



## SAN BERNARDINO MICROWAVE SOCIETY, Incorporated

FOUNDED IN 1955

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

### W6IFE Newsletter

#### June 2012 Edition

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At the **June 7, 2012 SBMS meeting** will have Mel, WA6JBD talk about his RF Path prediction software in preparation for the 10 GHz and Up contest coming up in August. The SBMS meets at the American Legion Hall 1024 Main Street (south of the 91 freeway) in Corona, CA at 1900 hours local time on the first Thursday of each month.

**Last meeting-** 16 people present.

**2 GHz and Up Club Contest-** Don't forget to send your entries to Bill Burns 247 Rebel Road Ridgecrest, CA 93555 before 1 June.

#### Scheduling:

**June 9-10** ARRL June VHF QSO Party

**June 23-24** Dubus EME 5.7 GHz 00-24z

**June 24-27** Society of Amateur Radio Astronomers 2012 Conference National Radio Astronomy Observatory Green Bank, WV. [www.radio-astronomy.org](http://www.radio-astronomy.org)

**August 4-5** ARRL August UHF Contest

**August 18-19** ARRL 10 GHz and Up contest part 1

**August 16-19, 2012** The 15<sup>th</sup> International EME Conference in Cambridge, England.

**September 8-10** ARRL September VHF QSO Party

**September 15-16** ARRL 10 GHz and Up Contest part 2

**October 18-21** Microwave Update 2012 in Santa Clara Biltmore Hotel

**Wants and Gots for sale.**

**For Sale:** 30w 1296 MHz PA kit \$50 + \$5 for US shipping Chris Shoaff, N9RIN cshoaff@yahoo.com

**For Sale:** 10 GHz slotted waveguide antennas \$55 kit, \$80 assembled plus shipping Dan W6DFW [W6DFW@apex-scientific.com](mailto:W6DFW@apex-scientific.com)

**For Sale:** table mounted wood router \$15; 8 ft solid aluminum dish, \$50 (can transport to your site for mileage.); 6 ft fiberglass dish free; 7.5 ft TVRO dish free; 6ft motorized Az/El RV TVRO dish with control box \$10; 10 ft TVRO mesh dish free; Roll-a-round Sampson camera mount with quickset head \$25, various lengths of 0.5 inch helix up to 70 feet. Bill WA6QYR [bburns@ridgenet.net](mailto:bburns@ridgenet.net) 760-375-8566.

**For Sale-** lots of microwave stuff. Let me know what you need. John KJ6HZ 951-288-1207.

**Wanted-** HP854 and or 8555 plug-ins for a HP141T main frame. Jason W6IEE [W6IEE.73@gmail.com](mailto:W6IEE.73@gmail.com).

**For Sale** – new SMA attenuators DC-18 GHz 6dB and 20 dB \$5 each Dick 714-529-2800 [rabremer@juno.com](mailto:rabremer@juno.com).

**Wanted-** Macom 2 foot dish with feed or Prod line dish with feed Chuck N6EQ [N6eq@juno.com](mailto:N6eq@juno.com).

**Want** wr75 to SMA adapter, need 2, Dick, WB6DNX 714-529-2800 [rabremer@juno.com](mailto:rabremer@juno.com).

**Want-** 1 section of Rohn 25G tower Pat N6RMJ 661-755-1773

**Activity reports** This is what everyone reported on the 3 May meeting.

- Brian: bought a Sampson tripod on eBay, and mounted on it his 33" offset dish.
- Tom Curley: machined a feed (modified 12GHz LNB) to fit Brian's 10 GHz rig.
- Pat: His "Lazarus, Next Generation" rig locks firmly now with a new L.O. He passed around a burned out RF relay which was rated at 1,500 Watt on 2 meters. Hmmm what are we to make of that?
- Larry: His 10 GHz dish/transmitter are on his tower and still working.
- Rein: short wave listener (microwave presumably) this month
- Dan: still making 10GHz antennas, (no progress on 24 GHz antenna testing)
- Mel: still has his 24 GHz rig working, more power this month
- Jason: aimed his dish up and was able to hear satellite data on 1,530 MHz.
- Gary: has a bunch of 5 MHz oscillators to give away
- Bill: cleaned his attic and found a microwave oven he wants to turn into an overkill 2.4 CW rig
- Walter: brought in his center-zero amplified microvolt meter and the microvolt source used to exercise it. His point was to show off how easy and good looking it is to use a single bend of hardware store metal instead of a chassis box.
- Ed: gave us a bit of history about SBMS beacons. Very interesting. (first ones were Gunn diodes) He is still rebuilding his 10GHz rig. He found a waveguide filter to remove the 144MHz spurs. He's hoping for 3 watts.
- Chris: gets to play with new microwave test equipment at work. At home the club beacon L.O. occupies his time.
- Thanks Walt for the inputs.

60 degrees North East Company. I am starting up a kit making service for assembling certain kits made by Down east Microwave. For those that do not want to make their own kits or maybe it's gotten too difficult, or just don't have the time or want assembled kit faster than DEMI can supply it. This one-man business so I will only be able to build a limited number per month. My price is the same as offered by DEMI assembled, plus shipping which should be medium-size flat-rate priority mail in the US. I am expecting to be able to deliver within 30 days of receipt of paid order. I am not carrying any inventory so this allows shipping time to obtain kits and any other materials, and time to test the finished product plus ship to the customer. At this time I am limiting this to the VHF/UHF 25w Transceiver kits. In a couple months I hope to add three amplifier kits from Communications Concepts, Inc. If there is a something special you want assembled contact me. My professional credentials are at:

<http://www.k17uw.com/60NE.htm> Ed Cole

There has been some interest in connecting to the SBMS meetings that appear on the internet. Try this:

[http://www.batc.tv/ch\\_live.php?ch=2&id=139](http://www.batc.tv/ch_live.php?ch=2&id=139)

The French Microwave Newsletter Hyper for the month of February had photos of Dr. Doug K6JEY and his 47 and 79 GHz rigs and the Dan W6DFW 10 GHz slot omni-antenna with plots by WA6EXV.

Hi All,

We have scheduled another OVRO trip for the weekend of June 23rd. We are going to have a Field Day set up that we can all participate in, so you won't miss out on FD. We have a bunch of people already from all directions coming in. A number of parents with kids and then some school people. We are going to get set up Friday night the 22nd and do visual astronomy at the site. If you want to bring a scope, please do. We will also do astronomy Sat night. During the day we will have field day and a tour of the 40m dish antenna and some science experiments. If you are interested, please let me know very soon. We have to cut the number off at about 40 people total. Briefly OVRO is just outside of Big Pine, Ca. and 20mi south of Bishop. It is about a 5hour drive or less and the tour and activities are free. If you are interested, email me and I will send you more information.

Thanks,

Doug K6JEY

Hi All,

We are planning a trip to OVRO on June 23rd and many of you have expressed an interest in going. If you would like to join us, please let me know. If you have any questions, give me a call or email me. Below is the information letter. A map of how to get there is attached.

Dr. Doug Millar EdD.

## OWENS VALLEY RADIO OBSERVATORY TRIP SCIENCE BEYOND THE BOOK June 23<sup>th</sup> and 24<sup>th</sup> 2012 With Dr. Millar

Please join with us on the above date for an extraordinary adventure in science education at the Owens Valley Radio Observatory outside of Big Pine, CA. Included are science activities at the 40m antenna and tour, walking a scale model of the distances of the planets, and night time astronomy. All the above is free and courtesy of Dr. Mark Hodges, OVRO and Cal Tech. We will also have a ham radio station set up for short wave contacts.

This trip is open to teachers and their families, members of local astronomy clubs and radio hams. You must RSVP to go on the trip to Dr. Millar so that we know how many to expect. Please also forward your cell phone number to me.

This is not a school sponsored field trip. Each participant is on their own to arrive at the observatory. Please try to arrive at OVRO about 1:30pm on Saturday. There are several motels in Big Pine to stay at. Please make your own reservations. We usually eat at the Country Kitchen in Big Pine or "We Toss 'em, They're Awesome" pizza in Bishop. You can also camp out both at the dish or in Big Pine in either tents or campers.

The weather will be warm and dry.

We should arrive in the early afternoon on Saturday, you may want to stay over and go back on Sunday afternoon. Some of us will arrive on Friday and enjoy some night time astronomy at the OVRO site. Let me know if you would like to come then as well. Please call Dr. Millar on the day of the trip and let him know when you are starting out and where you are at about 1pm.

Schedule:

Saturday

1:30pm arrive at OVRO 30m dish

5pm check in at your Motel and go to dinner in Bishop.

Evening- Astronomy at the site

Sunday

Breakfast 8:30am at Country Kitchen

Leave whenever you like. Check websites about the area and the Highway 395 for sightseeing opportunities.

The directions from the LA area are: Drive north on the 5/14 through Palmdale and Mojave. Continue through Inyokern and join 395. Continue on North through Little Lake and Lone Pine. Continue up to Big Pine. Just as you get to the end of town turn right towards the Westgard Pass. Go out about 2 miles and after Zurich, turn left onto the observatory road. You should be able to see the dish in the distance, but it is 4 miles away! Continue onto the property and go to the large dish. We will be at the base or inside of it. Below and attached are more detailed maps.

If you would like to bring your own telescope or radio along, please do.

Owens Valley Radio Observatory: <http://www.ovro.caltech.edu/>

For any questions and RSVP's my contact information is

Dr. Doug Millar Cell- 562-810-3989 and email is drzarkof56@yahoo.com

**Thank you and I hope to see you on the trip!**

**Dr. Millar**

**Local Directions to the dish:**

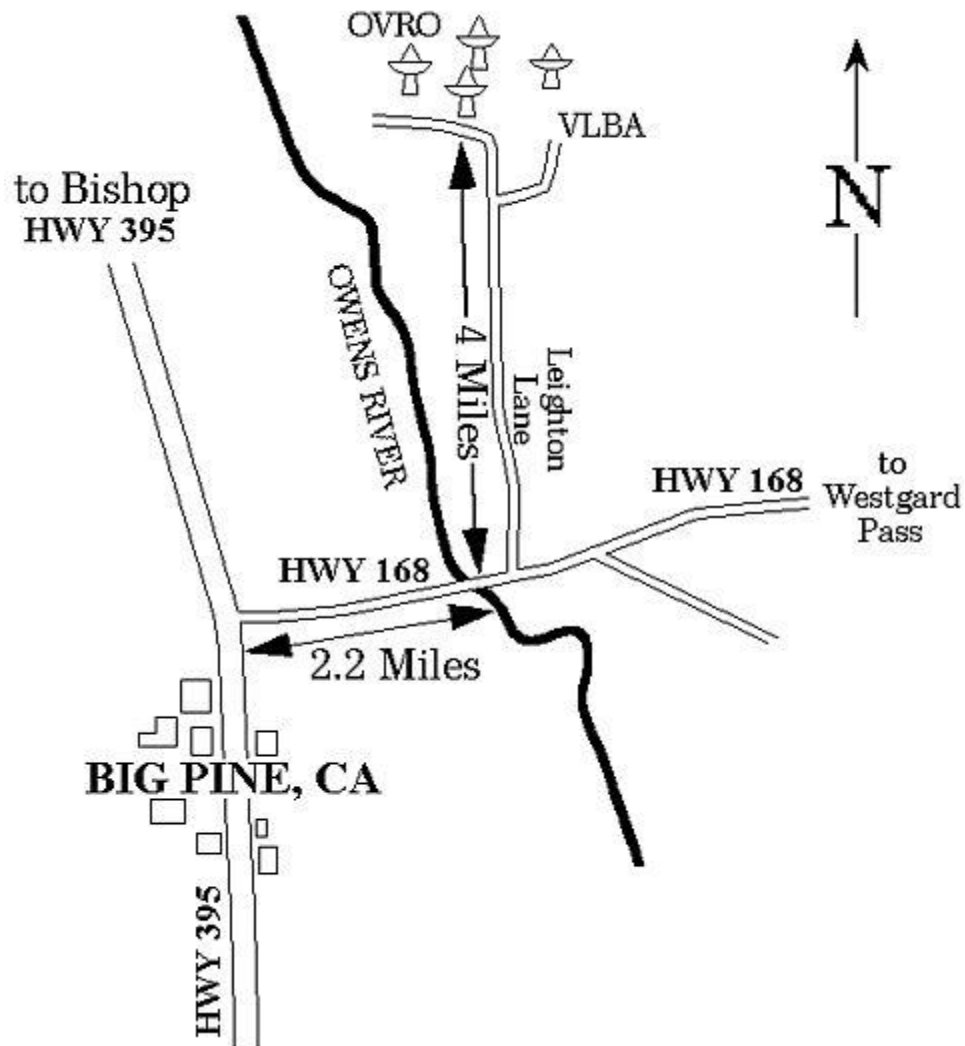
Although just 14 miles south of Bishop, the Owens Valley Radio Observatory is located closest to the town of Big Pine. At the northern tip of Big Pine, by a large pine tree, starts Highway 168. The only public access road to OVRO is via Highway 168. From Big Pine, turn onto Highway 168 and follow the road east. After approximately 2 miles you will cross the Owens River. Once across the river, turn down the first paved road to the left, Leighton Lane.

Follow the road onto Observatory property and head for the largest dish. If you get lost, call me on my cell

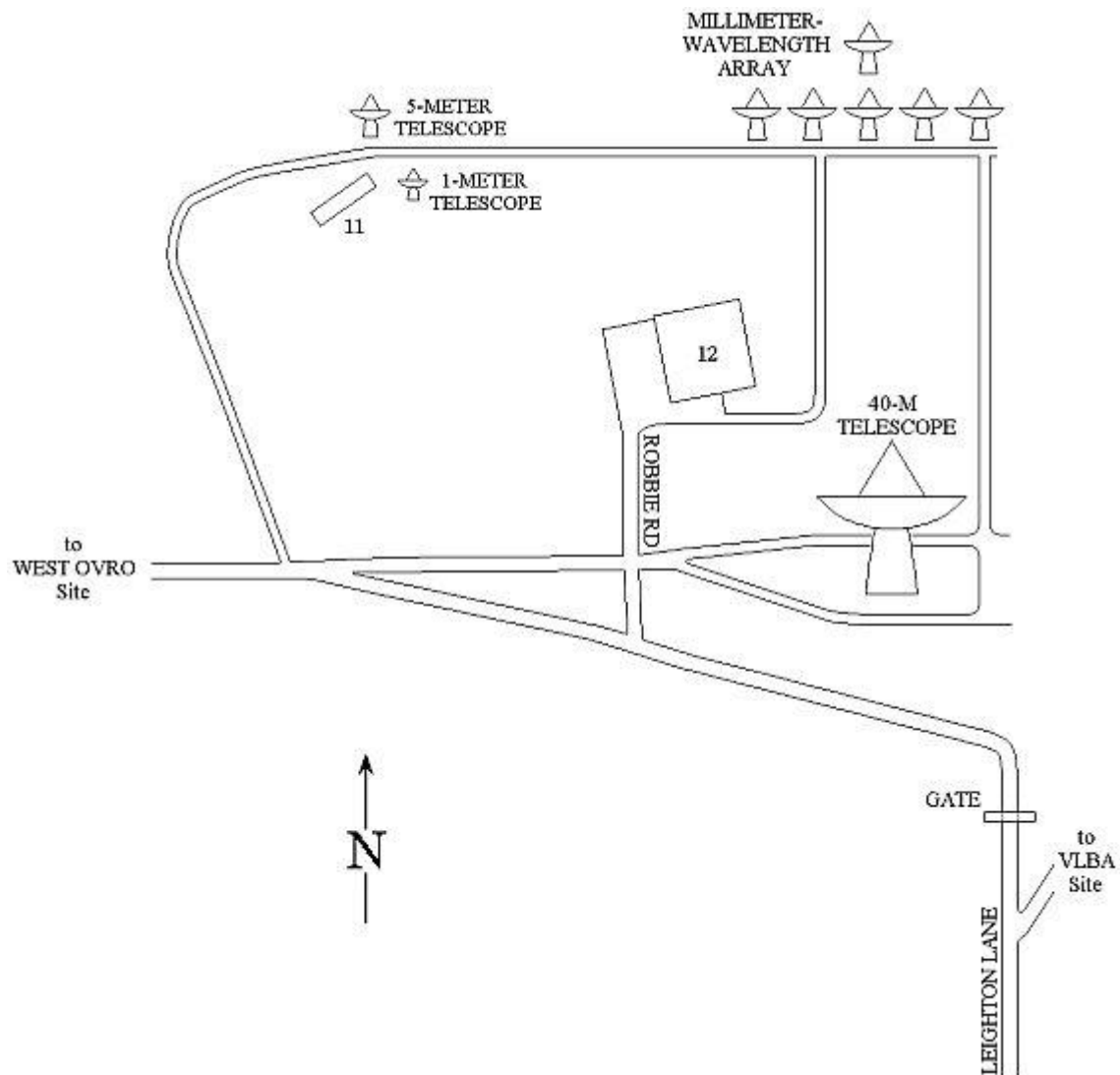
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## OVRO MAP

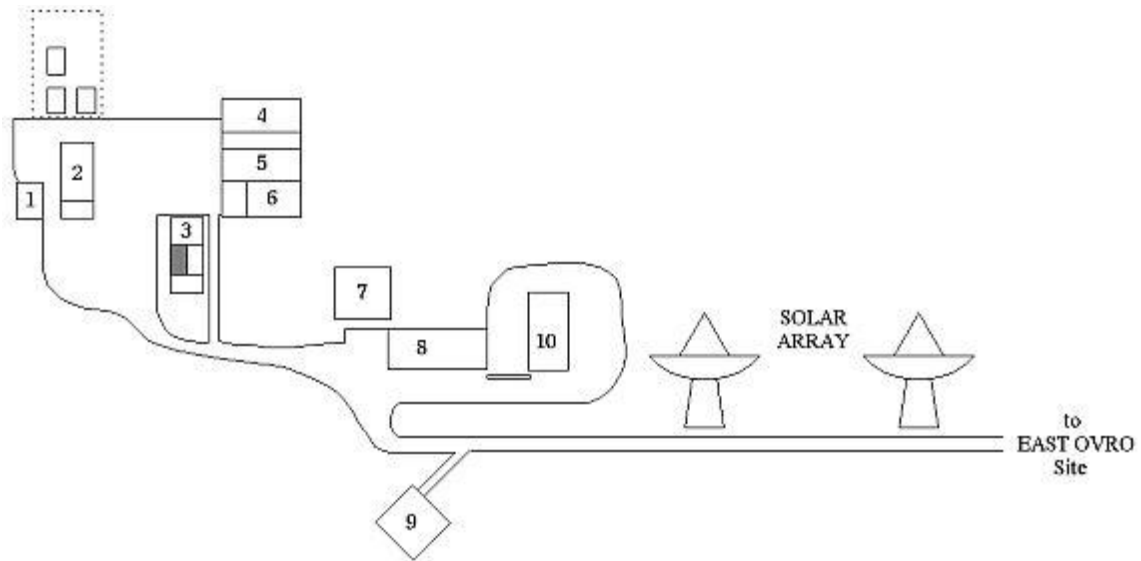
Although just 14 miles south of Bishop, the Owens Valley Radio Observatory is located closest to the town of Big Pine. The only public access road to OVRO is via Highway 168, which begins at the northern tip of Big Pine, by a large pine tree. Turn east onto Highway 168. After approximately 2 miles you will cross the Owens River. Once across the river, turn down the first paved road to the left, Leighton Lane. ([Continued](#))



After approximately four miles on Leighton Lane, you will reach the gate to the OVRO site. Follow the road through the gate and past the left-banked turn. Continue on the paved road, merging with another road at a yield sign, and head west toward the distant group of buildings and a pair of large telescopes (part of the solar array). ([Continued](#))



The road will pass the solar array telescopes, and then turn right, crossing two tracks and ending in a parking lot. As you enter the parking lot, ahead and slightly to your right is Building 8. Inside Building 8 is where most interviews are held. Outside the door of Building 8, facing south is where all tours begin. If you are looking for a specific building number, see the [list](#) at the bottom of this page.




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**Bldg. No. Bldg. Description**

- |    |                                 |
|----|---------------------------------|
| 1  | Auto Shop                       |
| 2  | Carport                         |
| 3  | Light Machine Shop              |
| 4  | Dormitory                       |
| 5  | Machine Shop                    |
| 6  | Welding Shop                    |
| 7  | Engineering Bldg. No. 2         |
| 8  | Engineering Bldg. No. 1         |
| 9  | Cottage                         |
| 10 | Kitchen (Solar Office, Library) |
| 11 | 5.5-Meter Trailer               |
| 12 | Mayer Control Building          |



Hi - how much power can an SMA relay handle? Let's assume a new (or NOS) Transco and sequencing is used so the switching is complete when power is applied (using CW). Thanks 73 Mike AA9IL

Mike,

Most small SMA relays are normally specified at 1 Watt cold switched and some folks have used them for up to 3 watts depending on the model. Anything above that is usually a type 'N' or waveguide relay.

Dave - WA6CGR

3 Watts?

Most of my station is out of spec!

Currently running 150 watts thru one, and been using it since the 80's.

Kent WA5VJB

Hi...

It looks like a Dow Key 401 SMA switch can handle about 75w at 10 GHz, assuming 1:1 SWR, cold switching, etc...

[http://www.dowkey.com/upload/0/Tutorial\\_Guide\\_to\\_Selecting\\_a\\_Coaxial\\_Switch.pdf](http://www.dowkey.com/upload/0/Tutorial_Guide_to_Selecting_a_Coaxial_Switch.pdf)

--- Mike Lavelle, K6ML

My RLC catalogue shows Mini SMA relays rated for 50W CW @ 10 GHz Standard size relays with SMA connectors handle 100W CW at 10 GHz....

73...Jordan VE6ZT

Actually, Transco rated their standard 909- and 919-series SMA SPDT models at about 10-15 watts CW (cold switched, sea level, 1:1 VSWR) at 10 GHz, according to their 9/82 catalog.

RLC's 1983 brochure says 65 watts, as does Dynatech/U-Z's catalog of similar vintage. Joslyn's 1989 catalog says 60 watts, as does Loral's catalog 89-A (roughly).

Dow-Key's current website shows about 75-80 watts at

[http://www.dowkey.com/pseries\\_attach/plk81\\_1\\_PowerChart101.pdf](http://www.dowkey.com/pseries_attach/plk81_1_PowerChart101.pdf)

So it's best to try to find the actual data sheet.

73, Steve VE3SMA



**Courtney, N5BF looks at his power point pictures of Grail.** The San Bernardino Microwave Society is a technical amateur radio club affiliated with the ARRL having a membership of over 90 amateurs from Hawaii and Alaska to the east coast and beyond. Dues are \$15 per year, which includes a badge and monthly newsletter. Your mail label indicates your call followed by when your dues are due. Dues can be sent to the treasurer as listed in the banner on the front page. If you have material you would like in the newsletter, please send it to Bill, WA6QYR at 247 Rebel Road Ridgecrest, CA 93555 or, [bburns@ridgenet.net](mailto:bburns@ridgenet.net), or phone 760-375-8566. The newsletter is generated about the 15<sup>th</sup> of the month and put into the mail at least the

week prior to the meeting. This is your newsletter. SBMS Newsletter material can be copied as long as SBMS is identified as source.

San Bernardino Microwave Society newsletter  
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