



SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1955

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

September 2015 Newsletter on the Activities of the San Bernardino Microwave Society

Walter Clark, Editor

September 3rd Tech Talk SCORING HIGH IN A MICROWAVE CONTEST

**" ... I want to work you now, *now*, Now,
Now, Now, Now, Now.**

That is the trademark phrase of Pat Coker,
N6RMJ. Operators when they hear that
MUST turn their reflectors his way.



Pat placed first in QSOs completed in 2011 with 283. And for at least the last 8 years, Pat has placed top ten in the 10 GHz and Up Contest. Pat has been a first-place winner of VHF/UHF contests and is a consistent high achiever in radio sport events. He once set a record for 432 MHz Meteor Scatter at 1265 miles. For our September 3rd SBMS meeting, Pat will share three of his closely-held secrets to scoring high in a microwave contest, and will host an interactive exchange of contest planning ideas. He will also demo an easy and reliable way to complete CW contacts on 10 GHz for those of us who are "Morse Code challenged."

**Come and join SBMS at the Meeting on Thursday September
3rd or follow us on Amateur TV and online. Brian - AF6NA**

If you can't make it: watch online through Gary Heston's mobile video facility W6KVC by way of:

http://www.batc.tv/ch_live.php?ch=2&id=139

Activities at the August SBMS Meeting

(that would be of interest to the general ham radio community)

Business Meeting

Presiding: President Brian Thorson (N9RIN)

(18 in attendance... 22 last month)

Guests or Members Not Seen In a Long Time

(none)

Old Business

- Pat N6RMJ Microwave Update (MUD) chair, received the check for MUD seed money, which will be going into the bank tomorrow. Still need someone to step up and coordinate vendors, getting us a couple of good local vendors such as those at the TRW swap meet. Alas, the W6TRW swap-meet is going away.
- Ed Munn W6OYJ suggested that people attending MUD would not generally have the kind of access we have to vendors and could use pointers. Ham Radio Outlet would not likely be well matched to this microwave emphasis event. Any volunteers contact Pat Coker or Mel Swanberg WA6JBD.
- There are still minor issues with the MUD web page.
- Marty Woll N6VI: Speakers and program are now lined up with one or two spares. Obtaining bios, head shots, and talk summaries now and checking time slots versus schedule. Several presenters have been at SBMS in the last year. The absolute deadline is about a month away. Two of the papers are already at ARRL and Dave Sumner at ARRL has provided an introduction for the proceedings. Non presenters can submit papers for proceedings that will reach a lot of people.

- Pat Coker had talked to Dave Glawson WA6CGR about prizes. Dave will need several people to come over to the SBMS lab one weekend to stuff envelopes.

New Business

- Pat Coker N6RMJ suggested that in support of presentations like the one we will have in tonight's Tech Talk, we should have a USB Webcam so all of the audience can see on the projector any computers, radios, or equipment being discussed without having to crowd tightly around. He proposed that we spend about \$200 on such a webcam and that we might also need a supporting PC. Walter Clark suggested that we wait until next month to vote on such a proposal. Pat would shop around and bring a report next month.
- Walter Clark asked if the club would like to buy a set of attenuators to dedicate to the July tuneup activity. Brian Thorson AF6NA said that we may change the whole design. We may not be able to borrow the Field Fox next year, for example. Marty Woll N6VI asked if someone could make a list of what power levels are needed.

ATV and Internet Check-ins

- Gordo WB6NOA
- Don KE6BXT reported quite a few in the chatroom.
- Marty Woll thanked Gordo WB6NOA for making the Costa Mesa Fairview park available for the tuneup and thus making the tuneup possible. Brian Thorson AF6NA also thanked Gordo for yesterday's Ham-Nation piece advocating for microwave activity.

Courtney Duncan (N5BF), Recording Secretary

What Our Members Are Working On

Dick Bremer WB6DNX: Brea

got his 10 GHz rig working by changing out the TR relay on the output making it more reliable. Went to the tuneup party to check it out.

Walter Clark: Fullerton

has been playing with modules that he hopes to make into a student project, maybe even for MUD. One module (\$11) is 2.4 GHz 200 mW WiFi video transmitter which without any input provides a carrier that can be modulated (turned on and off at 1KHz) with another module; a pulse generator for under \$5. That (and a 12V battery) is the transmitter. A \$5 audio amplifier plus a high gain preamp for \$2 and power supply for another \$2 is the receiver. Walter is trying to get Kent Britain WA5VJB maker of PCB microwave antennas to make one that can accept an SMD microwave diode. If he can't talk Kent into that, he will drop the project as just too hard for beginners.

Jeff Harris NZ6Y

is still in the planning stages for 10 GHz station. Hunting parts.

Jeff Fort KN6VR: Phelan

got his X-Band rig out to see that it still works. It does.

Dave Laag W6DL: Marino Valley

is always working on getting something going on X-Band. Needs a Terracom catalog from 1978 to 1984 if anyone has one. Would like to copy some pages out of it, re: doing some ratings on antennas.

Pat Coker N6RMJ: Lake Los Angeles

participated in the tuneup party. Radio worked just like last year, still good. Leaves it on 24/7 in the garage. Ready for 60 miles to Frazier.

Jim Blum KK6MXP: Corona

brought rig to the tuneup party and thinks he needs to clean and tighten connectors as it seems not to be working as well as it had been.

Rein Smit W6SZ: Alta Loma

participated in the tuneup party and will probably be very busy until the contest getting ready. Working on a 2 watt 10 GHz amplifier Walter gave him.

Larry Johnston K6HLH: Lake Los Angeles

received a note from Doug K6JEY saying that he and Helen KI6LQV will be on Signal Hill both days, perhaps with school kids.

Frank Kromann AG6QV (Trabuco Canyon)

is looking at a new dish for his rig and needs 13" of rigid WR90.

Marty Woll N6VI (Chatsworth)

has had lots of ARRL stuff going on including a recent board meeting. Watched the July SBMS meeting on internet. In late June was in the VHF contest. Worked back to Frazier and others on microwaves from roving locations. Everything was put away when Wayne N6NB went to Hawaii. Got stuff out of the attic, went to the beach, worked him on 144, and heard the beacon on 432.

Mel Swanberg WA6JBD (Upland)

at Robin's request, wants to bring rig over and do side-by-side comparisons. Have had interesting results doing this over the years. Bench top minimum discernible signal (MDS) measurements with a signal generator to sub 1 dB NF, a few feet away. Although the signal generator goes to -110 dBm, at about -60 dBm you start to find all the leakage. Solution: run at a lower frequency, pick a harmonic, filter and calibrate the harmonic, use that. Can do ball park comparisons of MDS to noise figure (NF).

Robin WA6CDR

was at the tuneup with his monster, a big accomplishment following a couple of hours to get the pieces together for transportation. Has operated twenty years with that same radio which is one reason why he wants to measure with Mel. Has a pretty good front end. If the weather is good he will go to Highland Peak in southeast Nevada. Otherwise he will join Mel on Potosi Mountain in southwest Nevada. To operate from Potosi requires an X-Band rig with 10 watts to a 4 foot dish minimum which must be hauled up a difficult four wheel drive road. The road is in better shape now because the FM station that operates the site got tired of buying trucks and invested in asphalt for the road instead.

Courtney Duncan N5BF: La Canada

has his rig ready to go; heat sink and fan are on 10 watt amplifier. A few dB low per the tuneup transmit and receive, but certainly in class. Joined Cactus. Did UHF contest. Going to SmallSat conference in Logan, Utah tomorrow through next Thursday. He works at JPL on microwave stuff there and passed around a JPL brochure on Iris CubeSat Deep Space 7/8 GHz transponder.

Brian Thorson AF6NA: Corona

did most of his microwave activity last month. It was spent accomplishing a successful tuneup. He passed out a results sheet. Used to do measurement setups for up to 1000 MHz professionally. This was the first time he'd done microwave but had lots of guidance from Kerry Banke N6IZW who has data from the last 15 years. As for the results of the tuneup, Robin came very close to the predicted values on his 6 foot antenna, best ERP and one of the best MDS. Thanks to all helpers including Bill Preston KZ3G from the Fullerton club, and all those who showed up.

San Diego Microwave Group Ed Munn W6OYJ: Reporting

Activity on Day 1 of the San Diego Area Group.

**On Mt San Miguel, DM12MQ at elevation 2600 ft were
Greg Bailey K5QPV, Mohammad KK6GZJ, Ed W6OYJ,
Joe KE6PHB and Brian Thorson of SBMS AF6NA
Best DX was W6QIW 345 Km**

**On Mt OTAY DM12NO also on Day 2
Dave WB6TFC, Jerry K6DYD**

**On East County Peaks:
Dan K6NKC (worked Arizona!) and Mohammad KK6GZJ**

**On Sunday located on Mt Soledad (800 ft ASL) DM12JU
K6QPV Greg, AF6NA Brian, KB9FKC Drew and
KK6GZJ Mohammad
73 from Ed W6OYJ**

Here's Courtney's 10 GHz Contest Experience

N5BF rig in foreground with Marty N6VI and Lars AA6IW mobile setups behind. Decrepit Frazier fire tower in back.



Lars Karlsson AA6IW and his son Kjell KD6BPP at their north-looking 10/24 GHz rig on Frazier mountain.



Ron K6GZA has the grid square duct taped to the back of his four foot dish.



Ron K6GZA can quickly switch his 4 foot dish to 24 GHz using this feed.





**N5BF rig looking north
from Secret Site 51.**



**Dave N6TEB, peaking up his 10 GHz rig at Secret Site 51.
24 GHz rig is built into the mailbox below.**



Brian Thorson on Mt. San Miguel.

(Hey you guys, don't forget to use fill in flash. It only takes a second to click on the flash icon.)

Here's three photos by Marty Woll N6VI





**Jerry K6DYD on Mt. Otay near San Diego.
Photo is courtesy of Dave WB6TFC.**



**San Diego Microwave Group
on Mt. San Miguel**



**Closest is Joe KE6PHB, then Ed W6OYJ with Hat. In the back
Mohammad KK6GZJ and Greg K6QPV (Photographer was Brian
AF6NA)**

Brian Thorson, our Vice President has been involved with non-ionizing radiation hazard most of his career. He's retired now but he can't help but continued to be involved. Here's the Abstract to an article he is self-publishing on RF safety at the frequencies we are interested in.

ABSTRACT

Recent online and news media reports have suggested wireless technologies cause cancers or other diseases. Some of the sources declare that human health is damaged by weak wireless signals only detectable by sensitive radio receivers. The major public health agencies and medical science panels have not confirmed these claims, and this is reflected in their official statements. A great deal of high-quality research about human exposure to weak wireless signals has been completed. The consistent theme emerging from this massive amount of study spanning over a half-century is both intuitive and simple;

Weak radio signals and microwaves do not adversely affect human health, but extremely high intensities can heat human tissue and lead to damage. High doses of nuclear radiation, x-rays, and ultraviolet light are all hazardous.

Despite the large body of accepted and confirmed scientific research, some individuals and organized special interest groups persist in opposing the findings of the major public health authorities. The opposition claims include outdated exposure standards, scientific conflicts of interest and government conspiracies. This opposition is expressed by a small group of laypeople and scientists, linked by a common belief in adverse health impacts from weak wireless and microwave signals. This paper presents the recent official public health statements backed by confirmed research results, explores claims by opposition groups, identifies some of those who promote them, and suggests how lay people can sort out the divergent online sources and get to reliable information.

CONTENTS HEADINGS

- **Honest Questions and Concerns**
- **Recent Public Health Statements**
- **The Official Cancer Lists**
- **The Opposition**
- **How Public Health Science Works**
- **A Path to Reliable Information**

Bill Burns WA6QYR: The Further Microwave Activities on Rebel Road, Ridgecrest



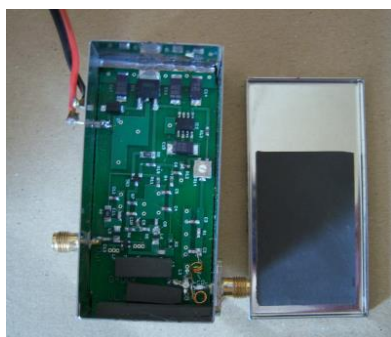
The front of the trailer with leveling jacks are on 4 inch thick concrete.

The picture of the rear of the trailer with license plate shows the pedestal mount to the concrete bed of the trailer and the rear leveling jacks.



The picture below, of the preamp box is of the assembled G4DDK preamp.

This shows the inside of the preamp with the bias circuits and the preamp device and the circuits around it.



Bill WA6QYR

Upcoming Events (Identified by Marty Woll N6VI)

- Sept. 5 - 6: ARRL EME Contest – 2.3 GHz & Up
- Sept. 11-13: ARRL Southwestern Division Convention, Torrance CA (can you offer a microwave program?)
- Sept. 12-13: ARRL September VHF Contest – includes all microwave bands
- September 19-20: ARRL 10 GHz & Up Contest – 2nd weekend
- October 16-17-18: Microwave Update 2015 at the Crown Plaza Hotel in San Diego
- Oct. 31 - Nov. 1: ARRL EME Contest – 2.3 GHz & Up
- Nov. 28 - 29: ARRL EME Contest – 50 through 1296 MHz – 1st weekend



http://hamradio.com/sbms/mud2015/mud_index.html

Anyone, (not just SBMS members) . . . if you know of any future 1 GHz and above amateur radio event, please send date and description to the editor:
walterclark@roadrunner.com

Last Month's Tech Talk:

Robin Critchell, WA6CDR, Marty Woll, N6VI, and Pat Coker, N6RMJ showed us how to stay on frequency and complete QSOs in record time. These guys finished top ten in the 10 GHz Contest last year (with Chris, N9RIN) so they know what they are talking about. There was hands-on demos by Robin on how to operate efficiently and minimize radio operating error.

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.) Enter the chat room by clicking on the white space on the right of the website described below.

Just as a reminder, this is how you watch SBMS meetings from home:

http://www.batc.tv/ch_live.php?ch=2&id=139

Better yet memorize the following

Keywords: BATC TV

and use Google

The TV part is easy to remember. Think of the BATC as batch without the h. It's a British website (that's the B) Once you are there, and logged in, on the right choose "Repeaters" and then on the left, you have to pick a stream. The stream to choose is: **W6ATN**.

Memorize W6ATN as ATN in California. W6ATN is the club call sign for six 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 which is provided by: Roland Hoffman, KC6JPG



Microwave Mystery Gizmo of the Month



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

SBMS@lists.altadena.net

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

Needs, Wants and For Sale (Updated 17 July)

- **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@mediacombb.net

His address is: 247 Rebel Road Ridgecrest CA 93555

- TVRO dishes 10 ft, 6 ft, and 5 ft free
- 6 ft and 4 ft 19 inch racks free
- Leader LBO514A 15 MHz Dual trace oscilloscope \$75
- HP 5381A 80 MHz counter \$10
- 8 watt 5 GHz TWT's with power supplies \$50 each
- copper wire enamel coated #14 many feet coils \$10 each (coils are like a foot in diameter and maybe a dozen turns or so...30 or 40 ft long wire)
- **For Sale from Doug Millar (drzarkof56@yahoo.com):**
 - a Rohde and Schwarz 309 10-18GHz Signal Generator in perfect shape. It is digitally synthesized and has a pull out instruction card. It has internal modulation and will also sweep. Will accept \$900.
 - I also have an HP432 power meter, cable and head (478) in working order for \$100



Member Ads

Sixty North Electronics

Kits Made by member KL7UW

Let Ed Cole assemble your Down East Microwave kit. For kits in stock, he can deliver an assembled unit to your custom design preferences within 30-days of a paid order. **His prices are the same as you pay DEMI for an assembled transverter, but much quicker delivery time. And comes with 90-day written warrantee on labor (guaranteed to work)!**

Shipping for a transverter is typically that of medium-size flat-rate Priority Mail anywhere in the USA.

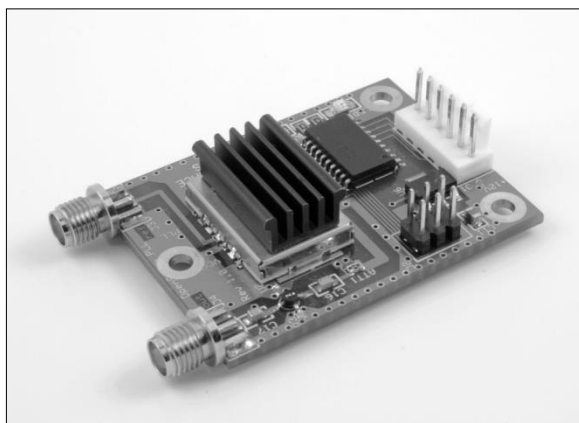
For examples of his work click on... <http://www.kl7uw.com/kits.htm>
Contact him at kl7uw@acsalaska.net



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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 editor at: WalterClark@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). At least one meeting a year are joint meetings.*** 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 at the American Legion Hall, Corona. For carpooling from North Orange County call Walter Clark @ 714 882-9647

The Reflector (SBMS 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> (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.)

The SBMS Website and Newsletter

The SBMS Reflector is ephemeral. There's no record kept. The Newsletter has a slightly longer life. It is sent to members and past issues are recorded in the website. It's URL is: <http://www.ham-radio.com/sbms/> You don't have to memorize that or write it down, just enter SBMS into any internet search engine.

Newsletter: Walter Clark: walterClark@roadrunner.com

Website: Rein Smit: rein0zn@ix.netcom.com

The newsletter is created about the middle of the month and broadcast as a link inside an eMail letter to the members. This is mailed to you on the weekend prior to each meeting. SBMS Newsletter and website material can be copied as long as SBMS is identified as source.

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