

APRS

What I have learned

APRS (Automated Packet Reporting System) previously (Automatic Position Reporting System) is a real-time digital communication protocol used by amateur radio operators. It broadcasts GPS coordinates, local weather, and text messages over the airwaves. The primary frequency for APRS in the United States is **144.390 MHz** on the VHF 2-meter band. **145.825 MHz** standard worldwide

How it Works

APRS allows you to track and be tracked without an internet connection, making it highly valuable for emergency communications, search and rescue, and outdoor events.

- **The Transmit Cycle:** A radio equipped with a GPS or connected to a smartphone transmits a short, unconnected burst of data containing your call sign and coordinates.
- **Digipeaters:** These are local amateur radio towers that "listen" for your transmission and automatically re-broadcast (hop) it further down the line to extend its reach.
- **iGates:** These are specific receiver stations connected to the internet. They take local over-the-air packets and upload them to the web, allowing the global APRS network to see your location and data.

Practical Uses

Beyond basic tracking, APRS functions as a decentralized, real-time bulletin board:

- **Messaging:** Users can send short, two-way text messages between radios. You can also use APRS to send SMS messages to cell phones or emails via specialized gateways.
- **Weather:** Many amateur weather stations transmit real-time telemetry (wind speed, temperature, rainfall) directly to the network.
- **Live Maps:** People use online platforms like APRS.fi to visualize moving vehicles, hikers, and active weather stations on a global map.

GPS is not required to use APRS, as you can manually type in your coordinates for fixed locations, send text messages, or just receive data.

APRS-IS – Global internet backbone linking local radio packets to worldwide servers

APRS on HF – 7.032.6 LSB / 7.036, 10.151 LSB 10.147.6 USB, 10.149.1 USB –
<https://www.youtube.com/watch?v=cqJC6mBlyXI>

You can use your phone as a GPS for your radio or computer using APRSDroid
https://youtu.be/BEVDZ7yq1G0?si=BSY8P5E_8qQLKpMa

APRS Services:

APRS messages – 67 characters max

SSID – Secondary Station Identification

- EMAIL – APRS Email Gateway
- EMAIL-2 – APRS Email Gateway
- WLNK-1 – APRS Winlink Email Gateway
- SMS – APRS SMS Gateway – Send Phone a Text Message – opt in phone numbers
- MSGTE – APRS SMS Gateway – Send Phone a Text Message
- MAIL – Callsign-SSID – APRS Message to Radio
- WXBOT – Zip code, city, state - <https://sites.google.com/site/ki6wjp/wxbot>
- FIND – callsign
- REPEAT – nearest # 2m, 70cm, DMR, Echo link – <https://aprsdashboard.hemna.com/repeat#help>
- SATBOT – grid square – satellite – EM20 so-50
- WHO-IS – callsign
- DAGA – SOTA - <https://reflector.sota.org.uk/t/introducing-daga-dagger-in-english-definitive-aprs-gadget-for-activators/35959>
- NTSGTE – APRS-NTS Gateway - <https://nts2.arrl.org/ntsgte-an-aprs-nts-gateway/>
- MPAD – whereami, cwop, whereis callsign, city state, satpass iss, satfreq iss, repeater, osm pharmacy, osm supermarket, info or help, posmsg email@address.com - <https://github.com/joergschultzelutter/mpad/blob/master/docs/EXAMPLES.md>
- APSPOT – spotting service - <https://apspot.radio/>
- WTSAPP – Whatsapp gateway - @+1555-555-5555 this is my test message - <https://wtsapp.org/>
- ANSRVR – APRS Group Messaging – Announcement Server – One Message to Many
- APRSPH – Group messaging - <https://aprsph.net/>
- CQ – Send message to all
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Set APRS location ambiguity so your exact location is not visible

add text winlink APMail to be notified if you have Winlink mail via APRS

SET – Simulated Emergency Test Exercise using APRS

<https://youtu.be/pMvErIjU3dU?si=vsd5BOIFn94zGwBM>

Some other APRS frequencies to try

445.925 MHz on UHF 70cm.

437.445

Links:

Desktop Windows APRS Applications:

- <http://aprsisce.wikidot.com/>
- <https://pinpointaprs.com/>
- <https://www.ka2ddo.org/ka2ddo/YAAC.html>

Tools:

- <https://la5b.no/aprs-passcode-generator/>

Android APRS Applications:

- <https://aprsdroid.org/>
- <https://www.aprschat.online/docs/getting-started>
- <https://youtu.be/AMsGBILlwC8?si=3GsMq92A1CUxwXJt> – APRS with a Baofeng

Websites:

- <https://aprs.fi/>
- <https://aprs.to/>

YouTube:

- <https://themodernham.com/> -
- <https://www.youtube.com/@KM4ACK> -
- <https://youtu.be/-56PY7ozelU?si=y1G0Bjoj9Oss10KA> – What is APRS

ISS:

- <https://www.aprs.org/iss-faq.html>
- <http://www.isstracker.com/>
- <https://www.youtube.com/watch?v=Nyih634N8do&t=79s> – Send email through ISS

Repeater

Examples:

Message to Email Address:

Send To **EMAIL-2**

email@domain message

Subject: WW5TOM-15: A shorter email allows a longer msg

Date: Fri, 24 Jul 2026 20:34:04 +0000 (UTC)

From: WW5TOM-15 <aprsemail2@ae5pl.net>

To: tom@agrapeidea.com

From: WW5TOM-15

A shorter email allows a longer msg

DO NOT REPLY

Find WW5TOM-15 at <https://aprs.fi/WW5TOM-15>

Received from WW5TOM-15 via APRS by EMAIL-2

More info at <https://www.aprs-is.net/email.aspx>

Send To **EMAIL**

email@domain message

Subject: WW5TOM-15: Trying new tracking YAAC

Date: Fri, 24 Jul 2026 20:27:13 +0000 (UTC)

From: WW5TOM-15 <email@aprs.earth>

To: tom.newsom@falconsound.com

From: WW5TOM-15

Trying new tracking YAAC

DO NOT REPLY

Find WW5TOM-15 at <http://www.jfindu.net/find/WW5TOM-15>

Track WW5TOM-15 at <http://www.jfindu.net/track/WW5TOM-15>

Aprs.fi - Track WW5TOM-15 at <https://aprs.fi/?call=WW5TOM-15&timerange=3600>

Received from WW5TOM-15 via APRS by EMAIL

More info at <http://www.aprs-is.net/email.aspx>

Message to Phone:

Send To **SMSGTE** – (requires password to transmit – get code link in links)
@phone_number message

@WW5TOM-15 Timer set for one hour

Send To **SMS**

@phone_number message

@WW5TOM-15 Testing SMS on YAAC

Message to Radio:

Send To **Callsign-SSID**

Message

Inbox – List – WW5TOM-15 2026-07-24

Message:

WW5TOM-9

We have arrived home safely

Message to Winlink:

Send To **WLNK-1** some text example: Holiday

Response – {165}

Reply – The characters that are in your Winlink password at these positions +3

Example: Password is Monday – reply Mya123

Response – login valid for ~2 hours

Send SP Callsign Subject

Send Message

Send /EX – to end message

---- Original Message ----

From: ww5tom@winlink.org

To: mca-net@winlink.org

Sent: Fri, Jul 24, 2026, 15:16

Subject: YAAC Message

Using YAAC with APRS-IS to send a Winlink message

+++ Below automatically added by APRSLink +++

Last reported position: 3025.59N 09536.83W Grid: EM20EK.

See map at: <http://www.findu.com/cgi-bin/find.cgi?call=WW5TOM-15>

73, Tom, WW5TOM