
W6VIO Calling



Jet Propulsion Laboratory Amateur Radio Club
PO Box 842, La Canada CA 91012-0842

Volume 39, Issue 10 w6vio@arrl.net; <http://jplarc.ampr.org> Oct 2016

President (2016):	Jonathan Cameron, KF6RTA 4-1189	EmComm. Mgr:	Christopher Carson, KE6ABQ 3-3888
Vice President (2016):	Josh Miller, KB3UUS 4-0835	W6VIO Trustee:	Rob Smith, W6GRV 3-7937
Secretary (2016):	Chris Gaylord, W6YTB 4-5584	W6JPL Trustee:	Eric Archer, N6CV 4-7350
Treasurer (2016):	Chuck Sarture, KG6NF 4-2706	WR6JPL Trustee:	Jim Lux, W6RMK 4-2075
Director at Large (2016):	Steve Townes, WB4ILW 4-7525	WR6AZN Trustee:	Bill Wood, W6FXJ 760-256-9576
Newsletter editor:	Jim Marr, AA6QI, email: aa6qi@arrl.net (your articles for the newsletter are requested, please)		

Upcoming Events:

- **Emergency Communications Net:** Every Monday at Noon, on WR6JPL 224.08/(-)/156.7 & 445.20/(-)/103.5, or WR6AZN 223.96/(-)/156.7 on Table Mountain.
- **JPLARC Regular Membership meeting:** Second working Friday every month from Noon to 1pm and usually in 180-703C but **THIS MONTH** will be in an **ALTERNATE MEETING ROOM: 198-102**. Call-in: 818-354-4044 ID-number: **997 183 539** (without the spaces). Slides (if any) broadcast via JPL WebEx (same ID-number). **Next is October 21st: speakers are: Don Hill KE6BST and Joe Ayers AE6XE discussing "Mesh Networks for Amateur Radio". The Nominating Committee will also be announced at this meeting.**
- **JPLARC Board of Directors (BOD) meeting:** Normally, the first working Friday, every month, from Noon to 1pm and usually in 180-703C. **The next BOD meeting will be Nov 4th**. Call-in: 818-354-4044 ID-number: **997 183 539** (without the spaces).
- **For more upcoming events, see the ARRL Los Angeles Section website:** <http://www.areslax.org>
- **JPL Retiree Nets:** Saturdays, 8:30pm on 1.990 Mhz LSB and Sundays, 2:00pm on 7.150Mhz LSB.

In this issue:

Topics in this issue:

- Regular membership meeting September 23rd
- BOD meeting October 7th
- JEARS
- ARRL Membership
- Future membership meetings & speaker topics
- JPLARC organization chart

Regular Membership Meeting September 23rd

By Jim Marr AA6QI

Present were: Gary Block[†] KJ6IZX, Jonathan Cameron[†] KF6RTA, Chris Gaylord^{†*} W6YTB, Dave Gumpertz[†] KM6FCE, Kathleen Harmon^{††}, Josh Miller^{†*} KB3UUS, Eric Shalov[†] KJ6ARC, Lew Soloway[†] AC6LS, Steve Townes^{†*} WB4ILW. On the Phone/JPLWebex: Jim Marr[†] AA6QI, Steve Noland[†] WA6KLC, Chuck Sarture^{†*}

KG6NF, Bill Weber[†] N6CI.

Note: [†] indicates a 2016 regular voting member (i.e., JPL/Caltech/Retiree and 2016 dues paid), ^{††} indicates an associate (non-voting) member, and * Indicates a 2016 BOD member. For a regular meeting quorum, the JPLARC Bylaws require a majority of the BOD (four or more) and at least five other regular members. We had 5 BOD members and 8 other regular members (total of 13 attendees), so we **did** have a quorum.

Our guest speaker had to cancel at the last minute due to a death in the family and we were unable to arrange for an alternate in time for the meeting. We plan to reschedule.

Although we were without a guest speaker, the meeting was productively used to discuss a broad range of topics that will be briefly mentioned below.

Nominating Committee: Jonathan Cameron has not yet received a commitment for Nominating Committee chair. The Bylaws (<http://jplarc.ampr.org/Bylaws-2014.pdf>) specify the chair is to be announced at the

October regular meeting with candidates to be presented at the November regular meeting. [ed. - Jim Lux W6RMK has subsequently agreed to chair the Nominating Committee again this year.]

Chris Gaylord said that he would be willing to serve as secretary again next year.

Great Shakeout/JEARS: (For an explanation of what JEARS is, see the JEARS article later in this newsletter). Although this was the topic of last month's regular membership meeting, Chris Gaylord gave a brief recap.

The plan is for JEARS members to muster at B329 (the new shack) to receive assignments via Net Control, which will also be run from B329.

Someone new will be needed to staff the Logistics desk in the B310 EOC (Emergency Operations Center) since Steve Townes, who has done that in the past, will not be available to do that this year.

The Comm Van will be pre-staged near or in the Blue Lot just to the northwest of the main gate and will be staffed by Ian Pinkham KE6RFV or Chris Gaylord W6YTB.

JPL Mesh Network: Jonathan Cameron & Josh Miller gave an update on the JPL Mesh Network (the subject of next month's regular meeting guest speaker talk).

JPL Interest Fair: Steve Townes, who led the preparations for the JPLARC table at the fair, gave a summary of how things went.

Repeater Issues: The 224.08 repeater antenna/coax appears to have failed. Steve Townes will organize a work party for the next RDO to fix it.

Mesa HF Antennas: There was a discussion of how to run the coax to the new junction box that will be mounted to the base of the Rohn tower that supports the HF Yagi's. There was also a discussion about fixing the 160m dipole that is on the telephone pole to the southeast of the Rohn tower.

BOD Meeting October 7th

By Jim Marr AA6QI

Present were: Jonathan Cameron^{††} KF6RTA, Bob Dengler[†] NO6B, Chris Gaylord^{††} W6YTB, Josh Miller^{††} KB3UUS, Rob Smith[†] W6GRV, Steve Townes^{††} WB4ILW. On the Phone: Chris Carson^{††} KE6ABQ, Jim Marr^{††} AA6QI, Walt Mushagian[†] K6DNS, Chuck Sarture^{††} KG6NF.

Note: † indicates a 2016 regular voting member (i.e., JPL/Caltech/Retiree & 2016 dues paid), †† indicates an associate (non-voting) member, and * Indicates a 2016 BOD member. For a BOD meeting quorum, the JPLARC Bylaws require a majority of the BOD (four or more) to

be present. We had six BOD members present (and four other regular members) so we **did** have a quorum.

President Jonathan Cameron chaired the meeting.

Treasurer's Report: Treasurer Chuck Sarture KG6NF presented the current budget status: Previous balance of \$4,381.75; Income of \$17.00 in commissions from ARRL memberships; No expenses; Ending balance \$4,398.75

Membership Report: We had three new members, all three resulting from the JPL Interest Fair: Kathleen Harmon and Michael Bottom (both Associate members who are not yet licensed but are working on it); and new licensee Jonathan Soliman KK6RII (congratulations Jonathan). This brings our membership to 57 total members, of which 45 are voting members and 69% are ARRL members.

Guest speaker update: We have a speaker lined up for October but November is still open. Josh will contact Bob Brehm AK6R, chief engineer (and co-owner) of Palomar Engineers about giving his RFI talk via JPLWebEx or ask him for permission for one of us to give his talk for him using one of his slide presentations that are available on the Palomar Engineers website. Josh will also offer Patrick Stoddard the option to give his AMSAT Future talk via JPLWebEx.



Figure 1: JPLARC/JEARS Interest Fair table

JPL Interest Fair: Steve Townes reported on the JPL interest Fair (Figure 1).

The JPLARC participated in the JPL Clubs and Interest Groups Fair on September 21, 2016, sponsored by JPL Human Resources. A tent was set up on the Mall and approximately 40 clubs and interest groups had tables to provide materials and to chat with interested people. The Fair got a good turnout since it was held from 11:00 am - 1:00 pm and the lunch crowd was curious. The event is the first of its kind in many years and HR is to be commended for organizing this. There will be

another one next year.

The JPLARC table was staffed by: Jonathan Cameron KF6RTA, Chris Gaylord W6YTB, Lew Soloway AC6LS, and Steve Townes WB4ILW. We had membership applications, copies of W6VIO Calling, ARRL material (like "What is Ham Radio", JEARS material and a computer running a simple software defined radio (receiver) demo with a colorful waterfall display. Chris Gaylord and Ian Pinkham KE6RFV, also had the Comm Van parked right next to the tent so people could take a look inside.

We were busy for the entire two-hour period with many people stopping by to find out about Ham Radio and many others who wanted to find out about the club since they already had licenses. At the end of the day, we had given away all of the membership applications and copies of W6VIO Calling (about 50 of each). One lesson learned--we neglected to have a signup sheet so that we could get the interested JPLers on our mailing list.

We have already gained some new members as a result of the Fair and we hope to use this opportunity for recruiting in the future.

September 30th Work Party Report: Participants: Steve Townes, Chris Gaylord, Kathleen Harmon and Jim Marr. Work accomplished included:

- (1) Fixing coax connection to the 224.08 MHz repeater antenna (Comet CX-333) mounted on the fence near B35A and grounding the lightning arrestor in the junction box on the side of B35A;
- (2) Measuring the SWR (1.1:1) of the new eggbeater antenna for the 445.20 MHz repeater that will provide circularly polarized reception from on-lab;
- (3) Measuring the SWR of the two Yagi antennas on the Mesa Rohn tower using a Comet CAA500 antenna analyzer with an MFJ-731 Analyzer Filter (a tunable band-pass filter). Results: the Hygain TH-7DX had >>6:1 SWR and the Cushcraft XM-240 2-element 40m Yagi had a 1.5:1 SWR at 7.150 MHz (mid band) and a ~2.5:1 SWR at both band edges. Thus, the XM-240 is probably usable but the TH-7DX needs work.

October 5th Work Party Report: Steve Townes, Jonathan Cameron and Josh Millar installed a Comet CX-333 2m/220/440 tri-band vertical antenna and a Nanostation M5 Loco Link mesh antenna on a mast attached to the junction box just south of B329 (Figure 2). They also ran Ethernet cable into B329 and got the mesh node functional with a link to B180 providing a 115+ mpbs mesh link between B329 and the mesh node in B180-R6. Josh Millar showed a Ubiquity Bullet mesh transceiver that is planned to be used on the Comm Van during the Great Shakeout.

Mesh Network Update: Bret Aguilar K1BAA is setting up a mesh node at his home in Whittier, providing excellent connectivity to the B180-R6 node.

The ARES Los Angeles Northeast group (Gary Wong, et al) have set up a new mesh node at Huntington Hospital that is connected via the JPL Mesa 5GHz node.

Jonathan played a short YouTube video that can be seen by searching for "Landops Mesh Networking" or "Mesh Networking Off the Grid".

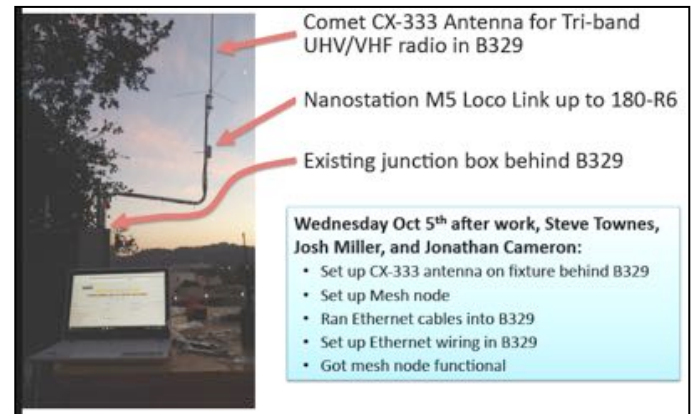


Figure 2: VHF/UHF and Mesh antennas new at B329.

Future Work Parties: Jonathan is planning a work party for RDO October 14th and there was an extensive discussion of things that need to be done.

Use of 2m Repeater: Chris Gaylord is considering using the 2m repeater as the primary check-in frequency for emergencies, leaving 224.08 and 445.20 for handling tactical traffic (i.e. command vs tactical frequencies). Chris asked whether there would be any issues with this approach.

Monday Noon Nets: Continue to go well with typical participation in the mid 20's. It was suggested that when folks are aware of a fire drill that they turn on their radios to the 445.20 repeater (J400).

Other nets/clubs: (1) *JPL Retiree nets:* (a) 160m net: Saturdays 8:30pm-9:30pm on 1.990MHz LSB, and (b) 40m net: Sundays 2:00pm to whenever on 7.185MHz LSB; (2) *Pasadena Radio Club*, meets 4th Tuesday of every month at the Kaiser facility in Pasadena. See w6ka.net; (3) The *ALERT net* meets Mondays at 8pm on the W6MPH repeater (145.18, -, 156.7).

JEARS

By Chris Gaylord W6YTB

The JEARS team met on Thursday, October 13 to review final plans and operating protocols for the Great ShakeOut exercise. The meeting also included training on the Emergency Communications Van as well as on the new procedure for connecting B329 to the large

trailer-mounted generator that's parked next to the shack for emergency power. A copy of the procedure and a key to the generator have been placed in B329 for emergency use.

JEARS will be participating in the Great ShakeOut exercise on October 20 from 10:20 AM to 12:20 PM. After participating in the Lab-wide "duck, cover, and hold" and evacuation drill, JEARS members will deploy to participate in a number of exercise activities along with other JPL emergency responders. *An emergency net will be established on the 144MHz (J100) repeater sometime after 10:30 AM both to test 2m capabilities and to keep the 220/440MHz repeaters free for other (tactical) communications.* Interoperability communications tests will also occur with other JPL/NASA facilities and other local partners including the Altadena Local Emergency Response Team (ALERT), the Los Angeles Emergency Communications Team (LAECT), and the Los Angeles Section ARES organization. All JEARS members are encouraged to participate, as are others who have not yet completed the JEARS training requirements. If you would like to participate and haven't yet done so, please email christopher.gaylord@jpl.nasa.gov and plan to tune to J100 following the duck, cover, and hold drill.

Club members who work on-Lab and are interested in providing communications support during emergency situations are encouraged to join the JPL Emergency Amateur Radio Service (JEARS), a volunteer team co-sponsored by the Club and the PSD Emergency & Continuity Management Group (203A).

Prospective JEARS members must be currently licensed (any class) and complete the FEMA IS-100, IS-200, IS-700 & IS-800 courses. An online application and links to the courses are available at <http://goto/jears> (only accessible from on-Lab). Emergency credentials and additional training will be provided by 203A after joining.

For more information, please contact Chris Gaylord W6YTB at christopher.gaylord@jpl.nasa.gov or (818) 354-5584.

ARRL Membership:

By Jim Marr AA6QI

As an ARRL affiliated club, we need to maintain at least 51% ARRL membership among our voting members.

While there are no requirements to maintain ARRL membership, there are some clear advantages to having ARRL membership. Some of these are:

- Receiving the monthly QST magazine and having access to all back issues electronically.
- Being able to subscribe to weekly ARRL news, propagation forecasts, and satellite ephemeris notifications.

- Being able to subscribe to the electronic monthly Amateur Radio Emergency Service (ARES) newsletter that may be of interest to members who wish to stay current on emergency communications.
- Member discounts on materials and training. For example, the ARRL Introduction to Emergency Communication Course is \$85 for non-members but only \$50 for members.
- You support ARRL, the only significant amateur radio advocacy organization in the U.S. that is fighting to protect our access to the airwaves.

Should those of you who are not already members and may wish to join, **please do so through the Club** rather than joining directly through ARRL. Why? If you join through the Club (new members), the Club retains \$15 of your membership fee to support Club activities. From your point of view, the amount you pay is the same either way. Even if you are a member who is just renewing, doing so through the Club nets the Club \$2, again without changing your costs at all.

To renew through the Club, see Secretary Chris Gaylord who will help you with the paperwork (don't worry, it's really simple!).

Thanks in advance for considering joining ARRL or for maintaining your membership.

Future Meetings

By Jim Marr AA6QI

All JPLARC meetings are being held on non-RDO Friday's from Noon to 1 PM in 180-703C (unless otherwise indicated). Upcoming talks (always subject to change):

November 18th: Guest speaker is still TBD. 2016 Officer Candidates presented by the Nominating Committee.

January 27th: Guest speaker is still TBD. 2017 Officers assume duties.

2016 JPLARC Organization:

