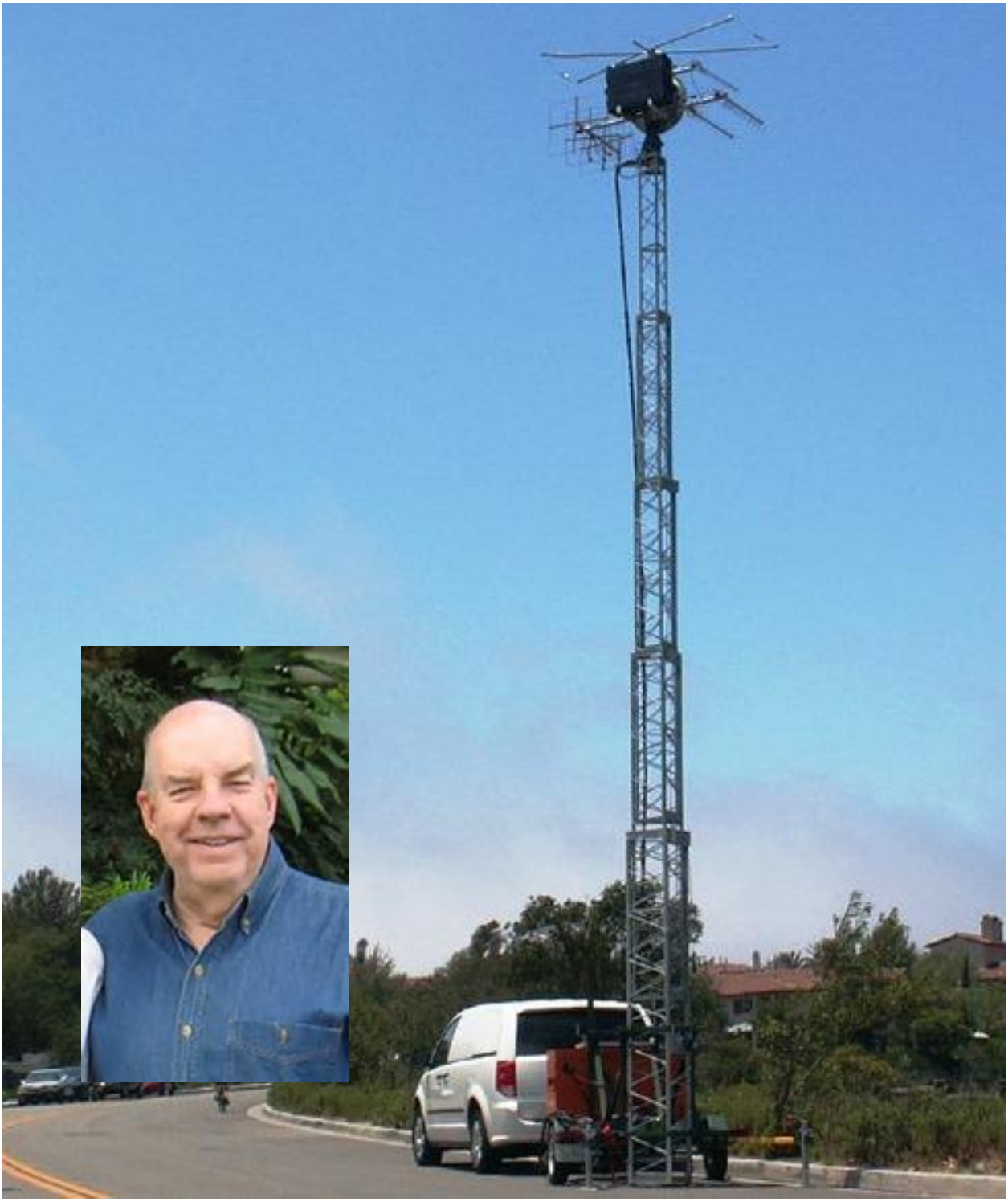
Dinner *before the* November Meeting Sizzler's

Tech Talk for the November 2nd Meeting . . .

Wayne's Subject: His Contest Trip to Colorado

Wayne Overbeck, N6NB, is a "man of action" in Amateur Radio. He builds radio systems, invents and develops antennas, he wins contests, he travels to distant places and takes his radios with him. When Wayne comes to our SBMS meetings, he often shares about a new Ham radio adventure. 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. SBMS will be fortunate to hear from Wayne about his recent radio contest trip to Colorado and the bands he worked up to 24 GHz.

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:

- none

Old Business

- Dave WA6CGR announced activities of the “South Bay Microwave Society”. Some transverter boards have been ordered from W1GHZ for $14 each. Eight are available for 10 GHz and four for 5 GHz. This is a follow-up on the New Business of last month.
- Walter Clark announced that the fans for the American Legion Hall had been purchased by Dave Laag and were here.
- Brian Thorson AF6NA asked if there had been a vote about getting new microphones or audio equipment? Jason Sogolow W6IEE moved that we proceed with an audio upgrade. The motion passed with no dissent. Brian volunteered to: research systems and come back with options to discuss. Wayne Overbeck N6NB noted that he had watched meetings online when the audio was often unintelligible. People put a live microphone on a table and the table noise overwhelms the voices.
- An action to get the Santiago Peak 10 GHz beacon repaired was taken offline.

New Business

- none

What Our Members Are Working On

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

Pat Coker N6RMJ (Lake Los Angeles)
was in Viet Nam during the October meeting. This report was written before he left and is what he would have presented for the month's activity.

- He worked the second half of the 10 GHz and up contest Saturday, started at home which is DM14CP and got to use the new setup. He's happy with the results, but still needs a bigger dish. His longest contact from home was K6GZA CM88wj MT VACA to DM14cp 569 km. That's not bad for a 27inch dish and 9 watts.
- Saturday afternoon he met up with N5BF Courtney. And it took him up to DM14CS, 11miles north of my house and 500ft higher. It works everywhere including 13 Q's. He went on his way and then back home.
- Sunday he started in Lancaster and found that DM04vq is in a residential neighborhood, but this knoll was 21 foot above the road, and houses so it works well. He then visited the intersection of the14 fwy and Dawn road just north of Rosamond,
- Pat's been doing a little work with digital modes. His last contact was Sunday night, when he heard W6YX on the liaison radio working digital. This is the Stanford club station. He was still out with the wife and on the way home, asked if he could stick around so we could try, and he agreed. He got home and got things turned on and warmed up, had frequency lock and ready to start running at 930pm. He wanted to run WSJT mode QRA 64 D now. Pat had used it before on 160 meters but just QRA 64 A we ran for a while. His BIG 15 FOOT dish and Capable of 150 watts or more, put out a great signal down here. Pat saw him at -15 on peaks. That was s5 on the meter loud in the speaker, but I just was not decoding him. He was seeing me at peaks of -21. Well after not decoding his big signal, he started asking about my configuration. I thought I had it correct, but I was in for a lesson, he was more than willing to spend the time and walk me through getting it close enough to start decoding. I have a lot to learn about this robust mode.
- We finally completed the contact at 11:01 took 1hr 30 min, should have been 5 at most , but still learning. That was W6YX CM87wj TO DM14cp 496 KM

0542 -15 0.4 361 :* RR CM87WJ73 0
0540 -14 0.3 343 :* RR CM87WJ73 0
CONTEST RESULTS
QSO'S 133
UNIQUE CALLS 36
LONGEST QSO 651 KM
TOTAL DISTANCE 26882
TOTAL SCORE 30482

Jason Sogolow WB6IEE (Norco)

had all his gear out ready for the activity night last night but was too busy working on the house. Mel said that the official time is 9 p.m. but activity is usually slowing by then. People have been on as early as 7:30.

Dave Laag W6DL (Marino Valley)

did his first home-to-home night last evening and was surprised how easy it was to work three people. Could have done the 4th one. Talked to Frank WB6CWN for 30 minutes on X-Band bouncing off Santiago. Appreciates everyone's efforts.

Steve Barden WA6OXN (Riverside)

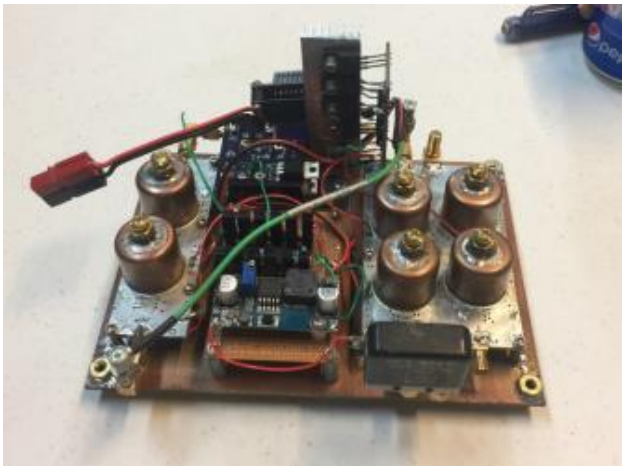
listened to the contest on UHF (Cactus). Interesting the distances we worked and how courteous everyone was.

Mel Swanberg WA6JBD (Upland)

was at Mt. Potosi in September and made a slew of contacts in 500-700 km range. Destroyed a tire on the way down. Had a flat which ended up ruining all the tires on his vehicle by the time he got down. Last night only worked W6DL, but it was Dave's horn to Mel's omni. Working on a steerable 10GHz antenna system at home and working on an omni for the 10 GHz repeater.

Larry Johnston K6HLH (Lake Los Angeles)

was on Saturday of the September weekend. Tried to work W6DL last night but audio wasn't working and went to CW. Is building a box with 2.4, 3.4, and 5.8 GHz transverters. Showed his 5760 station (see photo) which is a simple design and easy to understand. The hardest part is soldering on the pipe caps which isn't hard. This is the W1GHZ design, same as the boards that Dave WA6CGR has for sale. Transmit / Receive is accomplished by turning on and off parts of the circuit. Larry is nearly done with he 2.4 GHz board.



Bill Locke N6WL (Baker)

Was at Turquoise Peak on Saturday of the September 10 GHz and had an interesting day. Signals strong when he started but would then disappear. Heard a lot of people and tried to tail-end but they vanished. Completed 8000 points which was much better than last Year.

Courtney Duncan N5BF (La Canada)

in September at the 10 GHz weekend he verified SS51 site was closed by driving up from both sides. Went to a nearby neighborhood and made some contacts then picked a site north east of Palmdale and made some more. Then met Pat N6RMJ at DM14cs where both worked many QSOs in about three hours. Went to Palos Verdes for Sunday morning. Did not work Mt. Vaca from anywhere but did work Potosi (WA6JBD) and made nearly 9000 points overall.

Brian Thorson AF6NA (Corona)

did not get in on the talk last night in the home-to-home but was on the September weekend of the 10 GHz contest and finished with about 20,000 points. Got together with Stuart K6YAX on Oat Mountain one weekend. Another weekend went to a site on a hill near Riverside with Robert Carter. Robert is excited about getting on. We hope to see him on the air next year.

Walter Clark (Fullerton)

brought his laptop hood thing again in case people wanted to look at the design. He said with it pictured in the newsletter, people were contacting him expressing interest. Walter emphasized that with the growing interest in SDR, something like this is essential if you want to go mobile.

Dick Bremer W6DNX (Brea)

did work for the city (of Brea) by putting an antenna on their roof. He has also been busy working with solar cells.

Gary Heston W6KVC (Blue Jay)

said that Quartzite is coming up and he would like to see this club put together a presentation so that he and Gordo WB6NOA can go up and do a demo.

Chris Williams W6NOB (Wrightwood).

participated in his first 10 GHz contest in 25 years and had a great time. Only worked the September weekend Saturday Blue Ridge DM14di and did not make many QSOs. He had not worked from there before and was surprised that he couldn't work south (like SDG) or far north either, but did hear talk of marginal conditions. Did make several contacts by bouncing off mountains.

Dave Glawson WA6CGR (Wilmington)

was too busy to participate in 10 GHz in August but, one day out of the hospital following surgery in September, got on and worked 8-9 stations Saturday, 15 Sunday.

Wayne Overbeck N6NB (Tustin)

tried to get on last night using his crank up tower in Panorama Heights. The winch works on batteries which were dead. Was active in the new 220 MHz and up distance contest first weekend in August, one of eight operators that went to Colorado in three vehicles. Had good scores but mountaintops to flatlands don't work in Colorado like they do in California due to the weather differences including rain and thunderstorms. Sometimes the signals sound like aurora, raspy. Worked from the 12,000 foot level from Mt. Evans looking towards Kansas. Had to get out and lower the tower trailer all the way down once due to the wind. In the September VHF contest went out by the California Aqueduct in the moonlight. Worked the same group in Fresno from six grid squares on 24 GHz qualifying them for 24 GHz VUCC (requires 5 grids) and qualifying for the Central States VHF Society Reverse VUCC by working from those squares.

Jim Blum KK6MXP (Ontario)

was there (helping Gary with the camera). Missed out on Home2Home. His portable had an accident and had to go to the radio clinic. Didn't have time to rig another radio for liaison.

He's been spending time reading up for his General, and studying things like sequencers, LO's, DC power and solar charging. He's also looking into ways to make portable operations even more portable.

Digital modes like FT8 are a real interest, too. And coming up with a scheme for DSP for microwave could also be on the punch list.

Had great fun during the contest. Both, in the high desert and up in the Cleveland National Forest. And yes Marty, I got my log in on time. (Thanks to Marty and Mel for their kind words. Had to tailgate because, people were so excited about working, liaison was a Beltway traffic jam. So, he invoked the first rule of amateur radio...I listened.)

He's looking forward to more Home2Home on November 1st.

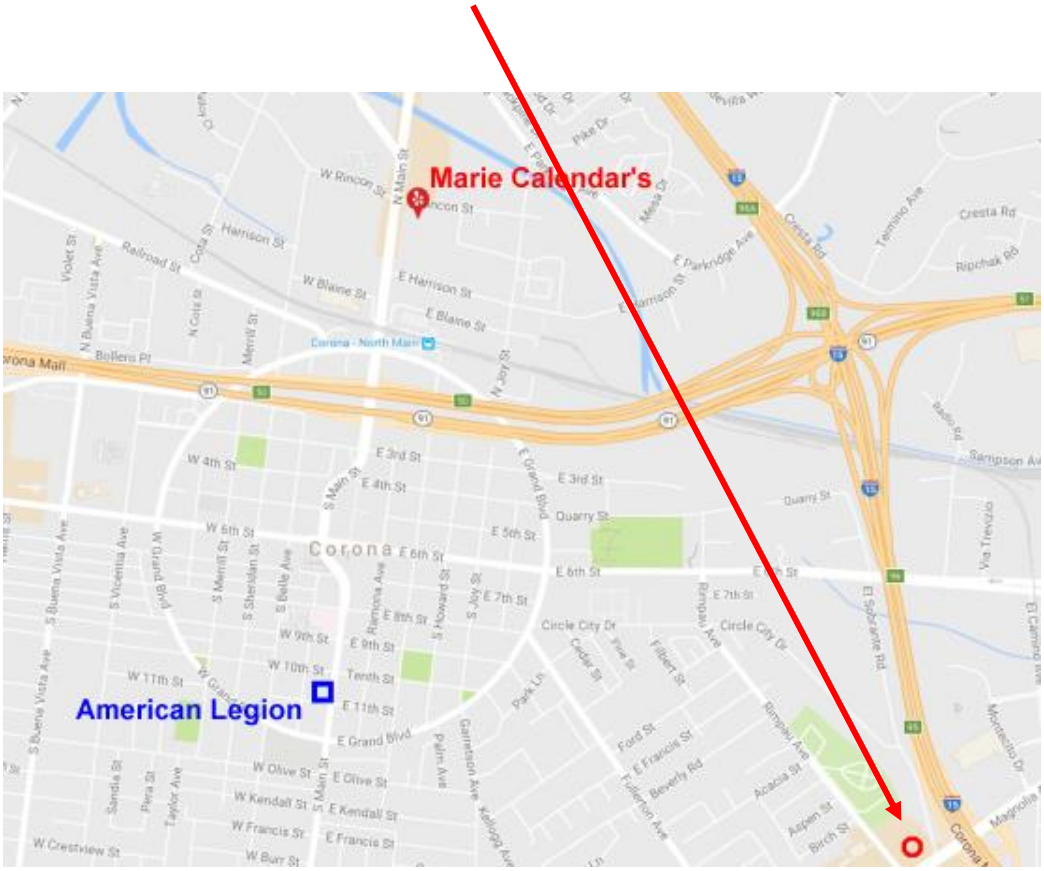
Events of Interest to the Microwave Ham Community

November 4 – 5 ARRL EME Contest, 50 – 1296 MHz, 2nd 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 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; (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.

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

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

"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."

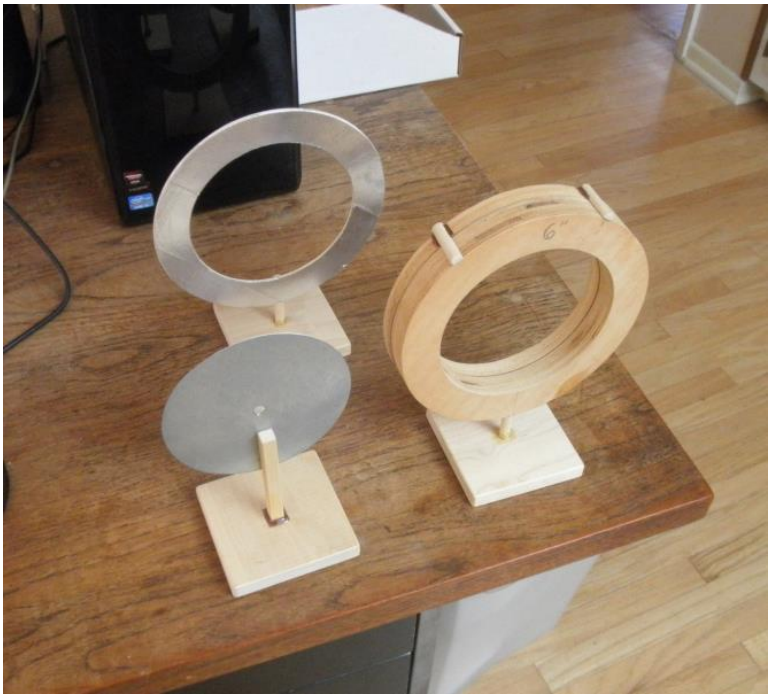
Rein W6SZ

Microwave Mystery Gizmo of the Month

When X-band strikes these, what happens?

If you would like to discuss this, use the SBMS Reflector by sending an e-mail letter to . . .
SBMS at-symbol lists.altadena.net

If you don't have an account sign up at this website:
sbms at-symbol ham-radio.com



They are rings of just the right inner and outer radii so that the diffraction is just right for constructive interference at a single point. They are Fresnel lenses. The metal ones reflect away energy whereas the wood one which is of just the right thickness will delay by ½ wavelength so that this opaque ring actually contributes also. The single ring wood Fresnel is about 50% as efficient as a microwave lens of the same diameter. With one more inner ring, it's just as efficient. It is really just a curiosity since a lens is actually easier to make than a set of rings.

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.

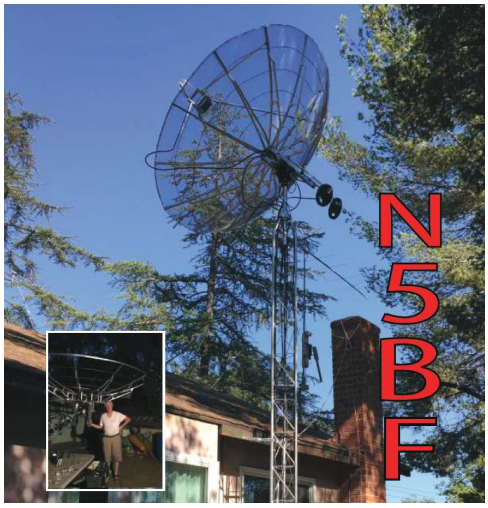
- Gary transmits analog first.
- Snow Peak is the first digital station.
- There is a 2-3 second delay to digital users.
- There are also nodes on Mt. Potosi and Mt. Lemmon.
- Note: some meetings are recorded for archive.

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 October Meeting Tech Talk:

"Working Out the 23 cm EME Band"

It was an overview of the N5BF 23 cm EME station and what participation in the worldwide 23 cm EME community is like. A discussion of the motions of the moon itself was given with the goal of encouraging EME operators to be in touch with the moon itself. He presented a collection of rules of thumb, to broaden our understanding of what is going on as radio signals are reflected from the moon.



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

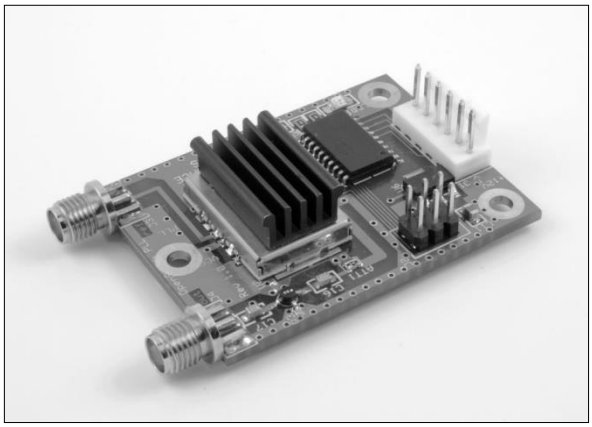
For Sale from Bill Burns: Bill will only rarely comes to the meetings, so if you want any of this, please contact him by phone or email.
phone: 760-375-8566 email: bburns at-symbol mediacombb.net
His address is: 247 Rebel Road Ridgecrest CA 93555

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

REACTANCE LABS

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).***

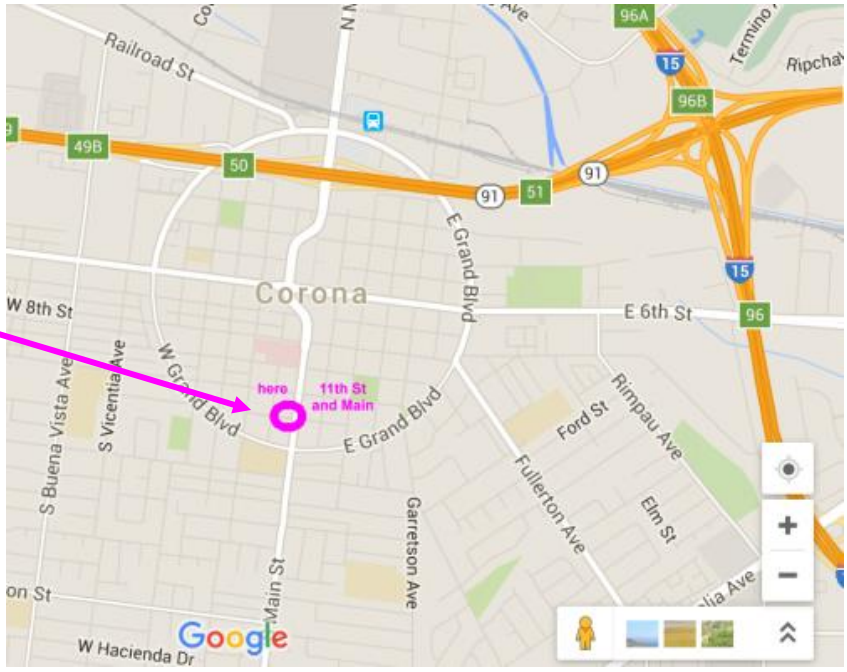
Official Address

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: 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
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 the above

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  - 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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