



Cathay October 2026

www.cathayradio.org

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Mission: The Cathay Amateur Radio Club is basically an active social club of Ham Radio Operators and their spouses. We support local community requests for HAM emergency communications. Several of us are trained in CPR/ First Aid and are involved with community disaster preparedness.

Monday Night Net Time: 9 PM Local Time/PST, As of 8/21/2023 we are switching over from using Repeater: WB6TCS to **Nick Cassarino's Repeater: WA6GEL UHF 444.800 Mhz, Offset +5 Mhz, CTCSS/Tone PL 179.9 Hz on Monument Peak, Milpitas. If you are in the North Bay, one can use the WA6GEL repeater North Bay located on Mt. San Bruno - 444.8 MHz offset +5 Mhz, CTCSS/Tone PL173.8 Hz**

The CARC Monday night net is the best way to find out the latest club news. All check-in are welcome.

Message on Behalf of the President: Leonard Tom, *NX6E*

Hello CARC Members and Friends;

Many thanks to both Nick Cassarino for the use of repeater – WA6GEL for our CARC Monday Night Net.

Additional folks are needed to help out with conducting the CARC radio net on Monday nights. Please contact Ed Fong (edison_fong@hotmail.com) if you are interested.

Pacificon Annoucement

Yes, it is that time again;



Additional details are in this newsletter.

Tech Article Introduction:

Interesting article to help clear up the confusion about batteries.

For more information, please read the Tech Article Session of this newsletter.

Tech Session In Sunnyvale Summary:

Ed Fong hosted a very successful lecture on topic: Milestones in the Walkie Talkie. Pictures from this event are at the bottom of this newsletter..

Wrap Up

I wish to thank our CARC members that set aside their valuable time to participate in our Monday night's nets.

Chat sub s'em to all you CARC members! - Leonard Tom, NX6E

Public Service Announcements

HAM CRAM / HAM Licensing

For upcoming HAM Licensing locations please refer to:

<http://www.arrl.org/find-an-amateur-radio-license-exam-session>

Auxiliary Communications Service (ACS)

The Auxiliary Communications Service (ACS) is a unit of trained professionals who supply communications support to the agencies of the City and County of San Francisco, particularly during major events/incidents. ACS goals are the support of gathering and distribution of information necessary to respond to and recover from a disaster.

The ACS Net begins at 1930 hours (7:30 p.m. PT) local time each Thursday evening, on the WA6GG repeater at 442.050 MHz, positive offset, tone 127.3 Hz. The purpose of this net is to practice Net Control skills, practice checking in with deployment status in a formal net, and to share information regarding upcoming ACS events. Guests are welcome to check in. ACS members perform Net Control duty on a regular basis. On the second Thursday of each month, the net is conducted in simplex mode on the output frequency of the WA6GG repeater, 442.050 MHz no offset, tone 127.3 Hz.

ACS holds its General Meetings on the third Tuesday of each month from 1900 hours to 2100 hours local time. Currently meetings are exclusively conducted over Zoom during the COVID-19 pandemic, ACS looks forward to meeting in person again as soon as possible.

Upcoming meeting dates in 2026 are:

- October 21, 2026
- November 18, 2026

Location of in person future ACS meetings are yet to be determined as the regular location is under reconstruction. All interested persons are welcome to attend. For further information contact Corey Siegel KJ6LDJ <kj6ldj@gmail.com>.

For more information, please attend an ACS meeting, check in on the ACS radio net, or call 415-558-2717.

Free Disaster Preparedness Classes In San Francisco – NERT Taught by San Francisco Fire Department (SFFD).

<https://sf-fire.org/nert/nert-calendar-meetings-trainings-events>

Training Classes: see above website. TBD

+ Recertifications

TBD

***SFFD DOT** is the Fire Department Division of Training. All participants walking, biking or driving **enter through the driveway gate on 19th St.** between Folsom and Shotwell. Parking is allowed along the back toward the cinderblock wall.

Visit www.sfgov.org/sffdnert to learn more about the training, other locations, and register on line. Upcoming Special NERT Events.

San Francisco Police Department: Auxiliary Law Enforcement Response Team (ALERT)

The Auxiliary Law Enforcement Response Team (ALERT) is a citizen disaster preparedness program designed. The ALERT program is for volunteers 16 years of age or older, who live, work, or attend high school in San Francisco.

Graduates of the San Francisco Police Activities League (P.A.L) Law Enforcement Cadet Academy are also eligible to join.

ALERT volunteers will no longer need to complete the Fire Department's Neighborhood Emergency Response Team (NERT) (www.sfgov.org/sfnert) training and then graduate into two 8 hour Police Department course specifically designed for ALERT team members.

ALERT members will work closely with full-time and/or Reserve Police Officers in the event they are deployed after a disaster. The Basic ALERT volunteer will have no law enforcement powers other than those available to all citizens.

SFPD ALERT Training (New Members)

The next SFPD ALERT training class has been scheduled for: TBD

***Class date indicated are only for new members**

IMPORTANT- All participants must complete the background interview process in order to be eligible to attend the ALERT training class.

Eligible ALERT participants may register for a training class by contacting the ALERT Program Coordinator, marina.chacon@sfgov.org, or by telephone at 415-401-4615.

SFPD ALERT Practice/Training Drill

All active/trained ALERT members are asked to join us for our next training drill, via scheduled for on TBD

For more information on the San Francisco Police Department ALERT Program, email us at sfpdalert@sfgov.org, or call Lt. Marina Chacon (SFPD Ret.), SFPD ALERT Program Coordinator, at (415) 401-4615.

For additional information on the web please refer to:
<https://sfgov.org/policecommission/alert>

PACIFICONSM 2026



All Day Friday
Antenna Seminar

Saturday Breakfast
with Gordon Wood

Great QRP activities!

Friday evening
MFJARC Meeting with
Special Speaker



Latest
Ham Radio
Equipment for Sale

Ham License Testing

Get-On-The-Air
Special Events Station
Days & Nights!

** Lots of Prizes **



ARRL PACIFIC DIVISION HAM RADIO CONVENTION

*Experience three great
days of activities at Pacificon!!*

Produced by the Mt. Diablo Amateur Radio Club

October 16, 17 & 18, 2026
San Ramon Marriott
2600 Bishop Drive
San Ramon, California 94583

**GENERAL ADMISSION:
\$35 IN ADVANCE - FOR ALL 3 DAYS!**

*Tickets at the door will cost \$45; 17 years old & under are free;
College Students with valid student ID (25 & under): \$5*

**** Some events have additional cost ****

If you need hotel accommodations
either reserve your room on-line through
www.pacificon.org, or call Marriott Hotel Reservations
at 925-867-9200, by Sept 23, 2026 (per availability)
to ask for the Special Pacificon rate of \$174/night

**Go to the Pacificon Website for
Events - Schedules - Registration
WWW.PACIFICON.ORG**

**** Events are subject to change - check website ****
For current "Pacificon Rules and Policies" see website



Outstanding
Technical Forums!

Sunday Morning
Swap Meet

Electronics
Kit Building

Scenic
Jamboree-On-The-Air
& Merit Badge Class



Saturday
Gordon Wood's
Ham Instructor Academy

Saturday Banquet
with Keynote Speaker

Saturday One Day
Technician License
Prep Class

T-Hunt!
Saturday & Sunday



Tech Section:



https://www.makeuseof.com/wasted-so-much-money-on-aa-batteries-because-battery-code-meaning/?utm_source=firefox-newtab-en-us



By [Amir Bohlooli](#)

Published Aug 29, 2026, 9:25 AM EDT

Amir is the Segment Lead for Software at MUO. He's a PharmD student who loves looking at numbers and spreadsheets.

Inspired by his father's hobbies, Amir developed a knack for DIY projects and built his first quadcopter in high school. At 18, he began writing about 3D printing, and now contributes to MUO where he writes and edits productivity tools, AI and LLMs, spreadsheets, self-hosting, DIY projects, and a lot more.

Amir also enjoys creating music, although its categorization as such remains open to interpretation. In addition to his academic pursuits, Amir is an avid gamer, car enthusiast, and proud owner of a 1993 Mitsubishi Galant.

I pulled my camera out last week to shoot a few photos, and I instantly remembered why I don't like using this thing: it takes AA batteries. My wireless mouse takes one AA.

I have three Xbox controllers that all take AAs. Over time, constantly swapping dead batteries and watching devices chew through them has given me an actual "ick" for anything that relies on AA cells.

But, as it turns out, there's a lot more going on with AA batteries than I ever assumed. I'd ignored the text and markings on the packaging for years, but when I finally paid attention, everything clicked — and all my battery-related problems basically solved themselves.

Consider this my attempt at redemption, so no one else repeats the same mistakes that I did.

**Why did I ignore the battery markings for so long?
Please let me explain**



Heavy Duty. Super Heavy Duty. Extra Heavy Duty. Pro Max Heavy Duty. Titanium. Long lasting. Lasts 10 years. "The last battery pack you ever buy." You've seen these. So have I.

I dismissed them all as empty marketing fluff and assumed none of it meant anything. To be fair, I was right — those phrases do not mean anything. But their presence on the packaging was distracting enough that I ignored the text that *does* matter: the codes that tell you the chemistry and how the battery will actually perform.

I'd like to believe I'm not the only one who fell for this. Most people probably treat AA batteries as a single category (I say to myself).

You grab whatever's on the shelf and assume the only differences are "how long it lasts" or "whether it's rechargeable." That assumption is wrong.

The markings on AA batteries matter — and once you understand them, the entire category stops feeling random.

AA batteries aren't all the same **Not every piece of text is an advertisement**



Let me waste a few more seconds of your time, because this story is exactly what made the whole thing click for me. If you find it boring, scroll ahead — the AA battery guide table is waiting for you. But I'll make the story worth your time.

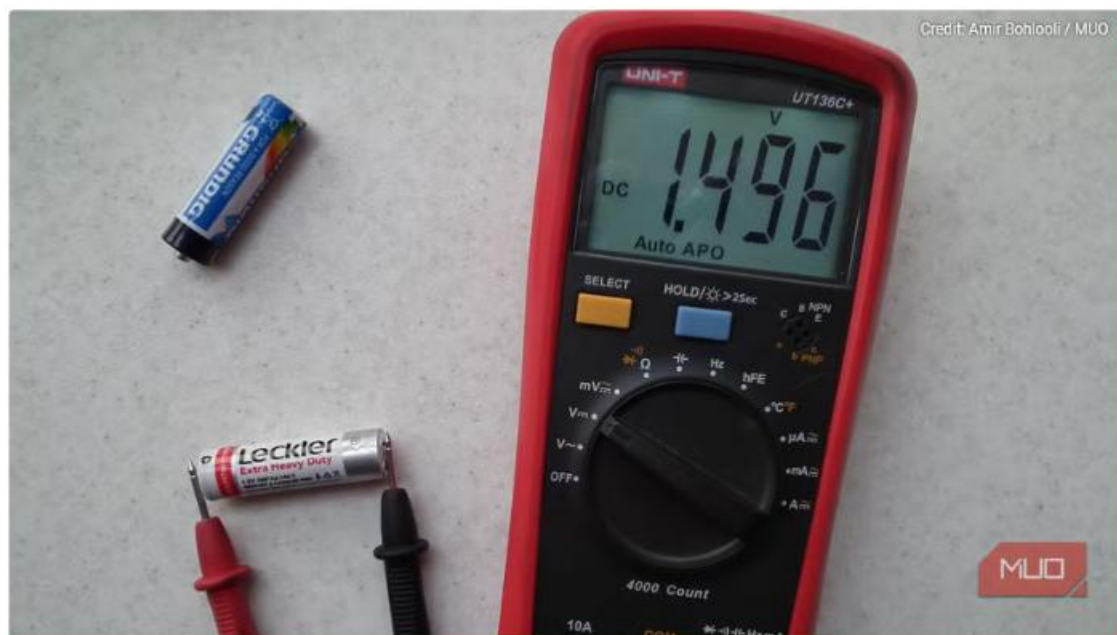
My camera takes four AA batteries. I used to have a set of rechargeable ones for it, but I hadn't used the camera in so long that I couldn't find them. So I bought a pack of cheap non-rechargeable AAs. The camera lasted for about ten shots, then shut off instantly. No low-battery warning. Nothing.

66

Surely, despite these batteries both being cheap non-rechargeable AAs, there's a difference between LR6 and R6? What do they mean?

”

So I put in another pack of batteries, and the camera didn't even turn on. I could hear tiny relays clicking inside when I flipped the switch, but nothing else. No LCD, no beep, nothing. What happened? Did this guy sell me discharged batteries? Is this a scam? I grabbed my multimeter and it showed 1.5V. What's going on?



I swallowed the questions and instead I went scorching all my shelves and bags looking for my rechargables. I found a whole lot of AA batteries, and to find out if they're rechargeable or not, I had to read what's on them.

That's when I noticed codes like *LR6-BP4* or *R6P AA UM-3*. Surely, despite these batteries both being cheap non-rechargeable AAs, there's a difference between *LR6* and *R6*? What do they mean?

What the AA battery codes actually mean

Translating LR6, R6, HR6, and friends



Let's decode something like **R6P AA UM-3**:

Code	Meaning
R	Round cell (cylindrical)
6	Size code for AA
P	“Power” or general-purpose zinc-carbon (the cheap stuff)
AA	Retail name (just repeats the size)
UM-3	Japanese JIS code for AA (again, the size)

Most of this is redundant. But the chemistry code is the key. And once you know the other codes too, you realize that “AA battery” is not one product. There are several chemistries, and they behave very differently.

Code	Chemistry	Internal resistance	Open voltage	High-current performance	Rechargeable
R6	Zinc-Carbon	250–400 mΩ	1.5V	 Terrible	✗
LR6	Alkaline	80–150 mΩ	1.5V	 OK-ish	✗
HR6	NiMH Rechargeable	20–30 mΩ	1.3V	 Excellent	✓
FR6	Lithium (Li-FeS ₂)	60–90 mΩ, very stable	1.8V	 Excellent	✗
KR6	NiCd Rechargeable	25–40 mΩ	1.3V	 Excellent	✓

Don't use R6 batteries for your camera
You're throwing away money



There you have it — AA batteries, demystified. But if you *really* want to put this topic to bed (like I did), we need to talk about why you shouldn't use R6 or LR6 batteries in a camera or any other high-current device.

Before I understood any of this, I assumed the only difference was capacity. Cheap batteries die faster, expensive ones last longer. Same voltage, so the camera should work either way. I was wrong.

High-drain devices like cameras, flashes, and game controllers, pull a lot of current. Batteries have internal resistance, and when you pull high current, voltage drops.

This is exactly what my camera was doing. It would turn on with alkaline **LR6** cells, but the moment I used autofocus or flash, it would instantly shut off. And the batteries weren't "dead" — they still worked fine in a mouse. The load just pulled the voltage below the camera's minimum threshold.

Here's an example at 5 amps (flash recharge spike):

Code	Open voltage	Internal resistance	Load voltage @ 5A	Load state
R6	1.5V	~300 mΩ	$1.50 - (5 \times 0.30) = 0.00 \text{ V}$	Full collapse
LR6	1.5V	~120 mΩ	$1.50 - (5 \times 0.12) = 0.90 \text{ V}$	Shutdown territory
KR6	1.3V	~35 mΩ	$1.30 - (5 \times 0.035) = 1.12 \text{ V}$	Stable-ish
HR6	1.3V	~25 mΩ	$1.30 - (5 \times 0.025) = 1.17 \text{ V}$	Stable
FR6	1.8V	~80 mΩ	$1.80 - (5 \times 0.08) = 1.40 \text{ V}$	Very stable

So yes, you save nothing by buying cheaper batteries. The device simply won't function properly. This is why cameras love NiMH (**HR6**) and lithium (**FR6**). It's also why **R6** zinc-carbon shouldn't be used for anything more demanding than a wall clock.

Note

All of these standards and codes also apply for AAA batteries.

How to tell if you've got the right batteries
Ignore "Heavy Duty" and read the tiny code instead



The next time you need AA batteries, consider the device you want to use it for.

The degree of *duty* that's written on the batteries (like *Heavy duty*) is arbitrary. Just look at the codes and numbers.

Code	Use case
R6	Just avoid them. They're barely cheaper than LR6 and perform terribly.
LR6	For remotes, clocks, and low-drain devices.
HR6	For anything high-drain (cameras, controllers, flashes, toys).
FR6	For the best non-rechargeable performance.
KR6	Only if you own ancient equipment.

Tip

Some brands include icons to hint at intended use. A clock usually means zinc-carbon (**R6**). A flashlight means alkaline (**LR6**). A camera icon could mean lithium (**FR6**). These icons aren't standardized, but they can help you spot the obvious garbage.

For cameras or anything that draws a lot of current, NiMH and FR6 (lithium) AAs are the right choice. NiMH has the bonus of being rechargeable, which makes it the best long-term deal. The only catch is you'll need a proper charger if you don't already have one. I use a Camelion 4-slot charger and a Sony 2-slot charger — both handle AA and AAA without issues.



Sony Cycle Energy NiMH Compact Charger

Compatible Batteries	AA, AAA
Brand	Sony
Battery capacity	1000 mAh
Battery Cell Type	NiMH

\$64 at Electroshop

If you're going to use a charger, read the text on your charger. Unless it's a proper smart charger (with temperature sensing, delta-V detection, or safe trickle at full), charging NiMH cells is vulnerable to the same [phone charging myths](#) we've finally outgrown with phones. Leaving them overnight in a dumb charger will overheat them, degrade them, or even melt the casing.

FR6 lithium batteries are excellent for cameras. They offer high capacity and very low internal resistance, which means they can handle heavy bursts of current without choking. They're not rechargeable, but a single pack will last a long time in most cameras.



Energizer Ultimate Lithium AA Batteries

Battery Type(s)	Lithium
Brand	Energizer
Capacity	3000 mAh

See at Amazon

Warning

A quick warning when shopping for lithium AAs: always check the voltage. Most lithium cells on the market are 3.7V, not 1.5V. Those 3.7V cells use a completely different chemistry, and putting them in your camera is a spectacularly bad idea. You want 1.5V lithium primaries like the Energizer Ultimate Lithium series. And remember: if it's rechargeable, it's the wrong lithium chemistry for AA devices. Only the non-rechargeable lithium AAs are safe replacements.

What about USB-rechargeable AA batteries?

They're cute, but not practical

HW USB Rechargeable Lithium AA Batteries 4 Packs, 2800mAh Li-ion AA Battery Constant Output 1.5V, 2 four Fast Charge with USB...
4.5 ★★★★★ (197)
100+ bought in past month
\$11.99 (\$3.00/count) List: \$44.99
Save 10% with Subscribe & Save discount
FREE delivery Fri, Nov 21 on \$35 of items shipped by Amazon
Or fastest delivery Wed, Nov 19
Add to cart

Artman USB Rechargeable AA Lithium Batteries, 1.5V Double A Batteries with 4-in-1 USB-C Charging Cable, Rechargeable Lithium AA...
4.2 ★★★★★ (125)
50+ bought in past month
\$8.54
Save 10% with coupon
FREE delivery Fri, Nov 21 on \$35 of items shipped by Amazon
Or fastest delivery Tomorrow, Nov 17
Carbon impact ✓
Add to cart

Coast AA USB-C Rechargeable Batteries, ZITHION-X, Lithium Ion 1.5v 2400 mAh, Long Lasting, Charges Under 2.5 Hours, Charging...
4.5 ★★★★★ (201)
300+ bought in past month
\$28.11 (\$7.03/count) List: \$29.99
Save more with Subscribe & Save
FREE delivery Fri, Nov 21 on \$35 of items shipped by Amazon
Or fastest delivery Tomorrow, Nov 17
Add to cart
More Buying Choices
\$23.11 (3 used & new offers)

Artman USB Rechargeable AA Lithium Batteries, 1.5V Double A Batteries with 4-in-1 USB-C Charging Cable, Rechargeable Lithium AA...
4.2 ★★★★★ (125)
\$16.66 List: \$24.99
Save 10% with coupon
FREE delivery Fri, Nov 21 on \$35 of items shipped by Amazon
Or fastest delivery Wed, Nov 19
Carbon impact ✓
Add to cart

USB Rechargeable Lithium AA Batteries, 3400mAh 1.5V Rechargeable Double A Battery with 2-in-1 USB-C Cable, 2H Fast Charge...
4.5 ★★★★★ (15)
50+ bought in past month
\$8.99 (\$4.50/count) List: \$9.99
FREE delivery Fri, Nov 21 on \$35 of items shipped by Amazon
Or fastest delivery Tomorrow, Nov 17
Add to cart

On some shelves, you'll see USB-C rechargeable AAs that advertise 1.5V lithium 2200mAh. You might think: wait, aren't lithium AAs supposed to be 1.8V and not rechargeable? Correct. And these are not actually 1.5V lithium cells.

Inside these USB-rechargeable AAs, there's a tiny 3.7 Li-ion cell, *plus* a buck converter to regulate output to 1.5V, *plus* a charging circuit. So you're basically buying a small battery + lots of circuitry. [The battery capacity \(mAh\)](#) is never as high as advertised (because 2200mAh at 1.5V $\neq$ 2200mAh at 3.7V), and you're paying for complexity, not performance. It's a cute idea, but a bad deal.

Note

I went with Panasonic Eneloop HR6 (NiMH) cells in the end, and they've been rock-solid — every photo you see here was taken on my camera without it collapsing mid-shot.

I changed my mind about AA batteries

I wasted so many R6 AAs on my camera that I don't even want to think about it. But those days are over. I'm fully on board with AA-powered devices again.

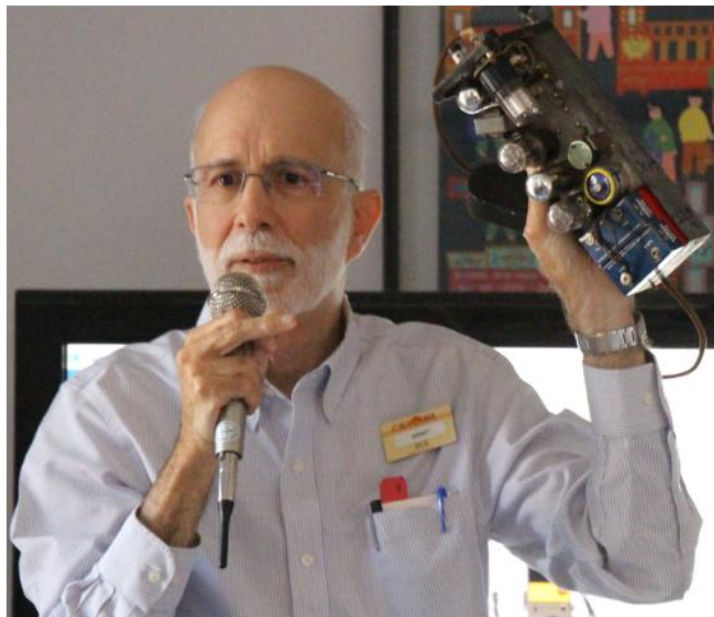
I used to be annoyed that Microsoft wouldn't just stick a a proprietary Li-Po battery in its controllers, like Sony does. But now, no more. When a proprietary battery in a device dies, you're stuck. When a device uses AAs, you just swap cells and move on. I proudly confess that AA batteries weren't the problem. I was.

Tech Session in Sunnyvale Photos

Below are photos taken at the Tech Session on Milestone in the Walkie Talkies that was held on Saturday September 12, 2026.



Group Photo of Attendees



Presenter: Rick Ferranti W6MIT showing early US Forestry radio.



Tad Kuwno KD6YDH winning grand prize



Martin Delteur winning the Baofeng UV5r



Kamy winning the universal flashlight.



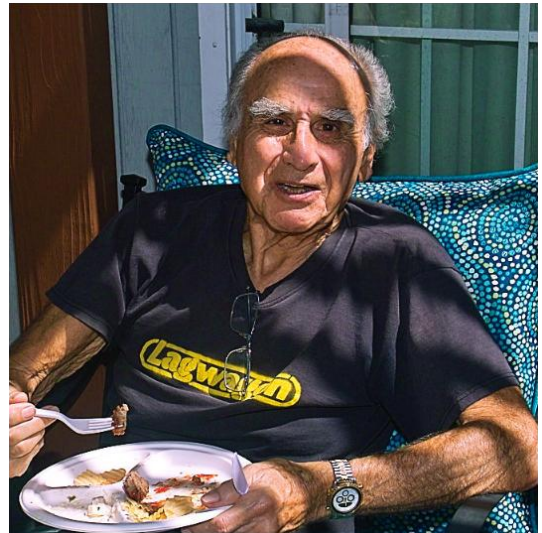
Raft KD6YDH winning the mil spec flashlight



Rad (N6TIG) and Mike Wright (W6MFW)



Rick W6MIT talking with Reno Raffaeli (retired engineer)



Reno Raffaeli - retired engineer.



Folks enjoying the luncheon



Left to right: Howard N6MNV, Cilas Kwok K6WOK, George Martin WA6UUJ, UNKN



Left to right: Rad Lee N6TIG , unknown, Jeff Anderson K6JCA Raft Kruger KC6YDH



Group of attendees enjoying lunch



Left to right: Attendee, Tad Kwano KD6YDH, and Terry Nakasima WB6PVU



Left to right: Jeff Anderson K6JCA, and Attendee



Howard N6MNV, Cilas K6WOK, George WA6UUJ, Leonard NX6E Mike Wright K6MFW



Attendees hanging out in the living room and listening to the lecture