

# PAARAgraphs



The Official Newsletter of the

**Palo Alto Amateur Radio Association, Inc.**Celebrating 84 years as an *active* amateur radio club—*Since 1937*

## Node-RED, what is it?

Andreas Junge, N6NU

Practically hot off the press! This month's QST featured an article on Node-RED. It's all about Flow Based Programming. Invented by J. Paul Morrison in the 1970s, flow-based programming is a way of describing an application's behavior as a network of black-boxes, or "nodes" as they are called in Node-RED. Each node has a well-defined purpose; it is given some data, it does something with that data and then it passes that data on. So, what does this have to do with ham radio? Andreas will show us how this open-source software can be an easy solution for controlling many applications in the ham shack.

### This meeting will be conducted with Zoom

Time: Sep 10, 2021 07:00 PM Pacific Time

#### Note — Second Friday This Month

<https://us02web.zoom.us/j/84578497477>

Login ID: First name and Call Sign

Meeting ID: 829 3066 0082

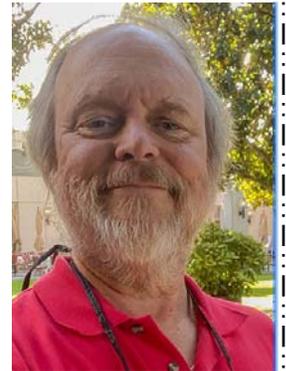
## Upcoming Events

Sept 10	PAARA General Meeting, 7:00 PM
Oct 1	Zoom Meeting
Nov 5	
Sept 15	Board Meeting, 7:00 PM.
Oct 20	Everyone welcome! Zoom Meeting,
Nov 17	eMail President for details!
Sept	Electronic Flea Market Cancelled
Oct 12-17	Pacificon (currently on)

## President's Corner

September 2021

As you'll notice in the board minutes, the board agreed that having a September in-person meeting wouldn't be prudent. We feel with the Delta strain of Covid, the later than usual date of the meeting (we're meeting on September 10th, the second Friday), and the fact that Joel, KD6W, our meeting site zoom master will be out of town, were more than enough reasons to wait a month and see what the prognosis is in October. Thus, the September meeting will only be on zoom and not in person.



I received an interesting link from the ARRL the other day to a FEMA document. Seems FEMA put together a document advising what to do

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**WHAT IT'S LIKE TO MAKE A  
 PARACHUTE MOBILE JUMP  
 Chronicle of our Sept 2009  
 operation at Byron, CA**

**Mark Meltzer, AF6IM,  
 "Jumper 1"**

~ Part 2 ~

During opening, I carefully check for other traffic. After canopy inflation, I look for collapsed cells, tears, broken lines, and other problems. I will leave the steering toggles in their stowed position so that they configure the canopy in a "half flaps" slow speed flight mode. I try a few turns by pull-ing on the rear risers. The safety check is complete. Now I can take in the SPECTACULAR views of SF Bay, the Pacific Ocean, and the Sacramento River Delta. I can see the buildings in SF, all the bridges and many airplanes too, fortunately none nearby. I then look straight down and it literally takes my breath away. I think to myself, "all that is keeping me from falling 13,000 feet is some sewn nylon fabric and a few surprisingly thin Spectra polyester lines." It is a sobering thought. I ask myself, "would you ride in an elevator suspended by only a bunch of thin polyester cords?" My answer is "no," but it isn't practical to use steel cables on a parachute so I am stuck with what I have. "Might as well enjoy the ride Mark, and stop driving yourself crazy," I think to myself as I settle down and start attending to the tasks at hand. I look around for traffic again as this area has quite a few gliders and powered planes, see no conflicts, then pull out my speaker mic, key it and announce, "Mission Control, JUMPER 1, AF6IM, open at 13,000 feet, good canopy, safety checks complete, ready for comms." I exchange greetings with our Crew Chief Jon Gefaell, K6OJ, then I work call after call. It all goes incredibly well, callers are courteous and patient, and the thrill is mutual as I work hams from all over on 2 meter FM simplex. At times, the breathtaking view and the eerie feeling of being suspended above it by only a few cords

is overwhelming and unsettling. I force myself to "reset" and consciously focus on deciphering the numerous incoming calls. Since I can hear stations over a two hundred mile diameter but their hearing range for other ground stations is far smaller, doubles and triples abound. It takes some work to sort it out. As I float miles above a beautiful California summer landscape, I feel truly blessed being able to enjoy such an exciting hobby a month ahead of my 60th birthday. When I was a new jumper at age 18, 59 was absolutely ANCIENT. I lie to myself that 60 is the new 40, times have changed, I am not really so old, etc. It is easy to deceive yourself at 13,000 feet, perhaps slightly hypoxic, participating in an extreme sport populated by wild hedonistic young people. I am not in denial about aging. I just am crazy about skydiving. I love it as much as I did when I made my first jump in 1968. I was hooked on my first jump. I just can't see quitting the incredible rush and feeling of euphoria that comes with every jump. It's also a really cheap thrill at only \$17 for a ride to 14,000 feet for experienced sky-divers. I don't drive fast cars, my wife is my own age, and tattoos and piercings don't appeal to me at all. I am just an older guy who isn't ready to hang up his rig yet -- it's really just that simple.

Most of the time, I have jumper 2 in sight, but not always. My pulse rate rises really quickly when I cannot see him. Five California jumpers have died this summer in canopy collisions. A call from mission control tells me that jumper 2 is half a mile west of my position (in the sun, which is why I cannot see him) and I relax for a few moments. Mission control relays a helpful suggestion from jumper 1 that I head further west as lower winds have increased. At about 3500 feet I tell the callers that I have to pay attention to navigating back to the landing area and will be in listen mode only from 3000 feet down to landing. One by one they fade out as I descend below the Altamont Pass hills that cut me off from the SF Peninsula. Oddly, KR6DD's signal still comes through long after the others have been blocked. Mission control, sited on a high peak, is loud and clear during every phase

(Mobile Jump — Continued on page 3)

*(Mobile Jump — Continued from page 2)*

of the descent. Mission control reports with obvious pleasure and excitement that our APRS jump telemetry gear (put together by our Chief Engineer Michael “Mikey” Pechner NE6RD and Scott Miller N1VG of Argent Data) is functioning perfectly and that the data packets are already up on the Internet. I am focusing on pulling my rear right riser, steering my canopy upwind and don’t acknowledge the call, but a chill runs down my spine as I ponder the enormous power of radio, electronics and networks. I literally shudder knowing that my son Eric, KI6PQR, who shuns ham radio in favor of the Internet, is currently looking at his Dad’s (AF6IM-7 on APRS) heart rate, blood oxygen level, altitude, heading and speed from the comfort of his dorm room at Peking University in Beijing China. We truly live in an age of tangible miracles. At 2500 feet I unstow the steering toggles which takes the trailing edge of the canopy back up to a flush position and I surge forward picking up speed. My chute is now handling more like a nimble fighter plane than a ponderous dirigible. The quiet peace has been invaded by a loud rush of air as my unleashed canopy takes the bit and runs fast. I can pull high G banked turns that fling my body out horizontal to the ground and cause me to shed altitude with alarming rapidity. I play around with a few high G maneuvers but pay close attention to altitude, position and the location of jumper 2 who, besides me, is the only jumper in the sky. I can see that I will clear the ground hazards and make it to the DZ landing area. I keep an eye out for jumper 2 as I navigate toward the same field that he will be landing in. We are far apart now but will be converging fast as we approach the DZ. At about 1500 feet I set up for my final approach, making sure I have enough speed to penetrate the wind for an upwind DZ landing. I am bouncing around a lot in turbulence and eye the horizontal wind streamers which show strong gusty winds on the ground. I keep my speed high in the turbulence to insure full canopy pressurization. If you get too slow you can stall or have a canopy collapse. Unlike the old round chutes, these dual surface rectangular ram air cano-

pies have to be piloted or they will crash.

There are no go-arounds in skydiving landings. You only get one shot. The ground rushes up at me. I make last minute small steering corrections to hold an upwind track. I can see my teammate Ray Rogoway W6RAR shooting photos as I make my final approach to touchdown. Just a second before I hit, I pull down hard on both steering toggles, pulling down the rear surface of the canopy and bringing the airfoil to a full stall as I touch down for a soft stand up landing. I gather up the collapsed canopy which is trying to reinflate in the 25 knot wind and then make my touchdown call: “Mission Control, JUMPER 1 AF6IM is on the ground at the DZ, safe landing.” I watch jumper 2 make his final approach in high winds and bouncy turbulence to an absolutely perfect standup landing. “Mission Control, JUMPER 1, JUMPER 2 has touched down on the DZ, safe landing.” Jumpers 1 and 2 walk back toward the packing hanger, post adrenaline rush going full blast, endorphins flowing, thinking of the big one, the high one in which we will launch from above 20,000 feet and all the preparation and planning that lies ahead. Mission control is relaying congratulations from our QSO contacts and thanking all the support crew. A beautiful California summer sunset is playing behind us as we walk toward our friends and loved ones gathered at the DZ fence. It is hard to say which side of the fence has the biggest smiles. High fives, whoops, and offers of cold drinks mark the end of a successful parachute mobile jump. Combining the two hobbies that I love has succeeded beyond my wildest expectations. As I drive home I ponder going higher, using oxygen and communicating with long distance capable HF radio gear. The project is working and is underway. My team mates are enthusiastic and are helping out so generously. We have a lot yet to do but the momentum is there and it I can feel it building. I am totally stoked. It always feels especially good to be alive after a jump. Today, the feeling lingers long after touchdown and finds its way into my dreams.

## 10 August, 2021 900 MHz Portable Radio Checks

**Gary Barnes**

Not long after PAARA's 900 MHz was placed into operation, Joel Wilhite, KD6W, acquired some Motorola XTS1500, 900 MHz radios. Joel has been offering these radio to club members of \$75 each so they can get on the club's 900 MHz repeater.

I got my Motorola radio in May 2021. Joel told me that I would need to buy a power cable for the battery charger, and that its battery needed charging. I ordered a new power cable on the internet for the charger. I received the power cable 8 days later. While I was waiting to the power cable, I ordered a second power cable. The first cable cost \$9.95 and the second cable cost \$1.95 and took only four days before I received the power cable.

It took many hours to charge the radio's battery, but it would not hold a charge. I purchased a new Ni-Mh 2500 mAH battery for my radio. This battery works well.

At each of the rotary channel selection position, I recorded the repeater call sign. Next, I measured the radio's transmitter frequency for each channel selector position. I recorded the transmitter frequency to 10 Hertz resolution. The radio has a frequency accuracy of 1.5 part-per-million (ppm). My frequency counter has an accuracy of 1 part-per-billion (ppb).

The channel switch is two concentric rotary switches. One rotary switch has positions A, B and C. and the other rotary switch has positions 1 to 16 for total number of channels is 48. I found the channel selector switch has some problems. The radio does not stay on channel. A new switch would correct the problem, but I have not been able find one. I believe the repeater listings have some errors for call sign or city, for examples W6AFT should be K6AFT (channel A6). Repeater

WI6H SF may have a problem with frequency (channel A5). Repeater NC9 should be NC9RC (channel A2).

Joel told me that this radio has power output of 5 watts, but I found the RF output power level to be at least 3.2 watts on all transmitter channels that I tested. The Motorola manual has the power listed for the 900 MHz radios as 3 watts.

The radio's receiver seems to work OK. It has a sensitivity of 0.36 microvolts for a 12 dB SINAD (Signal-to-Noise+Distortion ratio). The receiver's audio frequency response from 400 Hertz to 3000 Hertz is within 1.5 dB. The transmitter has about the same frequency response.

I checked the Motorola's antenna using my directional coupler and a power meter. I had a Voltage Standing Wave Ratio (VSWR) of less than 4:1, but greater than 3:1. This reading might be due to not having the antenna mounted to the radio.

I have not been able to check the receiver's adjacent channel interference, because I have only one RF signal generator for 900 MHz band. I have used my one signal generator at 20 KHz separation. I set the signal generator's output level to -73 dB (50 microvolts) with 1000 Hertz audio tone at an FM deviation of 1500 Hertz. Adjust to radio's volume control for about 2.6 volts across the 28 ohms resistor load resistor. Increase RF signal for the adjacent channel level until the 1000 Hertz audio tone is detected. No adjacent signal was detected up to an input level of +7 dBm (0.5 volts).

This appears to be a good radio with a bad channel selector switch and some programming problems. Not all of the switch positions have problems.

Gary Barnes  
KI6HIG

## August 2021 Board Meeting Minutes

The August board meeting was held by video-conference. Present were President Jim Thielemann K6SV; Vice President Rob Fenn, KC6TYD; Secretary Ric Hulett N6AJS, Treasurer Bob Korte KD6KYT; Directors Doug Teter KG6LWE, Joel Wilhite KD6W and Walt Gyger, K6WGY. Mikko Sannala AB6RF also attended. The meeting was called to order at 7:18 pm

**President's Report:** FEMA has issued a new publication: shelter-in-place for Active Shooter, chemical hazard, earthquake, nuclear event, thunderstorm, pandemic. There are many opportunities for hams to train for CERT, FEMA, etc. Ham Radio is still essential in emergencies!

**Note:** Hams have been asked to preserve clear frequencies at 3150, 7150, and 14330 for Haiti earthquake ham activities.

**Secretary's Report:** We have two membership renewals this month. Thanks to Mikko AB6RF for handling last month's PAARAgaphs mailing.

**Members:** PAARA membership renewal time is coming up! See the PAARA.org website for renewal instructions.

**Treasurer's Report:** Last month, PAARA paid the bookkeeping service and PIP printing. These were the only expenses for the last month.

VP / Program Chair Report — No report this month.

### Old Business:

Members! We need more PAARAgaphs articles, from you! Put fingers to keyboard, and send in even a short article about your ham activities and interests. It's member-generated content that makes PAARAgaphs special.

We have two articles in the hopper, but always need more.

Pacificon special event station update, Mikko

— This will be held in San Ramon on Oct 15-17.

Pacificon will be either full-on or will be cancelled. All local regulations will be followed.

Indoor gatherings >1000 people require proof of vaccination, or a negative covid test result.

We have secured callsign W1AW/6. Radios and amplifiers are secured. Joanna K6YL helped again this year with two rigs and associated filters. WB6KIO has also supplied a rig.

PAARA will have an antenna work party at Doug Teter's in San Martin, October 9. Doug will tow the antenna trailer up to San Ramon.

**900 MHz repeater status:** Repeater is ON THE AIR.

We will be looking for a club member to take on the job of managing PAARA-owned equipment (donations) for sale. Contact Rob KC6TYD for more information.

We will probably drop the 'shack show' from the PAARA meeting agenda, unless there are more volunteers.

The board discussed whether to hold the September PAARA meeting at Cubberley, or to stay with video meetings for another month. Because of uncertainty with the Covid-19 pandemic, and issues with the zoom link, we will hold the meeting by Zoom for September.

We hope to be back in-person by October.

Sheila Foley is our new accountant. She updated the books and filed the necessary paperwork with the government. She's working on the raffle filing.

### New Business:

PAARA will organize a party to remove a tower from the site of Jim Teimstra K6JAT (a recent SK) in Oakland. Doug KG6LWE will coordinate this work.

A club member's widow has offered a package of Elecraft radios and other ham gear to the club at a very favorable price. The board

*(Minutes — Continued from page 5)*

voted to make this purchase. We will evaluate whether to keep some radios as club gear, and whether to offer for sale to club members.

Another PAARA member was featured in QST for September: Andreas Junge, N6NU is the developer of Node-RED software, featured in an article.

The meeting was adjourned at: 8:59

Respectfully Submitted

Ric Hulett, N6AJS

PAARA Secretary

*(President — Continued from page 1)*

when different events occur depending on what type of structure you are in. The document can be found here:

[https://www.fema.gov/sites/default/files/documents/fema\\_shelter-in-place\\_guidance\\_5-25-2021.pdf](https://www.fema.gov/sites/default/files/documents/fema_shelter-in-place_guidance_5-25-2021.pdf)

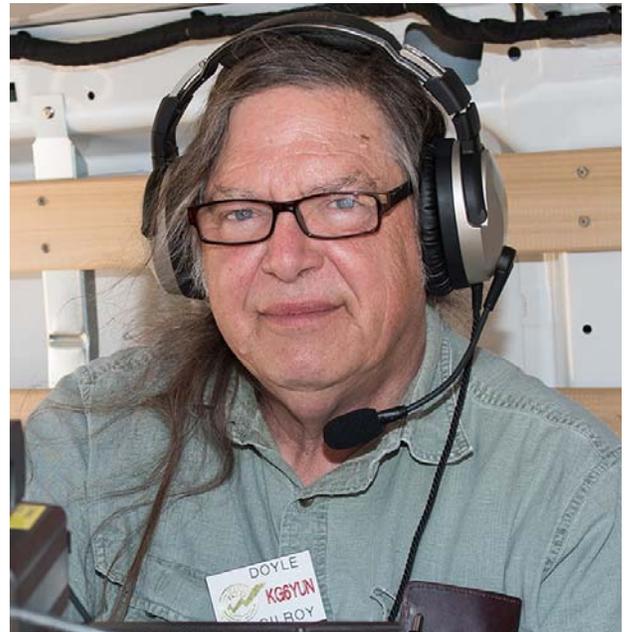
As most likely know but it bears repeating, we've been asked to stay off frequencies: 3750 kHz, 7150 kHz, and 14330 kHz as they are being used for emergency communications with Hati hams. Though there has been lots of press to the contrary, it's nice to see there still is a need for hams in emergencies.

PACIFICON is still scheduled to occur on October 12 ~ 17. Mikko, AB6RF, our special event station captain, has been busy making preparations. He's collected the radios and is working on getting the club computers so he can get them to connect to the radios. Doug, KG6LWE, has volunteered to take the tower trailer and antenna to the site on the 12th and help with the setup. He'll return on the 17th to help take it down and cart it back. Doug will host an October 9th antenna party to go through the antenna for the event. Please reach out to Mikko and offer your assistance in setting up the entire station on the 12th, covering periods during station operation, assist in dismantling the station on the 17th. He can use all the help we can muster.

Though I forgot to mention it at the board meeting, it's that time of year again for electing officers. All officers and directors, except for Joel, KD6W whose term doesn't expire until next year, are up for election. I reached out to Clark Martin, KK6ISP, who's run the last several elections to see if he'd run this year's election. He's agreed to run the election again this year. Please reach out to him if you are interested in running or nominating someone for a position on the board.

Did you receive your September issue of QST? If you did, have you read the story on Node-RED? If not, it would be a good thing to do before attending the next meeting as the person behind Node-RED, Andreas Juge, N6NU, will be presenting at the September meeting! If you don't know what Node-RED is and wondered how you might automate your remote station, don't miss his presentation!

In a bit of sad news, in case you hadn't heard, Doyle Kissler, KG6YUN, passed away the



morning of 8/22/21 as the result of a hemorrhagic stroke he suffered roughly a month ago. He was a long-time PAARA member and supporter and a great guy. Our condolences go out to his family.

73, Jim K6SV

Get on the air to keep the airwaves alive!

# PAARA PUZZLE

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I	P	V	G	N	O	H	F	F	U	O	W	Q	C
B	O	O	Q	Y	C	W	I	B	A	L	U	N	E
A	W	L	T	T	R	A	N	S	I	S	T	O	R
N	E	T	C	O	N	T	R	O	L	N	V	I	E
D	R	S	O	K	Q	T	E	C	O	B	I	T	H
W	I	J	H	Y	R	M	E	I	N	M	S	A	P
I	M	G	I	A	E	E	T	N	P	L	C	L	S
D	K	H	I	D	C	A	F	E	C	P	H	U	O
T	Z	Q	O	P	G	K	D	L	K	I	E	D	P
H	C	M	H	A	E	A	X	Y	E	C	M	O	O
T	H	R	P	F	N	A	C	A	A	C	A	M	R
E	L	O	G	C	I	N	T	X	O	G	T	P	T
G	R	D	E	V	C	S	Z	E	K	C	I	O	Q
P	I	O	N	O	S	P	H	E	R	E	C	E	R

BALUN

NET CONTROL

SHACK

BANDWIDTH

OHM

TNC

COAX

PACKET

TRANSISTOR

DIGIPEATER

POWER

TROPOSPHERE

IMPEDANCE

PROPAGATION

VOLT

IONOSPHERE

REFLECTOR

WATT

MODEM

RTTY

WOUFF-HONG

MODULATION

SCHEMATIC

YAGI

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	energyconserved@sbcglobal.net	
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	bob@rgktechsales.com	

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	ki6ldm@arrl.net	

### Appointed Positions

Membership .....	Vic Black, AB6SO	650-366 0636
	ab6so@smrn.com	
Database .....	Ric Hulett, N6AJS	408-332-4593
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Public Affairs .....	<i>Position Vacant</i>	
Station Trustee W6OTX, W6ARA....	Gerry Tucker, N6NV	
Station Trustee K6YQT...	Doug Teter, KG6LWE	650-367-6200
Station Trustee K6OTA...	Ron Chester, W6AZ	
Property Manager .....	Gerry Tucker, N6NV	
Badge Coordinator .....	Doug Teter, KG6LWE	650-367-6200
	dteter@wawi.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](mailto: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-September, 6am–12 noon

Contact: <http://www.electronicfleamarket.com/>

## PAARA — Palo Alto Amateur Radio Association

Meets 1<sup>st</sup> 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](mailto:KD6W@ARRL.NET), 650-325-8239

## FARS — Foothills Amateur Radio Society

Meets 4<sup>th</sup> Friday each month at 7:30pm

Contact: <http://www.fars.k6ya.org>

## NCDXC — Northern California DX Club

Meets 3<sup>rd</sup> Thursday 7:30pm each month,

Repeater for member info 147.360, Thursday 8:00PM

Contact: <http://nodxc.org> or Mike Gavin W6WZ, (650) 851 8699

## 50 MHz & Up Group

Meets 1st Thursday each month at 7pm in the Summit Room at the Sunnyvale Sports Basement, 1177 Kern Ave, Sunnyvale

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 3<sup>rd</sup> 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](mailto:pres@k6mpn.org)

## SCCARA

### Santa Clara County Amateur Radio Association

Operates W6UU & W6UU/R, repeater 146.985-pl

Nets: 2m, 7:30pm Mon; 70cm, 10M (28.385) 8PM Thur.

Meets 2<sup>nd</sup> Mon each month @ 7:30 PM.

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](mailto: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 2nd Wednesday of every month except July, August and December.

Contact: <http://wvara.org>, Bill Ashby N6FFC, 408-267-3118, [president@wvara.org](mailto:president@wvara.org)

## American Red Cross, Santa Clara Valley Chapter

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

(Please send changes to [PAARAgaphs editor](mailto:PAARAgaphs editor))

WE ARE PLEASED TO ANNOUNCE  
THE NEXT CHAPTER FOR US:

**HSC** HAS SOLD TO

**EXCESS SOLUTIONS!**



**That's right!**

- ✦ Halted Specialties Co., Inc. has sold HSC Electronic Supply to Excess Solutions of San Jose...making the biggest surplus electronics store in the Bay Area!
- ✦ Much of the millions of parts seen on HSC's shelves will be showing up soon on Excess Solutions' shelves...for your electronic needs.
- ✦ Techs, Developers, Experimenters, Hobbyists and Creators will once again have access to the basic parts that Silicon Valley was built upon!
- ✦ Support your local surplus store...there are few left, and you know how much this Silicon Valley resource is needed!

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San Jose, CA 95112

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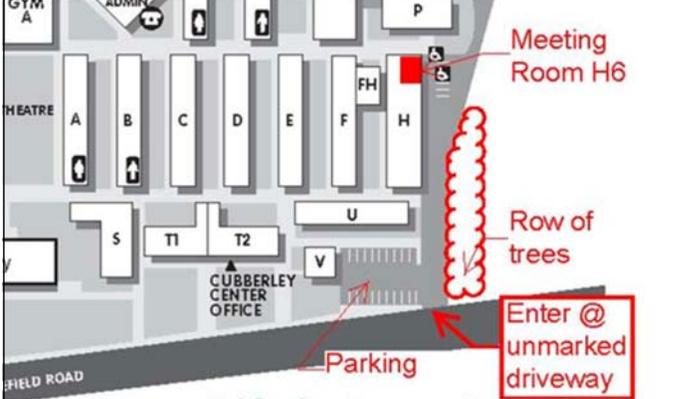
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### PAARA Weekly Radio Net

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

Week	Control Operator
1 <sup>st</sup>	Joel - KD6W
2 <sup>nd</sup>	John - W6JMK
3 <sup>rd</sup>	Ric - N6AJS
4 <sup>th</sup>	Rob - KC6TYD
5 <sup>th</sup>	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**




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 Email: KARLDRESDEN@juno.com

**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 \$25.00 per calendar year, which includes one subscription to PAARAgaphs \$6 for each additional family member (no newsletter).

Make payment to the  
 Palo Alto Amateur Radio Association,  
 P.O. Box 911, Menlo Park, CA 94026-0911

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 the membership page to order.  
 Badges will be mailed to purchas-  
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### PAARAgaphs Ad Rates

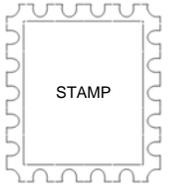
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All fees payable in advance by the year with "scanner-ready" copy or text-only ads. **Give payment and copy to Walt Gyger, K6WGY.**

# PAARAgaphs — September 2021

Accept no substitutes. Produced and printed in California USA



Palo Alto Amateur Radio Association, Inc.  
 PAARAgaphs Newsletter  
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