

PAARAgraphs



The Official Newsletter of the

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

A portable magnetic loop antenna covering 80 through 20m ham bands.

Lucian Ploias, VA7LDT

Lucian is a Mechanical Engineer of 30 years and is self-employed. He boasts of being an avid “boat anchor” collector since he was a student; especially military gear from WW2. He loves to experiment with antennas and chasing DX. That is what motivated him to build a magnetic loop as a portable multiband antenna. Lucian lives on a small island 15 miles NW of Vancouver amongst other islands. He enjoys setting sail in his dinghy and working DX from some of those islands.

This meeting will be conducted with Zoom


Time: Feb 5, 2021 07:00 PM Pacific Time

<https://us02web.zoom.us/j/88576344546>

Login ID: First name and Call Sign

Meeting ID: 885 7634 4546

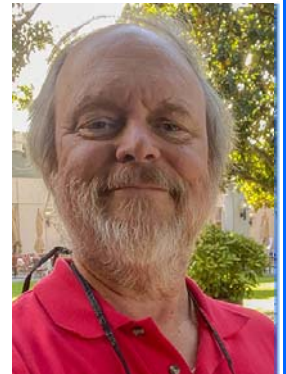
Upcoming Events

Feb 5	PAARA General Meeting, 7:00 PM
Mar 5	Zoom Meeting
Apr 2	
Feb 17	Board Meeting, 7:00 PM.
Mar 17	Everyone welcome! Zoom Meeting,
Apr 21	eMail President for details!
Feb	Electronic Flea Market Cancelled

President's Corner

February 2021

Welcome to February! I'm not sure where January went but it flew past me and seems to have brought spring with it, or seemingly did. My rain gauge indicates I've received a pitiful 1.87" this year, the rain measurement year starts in August. That's a woefully small amount of rain for this time of year! Hopefully, we'll have a wet spring but I'm not holding my breath.



As I sit typing this column, I'm watching the Winterfest 2021 Virtual Hamfest. It was free so I hope you caught the one-day show. There were informative talks on Solar Cycle 25, POTA (parks on the air), using a Flex Radio for digital modes, LiFePO4 batteries, and Portable HF Antennas to name a few. If you missed it, go to

(President — Continued on page 4)

The Squirrel Zapper* An L/HF multi-band balcony railing antenna

Hiroki Kato AH6CY

“Necessity is the mother of invention,” said the 4th Century BC Greek philosopher Plato. “Desperation is the father of inspiration,” say I. I live in a most severely antenna-restricted QTH in the San Francisco Bay Area. I have been playing with various stealth antenna designs for years, including a



Fig. 1 House on a Hill

flagpole, a gutter and a near-invisible small-gauge wire. One recent morning, as I stood on my second floor balcony, an idea came to me: why not use the metal railing that surrounds the balcony for an antenna? If you can load up a bed frame as some hams have claimed, I should be able to load this large metal structure. As it turned out, not only does it load, but it loads all HF bands, 160 to 6 meters no less. Also, my WSPR signal was heard on 630 meter, and I received and decoded WSPR signals from stations on 630 and 2190 meters.

As you see in these photos, the railing is on the second floor balcony of the house which is situated on a north-facing slope. My elevation is about 700 feet from the sea level. The whole railing frame is welded together and the wires which go through the frame are fastened tightly with nuts. It is essentially a large L-shaped steel curtain, all electrical-



Fig 2. Balcony Detail

ly connected. The bottom of the railing is 15 feet from the ground and the frame is 3 and 1/2 feet

tall. My shack is located on the first floor.

I connected a 6 feet long lead wire to one end of the railing. The wire goes down from the second floor to the first floor and is fed to the 9:1 unun (made by JetStream). I attached three sets of counterpoise wires cut for 1/4 wave length for each of 80, 40, 30, 20, 17, 15 and 10 meter bands.

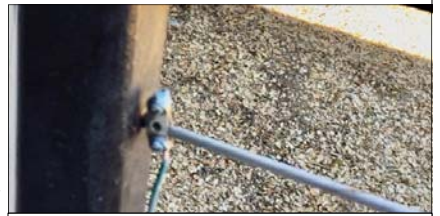


Fig 3. Lead wire connected to railing



Fig. 4 Counterpoise on first floor

Here is the SWR distribution with and without the tuner. With the tuner (MFJ- 994B, auto-tuner), I can obtain lower than 1.2:1 SWR on all HF bands. With this automatic tuner I can instantaneously change bands.

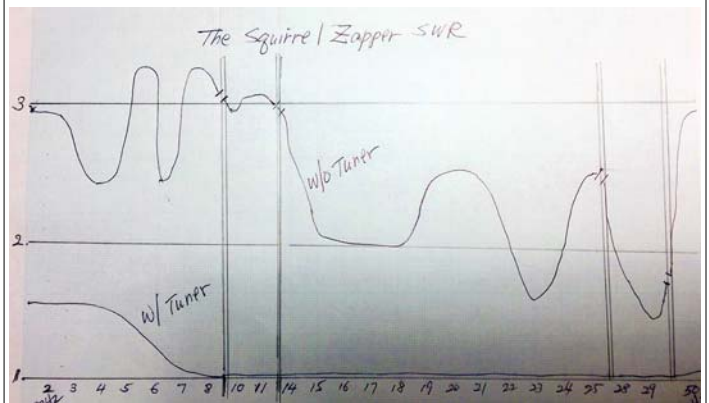


Fig. 5 SWR with and without Tuner

To date, I have had CW out-of-state contacts on

(Squirrel Zapper — Continued from page 2)

160 through 15 meter bands. I had two-way FT8 contacts on 160-6 meters. My WSPR signals have been spotted on all the 10 HF bands as well as on 630 meters. I spotted WSPR signals on 630 and 2190 meters. From all the data it is clear that the antenna favors the northerly direction.

On September 28-29, 2020, several of my Bay Area QRP club friends and I ran WSPR on the 40 meter band at 5 watts for 24 hours to compare how well our respective antennas were performing. Not surprisingly, the Squirrel Zapper is not as good a performer as a full-sized inverted V or a quarter wavelength vertical with many radial wires. Everyone's signal was spotted in VK, ZL and JA and even in ZS, the farthest location from our area. Among others, my signal was spotted by VK2LAG at -29db SNR. Eric, WD6DBM's signal was spotted at -20db at the same VK station at the same time, clearly indicating Eric's antenna performing better by 9 db. His antenna is the Butternut HF2V vertical with 66 radial wires and his QTH is about 10 miles from mine.

On the following night, September 29-30, I ran WSPR at 20 watts on 40 m. Fig 6 shows the result, sorted by distance. As you see, I was spotted in ZS, VK, ZL and JA this night. I don't know if the better DX performance was due to the better HF condition or because of the increased output power (5 vs 20 watts), perhaps a combination of both. Regardless, I was happy that my signal was hopping around the planet.

I plan to collect a lot more data on all the bands in the next several months with various modes to further determine how the Squirrel Zapper performs under many different circumstances. I am, like every ham, looking forward to a better sun spot phase coming back to see how the antenna will work in better band conditions.

If you happen to live in an antenna-restricted area and have a metal railing, it may just be that you already have a workable antenna hidden in your plain sight.

*A metaphorical moniker. No squirrels have been sacrificed in the construction or the operation of this antenna.

Timestamp	Call	MHz	SNR	Drift	Grid	Pwr	Reporter	RGrid	km	az	# Spots
2020-09-30 04:58	AH6CY	7.040106	-27	0	CM87vi	20	ZS3D	KG01	16465	85	1
2020-09-30 09:16	AH6CY	7.040103	-25	0	CM87vi	20	VK5KJP	PF95gc	12995	245	3
2020-09-30 09:28	AH6CY	7.040107	-21	0	CM87vi	20	VK5AJQ	PF95ha	12993	245	1
2020-09-30 06:46	AH6CY	7.040101	-21	0	CM87vi	20	VK7JJ	QE38lr	12691	235	8
2020-09-30 09:16	AH6CY	7.040073	-24	0	CM87vi	20	VK2LAG	QF45ai	12232	241	2
2020-09-30 09:28	AH6CY	7.040146	-27	0	CM87vi	20	VK4XDB	QG62jk	11416	245	2
2020-09-30 05:06	AH6CY	7.040100	-19	0	CM87vi	20	ZL2005SWL	RE68mx	10918	224	21
2020-09-30 09:16	AH6CY	7.040101	-20	0	CM87vi	20	ZL2BCI	RE79nd	10779	223	6
2020-09-30 05:34	AH6CY	7.040101	-24	0	CM87vi	20	ZL1TJK	RF71ws	10527	224	1
2020-09-30 08:40	AH6CY	7.040126	-24	0	CM87vi	20	JA5AEA	PM95sh	8347	303	1
2020-09-30 05:34	AH6CY	7.040112	-26	0	CM87vi	20	JA8XMC	QN03qb	7734	309	10
2020-09-30 07:30	AH6CY	7.040071	-27	0	CM87vi	20	TI4JWC	EK70wb	4868	119	3
2020-09-30 11:28	AH6CY	7.040060	-16	0	CM87vi	20	N8VIM	FN42fq	4290	66	1
2020-09-30 09:28	AH6CY	7.040122	-26	-1	CM87vi	20	W4DDT	FM25go	4141	78	2
2020-09-30 11:28	AH6CY	7.040104	-20	-1	CM87vi	20	KF2I	FN32cv	4105	66	1
2020-09-30 09:28	AH6CY	7.040098	-24	0	CM87vi	20	N4NVG	FM03xw	3973	82	2
2020-09-30 10:50	AH6CY	7.040102	-23	0	CM87vi	20	N2NOM	FN22bg	3946	67	2
2020-09-30 09:38	AH6CY	7.040100	-18	0	CM87vi	20	N2HQI	FN13sa	3888	66	4
2020-09-30 08:48	AH6CY	7.040104	-13	0	CM87vi	20	VE3OWV	FN15vk	3885	62	2
2020-09-30 07:04	AH6CY	7.040101	-26	0	CM87vi	20	N4TTN	FM05pm	3862	80	1

Fig. 6 Sept 29-30 WSPR at 20 watts Results

(President — Continued from page 1)

[https://www.youtube.com/c/slsrc\(w0src\)](https://www.youtube.com/c/slsrc(w0src)) to watch the Hamfest along with other videos the SLSRC radio club has posted.

I trust everyone saw the FCC advisory regarding the use of radios after the January 6th “event”. The advisory includes any type of radio capable of transmitting. If you missed it, you can read it at <http://www.arrl.org/news/fcc-issues-enforcement-advisory-radio-users-reminded-not-to-use-radios-in-crimes>. From my perspective, the likely violators who used radios will not read the notice or care. As usual, the few violators muck it up for the upstanding radio users.

Home Brew Night is typically in January. Though the meeting was conducted using Zoom, we did have a few attendees that were ready to show us what they’ve been fabricating over the past year. Shri, KA6Q, showed us a modified CW trainer; Clark, KK6ISP, showed us his home-built retro Z80 processor; Doug, KG6LWE, talked about his K3 add-ons; Rachel, KK6DAC, showed her portable single-axis solar tracker; Mikko, AB6RF, showed his alt/az antenna rotator and controller. If there are additional members that have a homebrew item to show, I’ll provide some time during the February meeting.

During the January meeting, Mikko mentioned adding a “Shack show” to the meeting format. As we are conducting meetings using Zoom, the idea of being able to show other members our shack is a good one. So, also at the February meeting, we will “visit” Walt’s, K6WGY, shack. Showing your shack is open to any attendee of the meeting. We want to keep each presentation to around 5 minutes. During the meeting, I’ll ask if any attendees wish to show us their shack, shack clean up not required. Depending on the amount of time, we’ll fit as many in as we can. I’ll make this a regular part of meetings.

Did you know that the Air Force Academy has a radio station? It turns out that KAFA 97.7 The Academy, has been on the air for 50 years! One of our members, Lee, KM6YZB, whose son is in his 4th year at the Academy sent me

information on the station. Though we’re a bit far away from Colorado to listen to the FM broadcast, you can check out the station at <https://www.usafa.edu/radio/>. You can live stream the broadcast over the internet. The best part, there don’t seem to be any commercials. There are several interesting videos there along with one that is about the history of the station.

I hope enjoyed this month’s antenna story by Hiroki Kato. Doesn’t he historically provide us with some great stories? Unfortunately, this is the last story I have in the story vault. Hopefully, a few of you that have been procrastinating writing that story will take time to put pen to paper before the March issue goes to press without a story. Please email me those stories!

73, Jim K6SV

Keep the airwaves alive by getting on the air!

Jan 20, 2021 Board Meeting Minutes

The January meeting was a virtual meeting, conducted over Zoom.

Attending: Jim Thielemann K6SV President; Rob Fenn KC6TYD, Vice President; Ric Hulett N6AJS, Secretary; Bob Korte KD6KYT, Treasurer; Joel Wilhite KD6W, Darryl Presley KI6LDM, Doug Teter KG6LWE, and Walt Gyger K6WGY, Directors. A quorum was present. The meeting was called to order at 7:10 pm.

President’s Report: The ‘magic’ is still alive in Ham Radio. There was a new distance record set for VLF communications between VO1NA in Newfoundland, and DK7FC in Germany. The transmitting station was radiating power of 10mW at 8.271 kHz. The mode used was ‘EbNaut’, a synchronous coherent BPSK mode.

There have also been some new records for Sporadic E propagation, including contacts made between Australia and South America on the 6-meter band. Other long-haul sporadic -E contacts have been made as well.

(Minutes — Continued on page 5)

(Minutes — Continued from page 4)

Secretary's Report: We currently have 190 club members. Over half of our members have renewed for 2021 (and beyond): Let's keep those renewals rolling in! You can renew by using PayPal (direct payment to PAAR-Apay@gmail.com), or by mailing a check to "PAARA Membership, P.O. Box 911, Menlo Park, CA 94026.

(Club members have the option to receive the monthly newsletter by e-mail, as a color PDF. If you are interested in this option, let us know when you renew.

Treasurer's Report: The club has sold a couple of its radios (thanks to Marty, W6NEV). We expect a check from Marty, for this sale. We have also received payments from some PAARA advertisers. Club expenses remain very low, mostly newsletter printing and mailing expenses.

VP / Program Chair Report: Next month's guest speaker is Lucian Ploias, VA7LDT. Lucian lives on Bowen Island, 15 miles Northwest of Vancouver BC, and operates from islands in the area, working DX with a portable station. He will talk about a small, portable magloop antenna he built for his travels.

We have other guest speakers arranged for the next few months. Note that we can invite remote (Zoom) speakers, even after we move back to in-person meetings.

Old Business

Encourage members to draft PAARAgaphs submissions when they talk about an interesting experience. Going month to month hoping for a story isn't enjoyable, PLEASE put pen to paper and get them to Jim, the editor. Let's get some articles in the bank.

Towers and equipment stored at Gerry Tucker's site: Doug Teter and Joel Wilhite visited the site to make an inventory of club-owned towers. The visit report is in process. We will need to coordinate with Gerry and arrange transport to an alternate site for the useful items, and proper disposal for others. After

sorting, some of the tower parts will be made available to club members.

Accounting files have been received from Ron Chester (outgoing treasurer), Bob Korte will coordinate transfer to our new bookkeeper and CPA, Robert Scher.

Joel KD6W has some links to 3D printing files ready to furnish to our webmaster for posting on the PAARA site.

The next club meeting is February 5th, and will again be held on Zoom. See the PAARA.org website for Zoom meeting information.

The board discussed an online auction or sale as a possible meeting activity and fundraiser for PAARA, sort of an online garage sale. A sale coordinator would need to advertise the sale, build a list of sellers, and generate an online display or show of items for sale. This was tabled for further discussion later.

New Business

A ham in Boulder Creek has a nested telescopic tower, he needs it dropped and stored. He had fire damage, needs to have some assistance. Jim and Rebar will coordinate to schedule a tower party.

Mikko AB6RF during his home brew presentation last month mentioned that it would be fun to add a virtual shack tour to the meetings. We discussed the idea of a 'show your shack' feature at future meetings.

Last week, the ARRL sent an e-mail to members on "the Purpose of Amateur Radio". The board discussed that message, and the FCC Enforcement Advisory regarding misuse of radio equipment.

The meeting was adjourned at 8:35 pm.

Respectfully submitted,

Ric Hulett N6AJS
PAARA Secretary

Palo Alto Amateur Radio Association, Inc.

PO Box 911 Menlo Park, CA 94026

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	bob@rgktechsales.com	

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	kd6w@arrl.net	
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	walt@tradewindsaviation.com	
Director ('21).....	Doug Teter, KG6LWE	650-367-6200
	dteter@wawi.com	
Director ('21).....	Darryl Presley, K16LDM	650 255-2454
	ki6ldm@arrl.net	

Appointed Positions

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	energyconserved@sbcglobal.net	
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	K6RDM@yahoo.com	
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	
Asst. to the Treasurer....	Ron Chester, W6AZ	
Badge Coordinator	Doug Teter, KG6LWE	650-367-6200
	dteter@wawi.com	
Historian Position	<i>Position Vacant</i>	
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	Shrikumar, KA6Q	
	shri.paara@enablery.org	
Field Day Coordinator ...	Doug Teter, KG6LWE	650-367-6200
ASVARO Rep.....	Clark Martin, KK6ISP	
	kk6isp@comcast.net	
Webmaster	John Miller K6MM	
	webaron@gmail.com	
Technical Coordinator ...	Joel Wilhite. KD6W	408-839-5948
	kd6w@arrl.net	
QSL Manager	Marty Wayne, W6NEV	408-234-8023
Speaker Coordinator	Rob Fenn, kc6tyd	650-888-9060

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	ab6so@smrn.com	
Photographer	<i>Position Vacant</i>	

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-September, 6am–12 noon

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.k6ya.org>

NCDXC — Northern California DX Club

Meets 3rd 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 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, 10M (28.385) 8PM Thur.

Meets 2nd 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

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

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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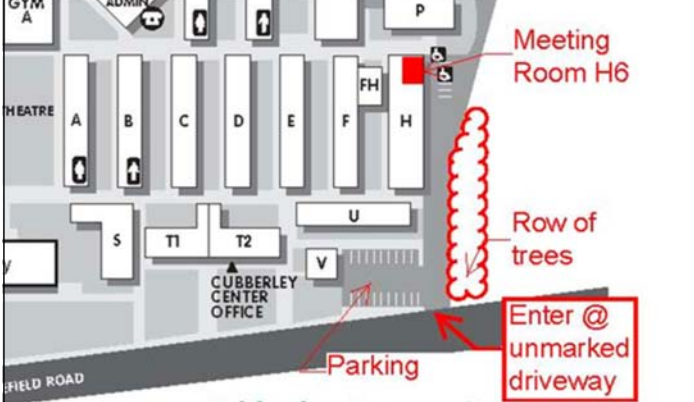
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PAARA Weekly Radio Net

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

Week	Control Operator
1 st	Joel - KD6W
2 nd	John - W6JMK
3 rd	Ric - N6AJS
4 th	Rob - KC6TYD
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.



Cubberley Community Center
 4000 Middlefield Road, Palo Alto, CA 94303
 650/329.2418
 650/856.8756 fax
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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
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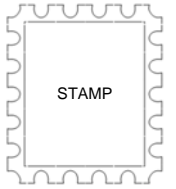
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PAARAgaphs — February 2021

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