Our Hamvention Plans

Hamvention is nearly here and TAPR will be present in full-force! The biggest ham radio convention of the year runs from May 17 to May 19 at the Greene County Fairgrounds in Xenia, Ohio and TAPR has plans to fill your Hamvention weekend.

TAPR Booths

TAPR's booths will be in Building 5 where we will show what we have been up to lately. You can visit our booths 9 AM to 5 PM on Friday and Saturday and 9 AM to 1 PM on Sunday.

TAPR Forum

Friday at 9:15 AM, TAPR President Scotty Cowling, WA2DFI, will moderate the TAPR Forum in Greene County Fairgrounds Forum Room 1, details on page 2

TAPR/AMSAT Dinner

The 16th annual AMSAT/TAPR Banquet will be held at the Kohler Presidential Banquet Center on Friday, May 17 at 18:30 ET.

The Kohler Presidential Banquet Center is located at 4548 Presidential Way, Kettering, Ohio – about 20 minutes away from the Greene County Fairgrounds. Visit www.amsat.org for more information and how to purchase tickets for the event. (Banquet tickets must be purchased in advance and will not be sold at the AMSAT or TAPR booths.)

The Gang

The folks behind the scenes at TAPR will be at Hamvention, so you will have an opportunity to say "Hello" and have an eyeball QSO with the TAPR gang.

###

TAPR is a community that provides leadership and resources to radio amateurs for the purpose of advancing the radio art.

2024 Hamvention TAPR Forum Schedule

Friday, May 17, 2024, 09:15-10:35 AM, Forum Room 1

09:15 - 09:30

TAPR Activities Update

By Scotty Cowling, WA2DFI, TAPR President

09:30 - 09:35

Write for PSR!

By Stana Horzepa, WA1LOU, TAPR Secretary/PSR Editor

09:35 - 09:55

Frequency Control for Next Generation SDRs

By John Ackermann, N8UR

Abstract: Accurate and stable frequency control is important to the quality of results for radio-based space science experiments. John's presentation discusses some of those requirements, and low cost frequency references to help meet them.

Bio: John Ackermann, N8UR, is a long time TAPR board member and former officer, and is very active in the Time Nuts group.

09:55 - 10:15

Using ezDV to get on the air with Digital Voice

By Mooneer Salem, K6AQ

Abstract: How-to guide to using ezDV with a standard transceiver to get on the air with digital voice.

Bio: Mooneer, K6AQ is active in all aspects of digital voice.

10:15 - 10:35

Introducing the TAPR/HamSci Magnetometer

By Dr Hyomin Kim, KD2MCR

Abstract: Description and deployment of the TAPR Magnetometer.

Bio: Dr Kim is one of the founders of HamSci and was instrumental in the development of the TAPR/HamSci magnetometer kit.

###

OPEN HT

By Wojciech Kaczmarski, SP5WWP,

I just wanted you to know that the M17 Project's team is working on a new subproject called OpenHT. It's a handheld SDR transceiver built around Microchips AT86RF215 IQ transceiver chip and Lattice's LIFCL-40 series FPGA.

We are still working on the hardware side of the Proof of Concept. We've got it to work with M17 already. FreeDV is supported via the SSB mode. We also aim to have Daniel Estevez's 32APSK modem for QO-100 satellite links.

The device is QRP for now and supports 420..440 and 2400MHz bands.

Here's a bunch of links:

https://github.com/M17-Project/OpenHT-hw

https://github.com/M17-Project/OpenHT-fpga

73,

Woj SP5WWP, w.kaczmarski@teletra.pl

M17 Project

###

Wanted: New Treasurer

TAPR is looking for a new Treasurer. After nearly 21 years, it is time for Tom, N8ZM, to turn the job over to someone younger and better looking.

Duties include paying the bills (of course), keeping the books up-to-date, working with our accountant to get the tax return filed (as a 501c(3), it's merely an exercise in wasteful government paperwork) and advising the Board on financial matters.

The Treasurer is elected by the Board annually. He/she has to be a TAPR member, but does not have to be a TAPR Board member.

Training and backup support will be provided while learning the job. Figure on maybe two hours/week on average. We prefer volunteers to draftees. If interested, Contact N8ZM at n8zm@tapr.org for an interview and Q&A about the position.

###

2024 DCC Plans

The 2024 ARRL/TAPR Digital Communications Conference is scheduled tentatively for September 20-21, 2024, in Knoxville, Tennessee. Phil Erickson, W1PJE, Director of the MIT Haystack Observatory, has agreed to be the DCC banquet speaker.

More details will be forthcoming.

###

Mini-DCC

Unable to hold its traditional Digital Communications Conference (DCC) this year, TAPR held a one day online Mini-DCC on December 9, 2023, followed by the annual TAPR membership meeting.

Presentations include:

*   TAPR SDR Development Progress and Challenges by David Larsen, KV0S

*   Developments in ka9q-radio by Phil Karn, KA9Q

*   An Open Source Wideband HF Receiver Design by David Witten, KD0EAG

*   An Inexpensive GPSDO for HF Receivers by John Ackermann, N8UR

*   Current Open Source Digital Voice Techniques by Walter Holmes, K5WH

*   A Low Cost FreeDV-based ESP32 Radio Interface by Mooneer Salem, K6AQ

*   ESP32 APRS and LoRA Hardware by Jason Rausch, K4APR

The annual TAPR membership meeting followed the presentations. The video recording of the 2023 Mini-DCC is now online on YouTube at

https://www.youtube.com/watch?v=31KjMKXDR0k.

###

TAPR Elections

Directors

A Board of Directors election was held during the annual membership meeting on the evening of December 9, 2023 (EST). Jason Rausch, K4APR, was newly elected to the board and will serve his first three-year term, which ends in 2026. Darryl Smith, VK2TDS, and Stana Horzepa, WA1LOU, were re-elected to the board. Both are serving their eighth term as board members having been originally elected in 2002.

K4APR replaces Steve Bible, N7HPR, who decided not to run for reelection after serving nine terms on the board.

Officers

An election of TAPR officers was held on December 14, 2023 with the following results: President: Scotty Cowling, WA2DFI, serving his fourth term as president; Vice President: Dave Larsen, KV0S, serving his first term as VP; Treasurer: Tom Holmes, N8ZM, serving his 21st term as treasurer; Secretary: Stana Horzepa, WA1LOU, serving her 21st term as secretary.

###

There Goes the Sun

A total solar eclipse that will be seen across North America will occur on Monday, April 8th. It will be the last of its kind in the US for the next 20 years.

Hams across North America are asked to participate in a study about how the ionosphere functions by getting on the air to help scientists in a series of ionospheric experiments.

Ham Radio Science Citizen Investigation (HamSCI) has presentations for hams interested in participating on Wednesday, March 27 at 8;00 PM (Eastern) - 5:00 PM (Pacific)*, and that same day at 10:00 PM (Eastern) - 7:00 PM (Pacific)*. Both 30-minute presentations will held on Zoom and they will feature HamSCI's Festivals of Eclipse Ionospheric Science (FoEIS). The presenters will take your questions during the presentations.

Here is the link to the presentations

The program will start by covering HamSCI's basis and purpose, and quickly move into why they are conducting experiments, how hams and shortwave listeners (SWLS) can participate, and what they hope to learn from the event. Along the way, they will discuss why the science behind the event is important to users of the high-frequency radio spectrum - including amateur radio operators!

Learn about the HamSCI's eclipse-focused operating events:

- Solar Eclipse QSO Party (SEQP)
- Gladstone Signal Spotting Challenge (GSSC)
- Medium Wave Recording Event
- Time Delay of Arrival (TDOA) Event
- Grape 1 Doppler Receiver Project

Maritime Mobile Planned

During the solar eclipse, John Landrigan, KA4RXP, will be operating in the SEQP as a maritime mobile off the coast of Mazatlán, Mexico, at the beginning of the total solar eclipse as it transits the Maritime provinces of Canada. Look for KA4RXP/MM around 14.265 MHz.

(Source: *The ARRL Letter*)

###

Polaric Server 3 Released

By Øyvind, LA7ECA

I just released version 3.0 of Polaric Server.

It is an advanced web-based service to process and present APRS tracking information on maps. Possibly along with geographical data from other sources such as AIS. It was originally targeted for use by radio amateurs in voluntary search and rescue service in Norway. It consists of a web application and a server backend program (APRS daemon). In addition there are plugins that can be installed separately. The server is written in Java and the client-webapp in Javascript based on OpenLayers.

The polaric-db-plugin utilizes a PostgresSQL database (with PostGIS extension) to store data. It can, for example, be used to go back in time and see snapshots or trails (for data that is stored). There is also a plugin for ais-data and one in development for DATEX data.

v. 3.0 comes with a new authentication scheme (login) which is more flexible and can be used by the mobile-app. HTTPS and use of frontend-proxy is now default. A self-signed certificate is used (by default) so you may need to tell the browser to explicitly accept it. Configuration of server is now done by webapp through REST API and it is not dependent of Scala anymore. Various fixes and updates... All packages (polaric-aprsd, polaric-webapp2 and polaric-db-plugin) now use the same version numbering.

It is free and open source with deb packages and source-code on Github. Even if it is originally targeted to Scandinavia, it can be used other places in the world with proper configuration. Contributions are welcome.

More info in the documentation:
https://polaricserver.readthedocs.io

A live online service is still running on https://aprs.no for the Norwegian Radio Relay League.

###

World's First Tri-Mode APRS Igates

By Stephen H. Smith, WA8LMF

The WA8LMF UI-Webservers now receive and igate APRS over classic 300-baud AX.25 HF packet, APRS over MFSK16 & PSK31, and now APRS over VARA on both 30 meters and 60 meters from my home station located in central Michigan.

VARA is one of the newest sound-card "digi-modes". Written by Jose Ros EA5HVK, It can receive and decode error-free data transmissions at signal levels and S/Ns that literally can not be heard in the radio speaker.   With stronger signals, it can exceed the net data rate of VHF/FM 1200-baud packet in a 500 Hz CW bandwidth on HF ! VARA is adaptive, adjusting it's transmit speed up and down based on error rate and S/N., switching from simple to more complex multi-tone QPSK wave forms, based on error rate and the bandwidth of the radio.

In a 2300 Hz SSB bandwidth, it can exceed the throughput of 9600-baud VHF/UHF packet on HF. It is already starting to replace the pricey (USD $600) SCS Pactor4 modems on Winlink HF radio email systems, purely in software with a standard soundcard interface. The basic version, usable on the low data rates of APRS, is free. A USD $70 registration unlocks the higher-speed modes.

Currently, the other widely-used activity, layered on top of the VARA "softmodem" is "VarAC Chat", a live keyboard-to-keyboard chat application that can also do file transfers and

"igate" received beacons to the PSK Reporter network. Running on top of VARA, it can equal the weak-signal performance of FT-8, but with free-form conversations instead of the hello--sig report--goodbye canned exchanges of FT-8.

VARA presents a KISS-over-IP interface to external programs. In principle, any application that can run over classic packet TNCs (messaging systems, BBS systems, APRS, etc) can run over a VARA link instead, with an ENORMOUS increase (15-20 dB advantage) in weak-signal capabilities. I have been testing APRS-over-VARA for over a year now. Some of my findings early this year are summarized on my web site at: http://WA8LMF.net/APRS_VARA/index.htm This was a competitive "shoot out" between classic 300-baud HF packet and VARA on 60 meters, on a 500-mile road trip.

At least three APRS client applications (PinPoint, APRSis-32 and YAAC) can link directly to a KISS-over-IP interface. For older APRS clients, like UIview, that can only do KISS over a serial port, the third-party "Swiss-Army-Knife" of com port utilities "VSPE" can quickly and easily create an IP<-->Serial-Com-Port bridge. Full details on setting up VARA for use with APRS applications is here on my web site: http://WA8LMF.net/VARAforAPRS

###

APRS Foundation, Inc.

By Jeff Hochberg, W4JEW

Who We Are

We are the APRS Foundation Inc., a Delaware corporation and IRS-recognized 501(c)3 and 509(a)2 public charity.

Our leadership team is:

* Jeffrey (Jeff) Hochberg - W4JEW - President

* John Tarbox - WA1KLI - Vice President

* John Langner - WB2OSZ - Secretary

* Lynn Deffenbaugh - KJ4ERJ - Treasurer

* Jason Rausch - K4APR - Chief Operations Officer

What Are We Planning?

The APRS Foundation intends to build a solid foundation for APRS to build upon - no pun intended. You have to admit… that was a little "punny." I couldn't resist! :-)

We can head in countless directions, but much cleanup work must be done to establish a baseline.

There's a mix of both technical and non-technical work that needs to be done. Some of it won't be fun - but it's a necessity.

That's All For Now

There's a lot more to cover. We primarily wanted to inform you of our existence, who we are, and our intent. More details will come out over the next few weeks, but we don't want to overwhelm you with the first message.

We have a long way to go and are just getting started. We cannot do this alone.

And we can't think of any better places to go than aprssig and APRS@groups.io, as these are where the most prominent and brightest contributors and fans of APRS hang out. APRS wouldn't be where it is today without you.

Your contributions, past, present, and future, are precisely what we need to continue to carry APRS forward!

Thank you for taking the time to read this message. We look forward to working with you!

Best Regards and 73,

Jeff Hochberg, W4JEW, jeff.hochberg@aprsfoundation.org

President

APRS Foundation, Inc.

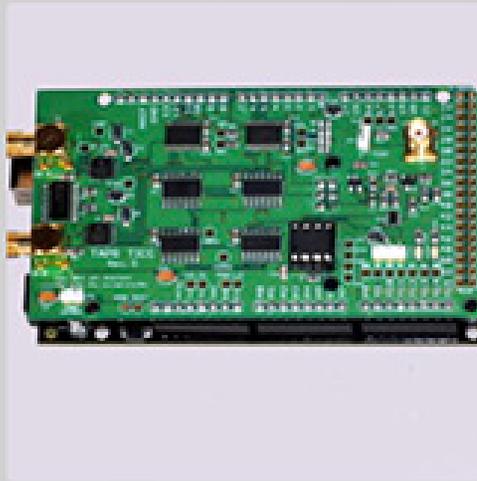Ensuring the Future of APRS

###

What's in Store at TAPR

The following pages present a visual catalog of what is available for purchase at TAPR's online shop at https://tapr.org/shop/ TAPR members receive a discount on certain items.

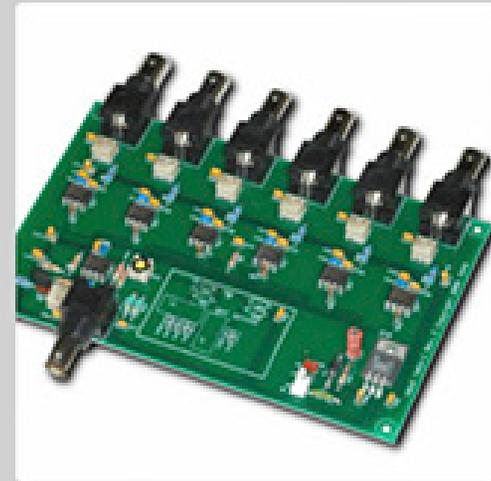
TAPR Membership

$30.00
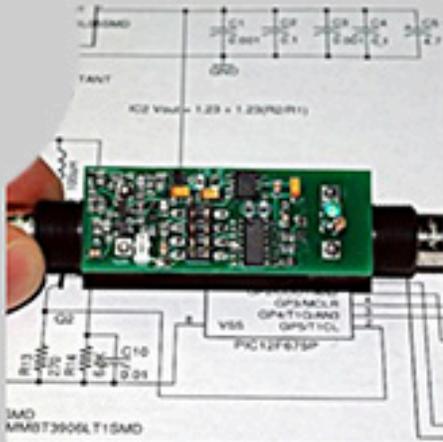

TAPR TICC

$229.00

TADD-1 RF Distribution Amplifier

$130.00

TADD-2 Mini Pulse-Per-Second Divider

$62.00 $57.00

TADD-3 Pulse-Per-Second Distribution Amplifier

$89.00

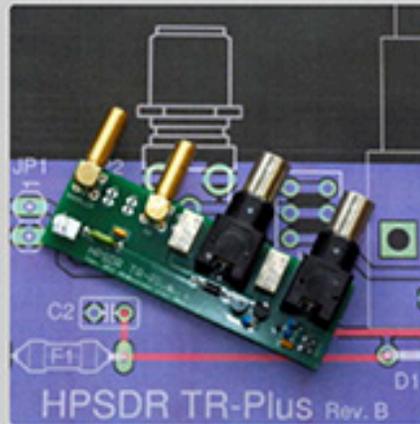GUS GNSS Antenna Splitter

$65.00

new TADD universal case v1

$50.00

GUS CASE

$40.00

TADD-2 Pulse-Per-Second Divider

$89.00

TADD Case Type-Specific End Plates

$5.00

TR-Plus Transmit/Receive Switch for Pure Signal

$54.00

Tangerine SDR Magnetometer

$120.00

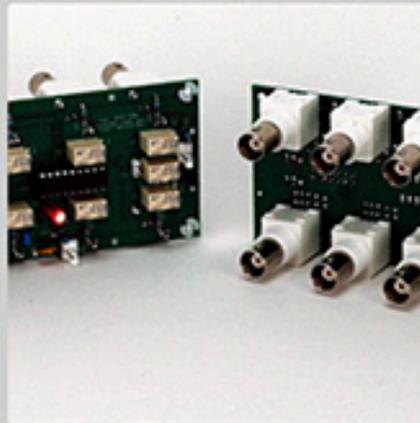FatPPS Pulse-Stretcher
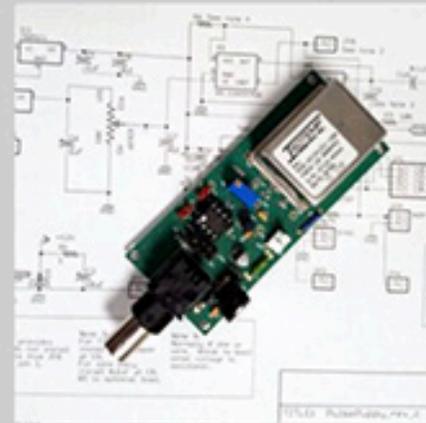
$54.00
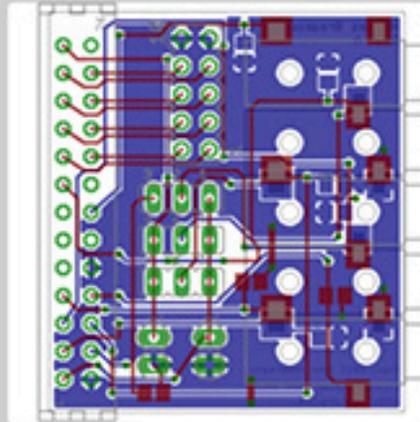
Hermes J16 Breakout Board

$35.00

TASS-Shield

$24.00

TAPR is a community that provides leadership and resources to radio amateurs for the purpose of advancing the radio art.
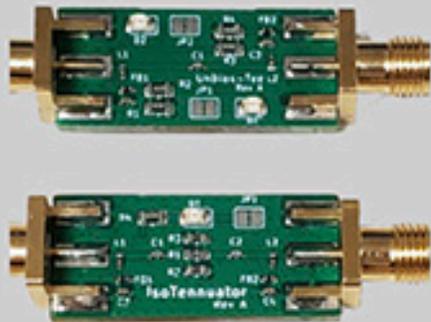
TAPR Badge

$19.00

TASS-R Relay Switch Board

$129.00

Pulse Puppy Standalone

~~$79.00~~ $74.00

IsoTennuator and UnBias-Tee —
Accessories for GUS

$35.00

new TADD Case And End Plates

$5.00 – $50.00

WSPR

$32.00

TAPR is a community that provides leadership and resources to radio amateurs for the purpose of advancing the radio art.

Write Here!

Your *PSR* editor is working on the next issue of *PSR* and hopes to find a few good writers, particularly ham radio operators working on the digital side of our hobby, who would like to write about their activities and have them published here in *PSR*.

You don't have to be Hiram Percy Maxim to contribute to *PSR* and you don't have to use *Microsoft Word* to compose your thoughts.

Your *PSR* editor can handle just about any text and graphic format, so don't be afraid to submit whatever you have to wa1lou@tapr.org – she can handle it!

The deadline for the next issue of *PSR* is July 1, so write early and write often.

###

On the Net

By Mark Thompson, WB9QZB

Facebook

As you may know, TAPR has a Facebook page, www.facebook.com/TAPRDigitalHam.

However, I also created a TAPR Facebook Group, www.facebook.com/groups/TAPRDigital/.

If you have a Facebook account, "Like" the TAPR Facebook page and join the TAPR Facebook Group.

If you join the group click on the Events link and indicate you're Going to the events.

On Twitter, Too

Access the TAPR Twitter account at

www.twitter.com/taprdigital.

Also on YouTube

TAPR now has its own channel on YouTube: the TAPR Digital Videos Channel: www.youtube.com/user/TAPRDigitalVideo.

At this time, there are a slew of videos on our channel including many from the TAPR-ARRL Digital Communications Conference (DCC) that you may view at no cost, so have at it!

###

PSR

Submission Guidelines

  TAPR is always interested in receiving information and articles for publication. If you have an idea for an article you would like to see, or you or someone you know is doing something that would interest TAPR, please contact the editor (wa1lou@tapr.org) so that your work can be shared with the Amateur Radio community. If you feel uncomfortable or otherwise unable to write an article yourself, please contact the editor for assistance. Preferred format for articles is plain ASCII text (OpenOffice or *Microsoft Word* is acceptable). Preferred graphic formats are PS/EPS/TIFF (diagrams, black and white photographs), or TIFF/JPEG/GIF (color photographs). Please submit graphics at a minimum of 300 DPI.

Production / Distribution

  PSR is exported as Adobe Acrobat and distributed electronically at www.tapr.org

  PSR Editor: Stana Horzepa, WA1LOU

  E-mail stanzepa@sbcglobal.net

TAPR Officers

TAPR Board of Directors

TAPR is a not–for–profit scientific research and development corporation [Section 501(c)(3) of the US tax code]. Contributions are deductible to the extent allowed by US tax laws. TAPR is chartered in the State of Arizona for the purpose of designing and developing new systems for digital radio communication in the Amateur Radio Service, and for disseminating information required, during, and obtained from such research.

PSR Advertising Rates

Full Page Ad for 1 issue: $100, 4 issues: $350
Half Page Ad for 1 issue: $75, 4 issues: $250
Quarter Page Ad for 1 issue: $50, 4 issues: $175

Membership Application

TAPR

1 Glen Ave., Wolcott, CT 06716-1442

Phone +1 972 413 8277, Monday–Friday, 9AM–5PM Eastern Time

E–mail contact@tapr.org   URL www.tapr.org

Join or renew online at https://tapr.org/product/tapr-membership

Benefits of a TAPR Membership:
- *Subscription to the quarterly PSR*
- *10% off most TAPR kits and publications*
- *Access to the TAPR digital library*
- *Latest information on TAPR R&D projects*
- *Co-sponsor of the annual TAPR-ARRL Digital Communications Conference (DCC)*

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