

PAARAgraphs



The Official Newsletter of the

Palo Alto Amateur Radio Association, Inc.

Celebrating 78 years as an *active* amateur radio club—*Since 1937*



"The Origins of Silicon Valley: Roots in Ham Radio"

by Paul Wesling, KM6LH

IEEE SF Bay Area Communications Director,
Hewlett-Packard (retired)

Why did *Silicon Valley* come into being? The story goes back to local Hams trying to break RCA's tube patents, the sinking of the Titanic, Naval ship communications requirements, World War I, Fred Terman and Stanford University, local invention of high-power tubes (gammatron, klystron), WW II and radar, William Shockley's mother living in Palo Alto, Hetch Hetchy water, and the SF Bay Area infrastructure that developed – these factors pretty much determined that the semiconductor and IC industries would be located in the Santa Clara Valley.

Paul Wesling, KM6LH, an IEEE/CPMT Society Distinguished Lecturer, will give an exciting and colorful history of device technology development and innovation that began in San Francisco and Palo Alto in 1910, moved down the Peninsula (seeking lower costs and better housing), and ended up in the Santa Clara Valley during and following World War II. You'll meet some of the colorful characters -- Lee DeForest, "Doc" Herrold, Bill Eitel, Charles Litton, Fred Terman, David Packard, Bill Hewlett, Sigurd Varian and others -- who came to define worldwide electronics industries through their inventions and process development.

Upcoming Events

- July 10 PAARA General Meeting, 7:00 PM
Cubberly Community Center,
Room H-6
400 Middlefield Rd, Palo Alto
- July 22 Board Meeting, 7:00 PM
Everyone welcome! Round Table
Pizza Parlor in Menlo Park
- Aug 30 Nile Canyon Train Ride and BBQ



President's Corner

July 2015

ARRL Field Day for 2015 is in the bag. Not only that, but we also pulled off a successful ASVARO Electronics Flea Market right before that. We have our PAARA trip to the Niles Canyon Railway coming up, and it's not too soon to start thinking about Pacificon.

As I write this, I've only had about 3 hours of sleep over the last couple of days, so if something seems amiss, that's probably it. We had a wonderful time over at Bedwell Bayfront Park with all of the majestic aluminum in the air and the company of all of our ham radio friends. We proved once again that we are The Friendliest Club Around by attracting almost 100 visitors and showing them how much fun our hobby is, and also showing them the kind of camaraderie



(President — Continued on page 4)

Low Resistance Measurements

By: Gary Barnes KI6HIG

During ARRL's Field Day one year, one of the triband antenna had varying SWR indication and someone noted sparks emitting from the antenna at night. We wanted to correct any problems with this antenna before putting in into service the following annual field day event. We needed to check the connections between each section of each antenna element. The center aluminum tubing has the largest diameter. Each additional section slid inside the previous section. The two sections are mechanically and electrically connected. We measured the resistance between of each connection between sections.

To measure the resistance between antenna elements or your ground wire, you will need a four-wire low resistance ohmmeter. This type of ohmmeter is used to measure resistance values, usually below 10 ohms. A known test current is supplied to the unknown resistance, and then the voltage drop across the unknown resistance is measured. The ohmmeter will then display the resistance in ohms between the two potential leads.

Many manufacturers sell low resistance ohmmeters, but most are expensive. Some of these low resistance ohmmeters cost over \$5,000. These ohmmeters first measure the test current and then measure the voltage drop with the potential leads. Then they display the resistance value in ohms.

Low resistance measurements can be made without an expensive low resistance ohmmeter. You need a voltmeter with a millivolt range with 0.1 mV resolution, and a constant current source. A voltage supply such as a 12-volt battery or 12-volt power supply and a fixed 12-ohm, 50-watt power resistor can be used as the constant current supply. The actual resistance value of the 12-ohm resistor should be selected to provide 1 Ampere of test current. When the test current is changed, the resistance value may also change. If the resistance was first checked with a test current of 1 ampere and then the test current was changed to 0.1 Ampere, you may notice a change is resistance. This change in resistance indication may be due to corrosion.

I needed to measure resistance of the connection between each section of a yagi antenna's elements. I used a laboratory power supply and a digital multimeter. I set the power supply to 1-Ampere of current, and I connected the test leads to tips of the antenna element. I used the digital multimeter to measure the voltage drop across each connection of the antenna element. With of test current 1-Ampere, each millivolt will equal 1-milliohm. The first element I measured, I found a section junction that had 18 milliohms of resistance. The connection was taken apart and cleaned. After reassembling of the antenna element, the connection was re-measured and it had resistance less than 1 milliohm. All of the other elements were checked the same way, and those with high resistance were repaired. See Figure 1 for setup. The resistance value in between to the two potential test points. #



The picture on the left and most on page 3 are for the unsung hero's of the setup and teardown crew on Field Day who make it all possible for the operators to come and "play" with BIG aluminum!

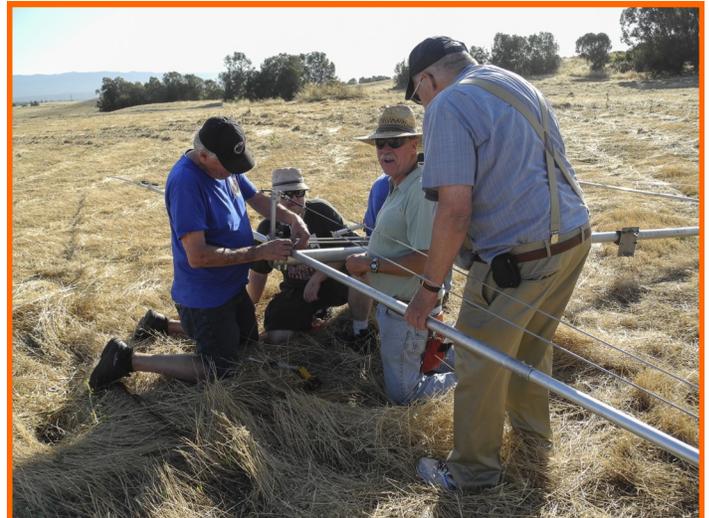
Greetings from Cologne (Köln) Germany.

This is a picture of the confluence of the Mosel River and the Rhine River in Koblenz. Zack and I were standing on the top of the huge monument looking North East (towards Berlin) with a massive statue of the Kaiser Wilhelm up over my shoulder.

It's raining off and on here so sight seeing is hampered but the train system is stupendous and super easy to use and inexpensive. Zack and I traveled from Koblenz to Cologne (1 hour) for 19.80 Euro which is around .87 to the dollar. We will be in Friedirchshafen on Friday for Ham Radio 2015 after we make a stop in Stuttgart to visit the Porsche factory.

Auf Wiedersehen,

Joel (KD6W) and Zack Wilhite



Field Day unsung hero pictures continued from page 2.



(President — Continued from page 1)

that PAARA is famous for. Many of our visitors stayed for much of the day to soak up all of the fun. Our Get On The Air station was very active and included children as young as six years old. We had a ham radio mesh networking node up and running courtesy of Jeff, KG6KGO, in addition to all of the usual gear. The HF stations performed quite well, with the only exception being 15 meters. It did okay, but the antennas were a bit mis-tuned on those bands. Other than that, and despite the incoming particle flux from a recent CME, the other bands performed extremely well. While 10m didn't see much activity, 20m and 40m were great producers of Qs at our stations. I operated 40m CW and had pileups between 12 and 1 am. In the morning, I operated 20m CW from 7am until the end of the contest, and had consistently good results. I believe that the phone stations had similarly good rates. We made our natural power Qs on the 40m station, for more bonus points. We also spent the extra time and effort this year to get some strategy going for NTS traffic. I wrote out a radiogram to the section manager, to my son KG6SVI, and to my niece Rie in Japan. Others on-site composed messages so that we got our bonus points for NTS traffic origination. We had visits from the Redwood City Mayor, and Ken Deuker, KB6BPM, from the City of Palo Alto, as well as George, N6NKT, from the Red Cross in San Jose. It was all capped by an absolutely incredible sunset, complete with a sun dog optical effect, and then fireworks from Stanford. How can you ask for anything more? Oh yeah, there was great food too. If you missed PAARA Field Day this year, then you really missed out on something special. Next year, please consider joining us for an amazing event. Special thanks go out to our Field Day Coordinator Doug, KG6LWE, his entire crew of setup and tear-down specialists, and to all of the Station Captains and operators. It was incredible, and we can now start the planning for next year.

Before FD, we decided to actually do the ASVARO Electronics Flea market in June. I can't remember ever doing that before. Usually we would swap with another club because we were too busy in June. Well, when we did it in July before, it was still hard to do, so we decided to just make it happen with our usual PAARA can-do spirit. The Flea Market went off without a hitch thanks to all of you who

volunteered. It was a success, with around 130 spaces sold, and a fair amount of food from the concession stand as well. A big thanks goes out to the team that put it together, but especially to Jim, K6SV, who did a lot of the logistics work to get all of the atoms where they needed to be on time, and to Gerry, N6NV, for loading up the green truck and selling lots of cool junk (and bringing the coffee in the morning!).

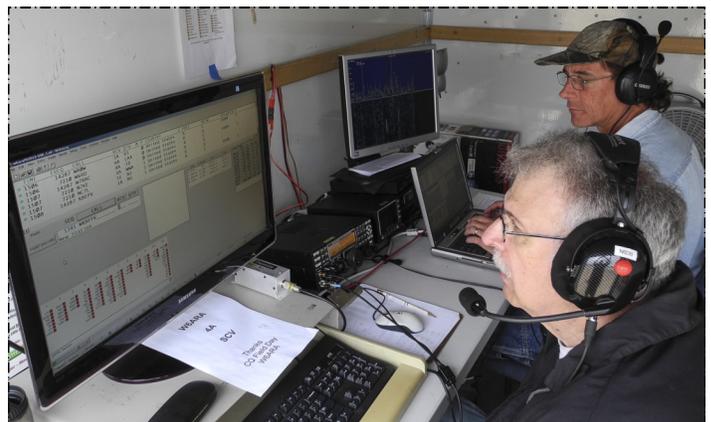
Don't forget the upcoming PAARATrip to the Niles Canyon Railway on August 30th. I was also reminded that Pacificon registration is now open! I'm about to submit my talk abstract, so get ready. And then there's CQP before that, and, and, and. Ham radio never stops delivering more fun an adventure. I'll see you on July 10th for the next meeting. CU AT PAARA DE K6WX

-Kristen (K6WX)

June 17, 2015 Board Meeting

The June Board Meeting was not held as the board took a straw vote and decided that with all the important activities for the month taking up so much time and that there wasn't any pressing business, there was no real reason to meet.

Jim Thielemann
 Secretary/membership
 K6SV



Field Day Phone B, Rebar (N6DB)
 & John (K6MM)

PAARA 6/5/15 Raffle Prize Winners

Left to right starting in the back row

1st Prize / Amanda Wigylus / KK6CWV / Kenwood TM281A / 2m Mobile Transceiver

5th Prize / Rod Hall / KI6WED / ARRL Repeater Directory



7th Prize / Walt Gyger K6WGY /
ARRL Lanyard

2nd Prize / Andy Korsak / KR6DD /
Lido LM801 EXP HT Cup Holder

6th Prize / Andy Korsak / KR6DD /
Bongo Ties

4th Prize / Daniel Rahamim /
KJ6SEE / World Atlas Map Book

3rd Prize / Gerry Tucker / N6NV /
MFJ Mag Mount

August PAARATrip



Whoop, Whoop. She'll be coming 'round the mountain when she comes!

August 30, 10:30 AM, join us for a ride on the Niles Canyon Railway through beautiful Niles Canyon in a private caboose. There will be a picnic and BBQ at the Fremont Central Park/Elisabeth Lake after the ride.

The cost is \$25 per person. The caboose capacity is 28. Reserve your seat early or you may miss out. If you do miss the train ride, join us for the BBQ at Lake Elisabeth. Cost is \$5 per person. You can pay using PayPal on the PAARA.ORG web site.

This is a drive yourself tour. There appears to be plenty of parking at the Sunol depot but carpool if you can. Much more fun that way.

Field Day June 2015



Phone B, 6:30 PM, Gerry (N6NV) & Paula-Marie Tucker



Lunch



Phone B & CW B

GO



Phone A, 5:45 AM, Jim (K6SV) & Doug (KG6LWE) working the pileup on 20M
Left, GOTA

GOTA & Public Info

Food & Social Hall

Phone A & CW A



June Raffle Prizes

- 1st Kenwood TM281A / 2m Mobile Transceiver**
High Power 65W Output
Large Front Speaker
Vivid Amber LCD Display with 32-step brightness control
200 Memory Channels, plus one call channel



- 2nd CountyComm GP-5/SSB** *“thanks Nick N6VOL”*



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- 3rd Daiwa CS201A 2-Position Coax Switch**



- 4th World Atlas Map Book**

- 5th ARRL Repeater Directory 2015 — 2016**

- 6th Bongo Ties**

- 7th ARRL Minilog**

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Station Trustee K6OTA.....	Ron Chester, W6AZ	
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	webaron@gmail.com	
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VE Exams

Redwood City Main Library, Community Conference Room, 4th Saturday 10:30 am each month and De Anza Park, Sunnyvale, 2nd Saturday 10:30 am each month except November and December. See website for details and exceptions: <http://amateur-radio.org> or Contact Al, WB6IMX@att.net

Electronics Flea Market

Sponsorship by **A.S.V.A.R.O.** — Association of Silicon Valley Amateur Radio Organizations
 Second Saturday of month, March-October, 6am-2pm
 Howard M. Krawetz, N6HM 650-856-9761
 Contact: <http://www.electronicfleamarket.com/>

PAARA — Palo Alto Amateur Radio Association

Meets 1st Friday 7:00pm each month at Room H-6, Cubberley Community Center; Net 145.230 - PL 100Hz Mondays at 8:30. See our website at <http://www.paara.org> for more information or contact: Joel Wilhite KD6W, KD6W@ARRL.NET, 650-325-8239

FARS — Foothills Amateur Radio Society

Meets 4th Friday each month at 7:30pm
 Contact: <http://www.fars.k6va.org>

NCDXC — Northern California DX Club

Meets 3rd Thursday 7:30pm each month,
 Repeater for member info 147.360, Thursday 8:00PM
 Contact: <http://ncdxc.org> or Mike Gavin W6WZ, (650) 851 8699

QCWA Chapter 11

Northern California Quarter Century Wireless Association

Meets third Wednesday monthly at Harry's Hofbrau in Redwood City @ 11:30 AM.
 Guests are welcome. Saturday morning net on 146.850 MHz, PL 114.8

50 MHz & Up Group

Meets 1st Thursday each month at 7pm in the Texas Instruments Building E conference room in Santa Clara.
 Contact: <http://50MhzandUp.org>

SPECS

Southern Peninsula Emergency Communication System

Meets each Monday 8:00pm on Net 145.27, 440.80 MHz
 Contact: <http://specsnet.org> or Tom Cascone, KF6LWZ, 650-688-0441

SCARES

South County Amateur Radio Emergency Service

Meets 3rd Thursday 7:30pm each month, Belmont EOC, Belmont City Hall, One Twin Pines Lane, Belmont CA 94002. Net is on 146.445 [PL 114.8] & 444.50 (PL-100) 7:30 Monday evenings. Contact: President Gary D. Aden, K6GDA 650-743-1265 (D), 650- 595-5590 (N)
 Web: <http://k6mpn.org> E-mail: pres@k6mpn.org

SCCARA

Santa Clara County Amateur Radio Association

Operates W6UU & W6UU/R, repeater 146.985-pl
 Nets: 2m, 7:30pm Mon; 70cm, 442.425+ (pl 107.2) Thur.
 Meets 2nd Mon each month @ 7:30 PM.
 Contact: <http://www.qsl.net/sccara> or Clark Murphy KE6KXO 408-262-9334
 ARRL/VEC license testing contact 408-507-4698

SVECS — Silicon Valley Emergency Communications

Operates AA6BT repeater (146.115 MHz+)
 contact: <http://www.svecs.net> or Lou Stierer WA6QYS 408 241 7999

TEARS — The Elmer Amateur Radio Society

Dedicated to operational training, knowledge building & FCC exam testing.
 KV6R repeater under construction.
 Contact: AA6T@ARRL.NET
 Most members are Extra Class or VE's. See QRZ dot com/kv6r for class info

WVARA — West Valley Amateur Radio Association

W6PIY six-meter repeater on 52.58MHz. Normally, six-meters is linked with 147 and 223, while 441 and 1286 repeaters are linked.
 VHF: 52.58 (-500) 151.4 ctcss UHF:
 147.39 (+600) 151.4 ctcss 441.35 (+5.0) 88.5 ctcss
 223.96 (+1.6) 156.7 ctcss 1286.20 (-12m) 100.0 ctcss
 Meetings are 3rd Wednesday of every month.
 Contact: <http://wvara.org>, Bill Ashby N6FFC, 408-267-3118, N6FFC@Juno.com, or N6FFC@ARRL.NET

American Red Cross, Santa Clara Valley Chapter

Contact: <http://santaclaravalley.redcross.org> or Scott Hensley KB6UOO, (408) 967 7924 shensley@Novell.com

(Please send changes to PAARAgaphs editor)



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 Sales Manager

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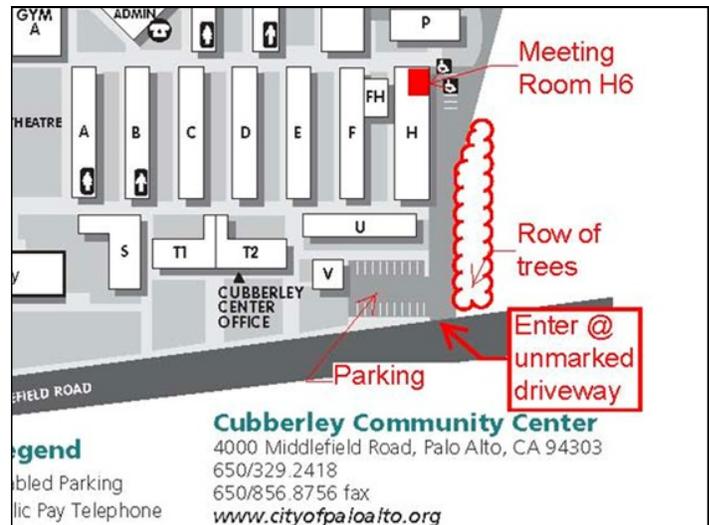
If you would like to
 order a badge, see
Doug Teter, KG6LWE.

PAARA Weekly Radio Net

Info and Swap Session
 every Monday evening at 8:30pm
 on the N6NFI 145.230 MHz repeater

<u>Week</u>	<u>Control Operator</u>
1 st	Joel KD6W
2 nd	Doug - KG6LWE
3 rd	Jack - N1VSL
4 th	Marty - W6NEV
5 th	Rob KC6TYD

If you're interested in trying out at Net Control,
 Contact Doug, KG6LWE. It's good practice,
 and lots o' fun! Give it a try.



**Meeting Location — Middlefield Road
 between San Antonio and Charleston in Palo
 Alto. 4000 Middlefield Road**

<http://www.foto.mail.ru/list/shkurkin>

Vladimir Vladimirovich

SHKURKIN

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**Palo Alto Amateur Radio Association
 P.O. Box 911, Menlo Park
 California 94026-0911**

Club meetings are on the first Friday of each month,
 7:00pm at the Room H-6, Cubberley Community Center.

Radio NET & Swap Session every Monday evening, at
 8:30pm, on the 145.230 –600 MHz repeater, PL 100Hz.

Membership in PAARA is \$20.00 per calendar year,
 which includes one subscription to PAARAgaphs
 \$6 for each additional family member (no newsletter).

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<p>RADIO IN THE PARK</p> <p>9:30am - 12:30pm Check Back In the Spring</p> <p>QTH: Agnews Historic Park 4030 Lafayette St. Santa Clara, CA 95050</p> <p>N 37° 23.549 W 121° 57.297</p>	<p>Ilse Beck, E. A. , KI6IBM</p> <p>BeckBusiness Services</p> <p>441 N. Central Avenue, #9 Campbell, CA 95008</p> <p>Enrolled Agent Income Tax Bookkeeping/Payroll Elder Care Consultations Billing and A/R</p> <p>Phone/FAX: 408-267-8234 Email: ilsebeck@jps.net</p>
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Subscription Problems? Contact Database
 Manager: Jim Thielemann, K6SV,
 408-839-6815, thielem@pacbell.net

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PAARAgaphs accepts paid advertisements from non-members. (short personal ads remain free for members in good standing). **All ad rates listed are per issue.**

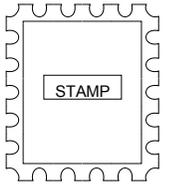
- Not-for-profit ads by association members for ham-related items and wants. No cost for business card-size ads (additional space at \$2.50 per business card size per issue).
- For Profit organizations and/or individuals: \$5-business card size, \$25-half page, \$50 full page or back cover per issue.

These fees may be reduced or waived in exchange for a valuable consideration that is given to the Association or its general membership. Such consideration must be in addition to any existing arrangements with the association. The PAARAgaphs editors reserve the right to reject any ad deemed to be not in the best interest of the Association.

All fees payable in advance by the year with "scanner-ready" copy or text-only ads. **Give payment and copy to Ron Chester, W6AZ**

PAARAgaphs — July 2015

Accept no substitutes. Produced and printed in California USA



Palo Alto Amateur Radio Association, Inc.
 PAARAgaphs Newsletter
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 Menlo Park, California 94026

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