

# APRS

Presented by:

Nate Russell, W9SDI



# APRS

## Areas covered:

- Brief History
- Technical Requirements
- Equipment



# APRS: WHAT IS IT?

Two way tactical real-time digital communication system between all assets in a network sharing information about everything going on in the local area.



# APRS: WHAT IS SHARED?

- Positions
- Station capabilities
- Objects
- Weather reports
- Weather Alerts from NWS
- Telemetry



# APRS: WHAT IS SHARED?

- Messages addresses to stations
- Bulletins to wider groups
- Queries and Responses
- Ham Radio of Things
- User Defined Data types



# APRS: WHAT IS SHARED?

Designed for local communications over RADIO links, not global messaging through the Internet.

You do not need the Internet to TX and RX data on APRS.

Information in APRS comes directly from users, no central servers.



# APRS: TECHNICAL

Digital repeaters (digipeater) use a “store and forward” approach. A packet is received, examined, then possibly modified and retransmitted. It can be retransmitted on the same radio channel or transmitted on multiple radio channels.

Packets received on one channel can be retransmitted on different channels.



# APRS: EQUIPMENT

- RADIO- an HT will work
- Antenna
- TNC- Terminal Node Controller to interface the radio to GPS and PC
- GPS RX – receive only unit without display will work for reporting position
- Cables to interconnect all of these items



# APRS: EQUIPMENT

Byonics TinyTrak3Plus  
TNC



Byonics GPS5  
RS-232 serial GPS



Radio interface cables



[Http://www.byonics.com](http://www.byonics.com)

# APRS: EQUIPMENT

HT with built in TNC, GPS, and APRS



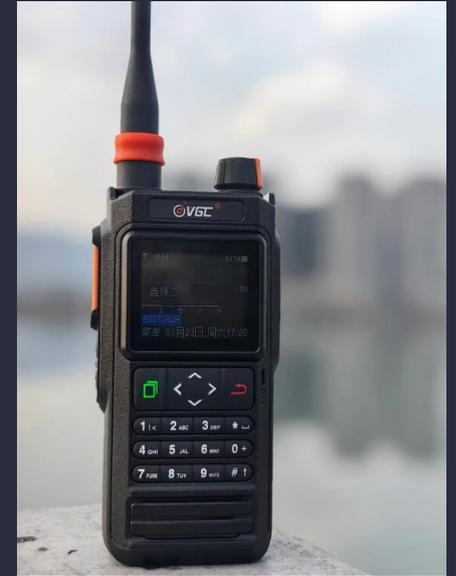
YAESU FT5D



KENWOOD TH-D75



ANYTONE AT-D878UVII PLUS



VGC VR-N76

# APRS: EQUIPMENT

## Mobiles with APRS



AnyTone AT-D578UVIII  
Plus Tri-Band



YAESU  
FTM-500DR



YAESU FTM-200DR

# APRS: EQUIPMENT

AEA Model  
PK-232MBX



TNCs



PACComm Pac-Comm TNC-200



Heathkit HD-4040

Kantronics  
KPC-3



# APRS: Internet Sites

<http://www.openaprs.net>

<http://www.aprs.fi>

<http://www.aprsworld.net>

<http://www.db0anf.de/app/aprs>

<http://www.wulfden.org/APRSQuery.html>

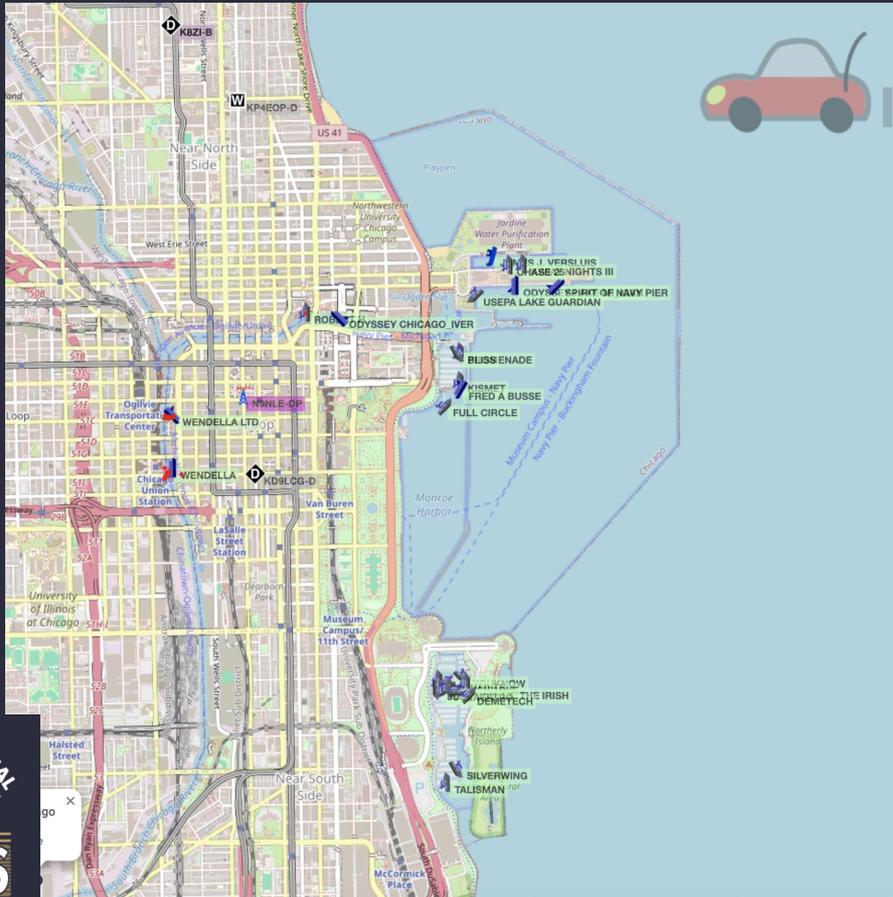


# APRS: Internet Sites

The screenshot displays the APRS.fi website interface. The main map shows a dense concentration of APRS stations in the Chicago area, represented by various call signs and icons. A red car icon with the text "loading..." is overlaid on the map. The browser's address bar shows the URL "aprs.fi/#addr=60606". The right sidebar contains navigation options like "3D Earth Map" and "3DEarthMaps". Below that, there are search fields for "Track callsign:" and "Address, city or Locator:". The "Show last:" dropdown is set to "1 hour". The "Track tail length:" dropdown is also set to "1 hour". Below these are "Other views" including "Station info", "Raw packets", "Status packets - Beacon packets", "APRS/CWOP weather - Telemetry", "Messages - Bulletin board", "Prefix browsing", "Google Earth KML ?", "Data export tool", and "Preferences - My account". At the bottom of the sidebar, there is an "Information:" section with links to "Users currently moving", "User guide", "FAQ", "Blog", "Discussion group", "Linking to aprs.fi", "AIS sites", "Service status", "Database statistics", "Advertising on aprs.fi", "Technical details", "API", "Change log", "Planned changes", "Credits and thanks", and "Terms Of Service". A "Tweets by @aprsf1" section is also visible at the bottom of the sidebar.



# APRS: Internet Sites



# APRS: Internet Sites

A screenshot of an APRS internet site for the Spirit of Navy Pier. The site is displayed in a white pop-up window over a map of a harbor area. The window title is "SPIRIT OF NAVY PIER" with a small ship icon and navigation links "center · zoom · info". The content includes the following information:

- 2025-06-21 03:31:38 - 2025-06-21 05:37:34
- AIS: length 42m width 10m draught 1.7m
- MMSI 367350360 IMO 423392 Call WCY3193
- Navstat: Moored
- Passenger
- USCHI<>USCHI*
- [ais via Snhnry]
- start tracking

The background map shows several other vessels: ODYSSEY LAKE MI, IGAN, Spirit of Chicago, Mystic Blue II, Mystic Blue I, and Spirit of South Overlook. A "P" for parking is also visible on the shore.

# APRS: Internet Sites



A screenshot of an APRS information popup window. The popup is white with rounded corners and a close button (X) in the top right corner. It is overlaid on a map background. The text inside the popup is as follows:

**D** **K8ZI-B** · center · zoom · info

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2025-06-09 17:21:06 - 2025-06-21 05:20:12

**alt 10 ft**

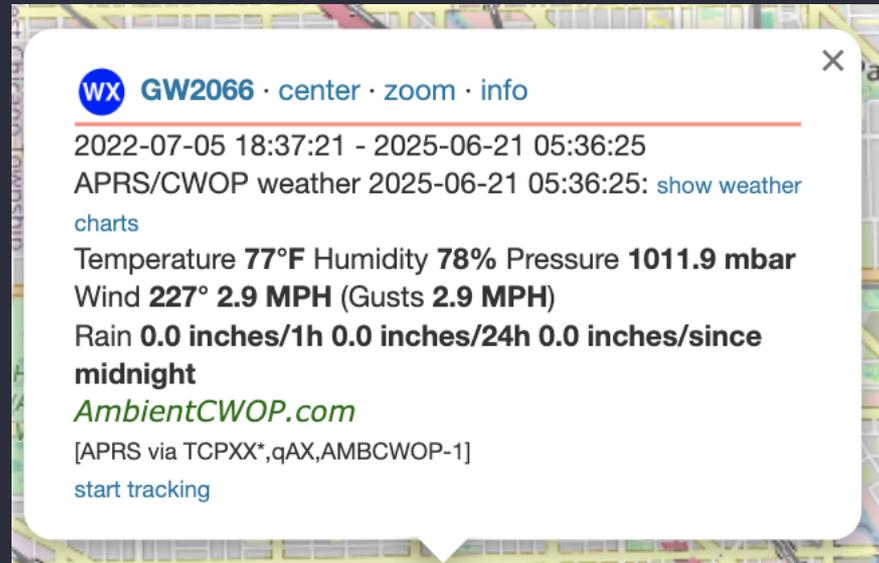
*70cm Voice (D-Star) 431.00000MHz*

*+0.00000MHz*

[APDG02 via TCPIP\*,qAC,K8ZI-BS]

[start tracking](#)

# APRS: Internet Sites



WX **GW2066** · center · zoom · info

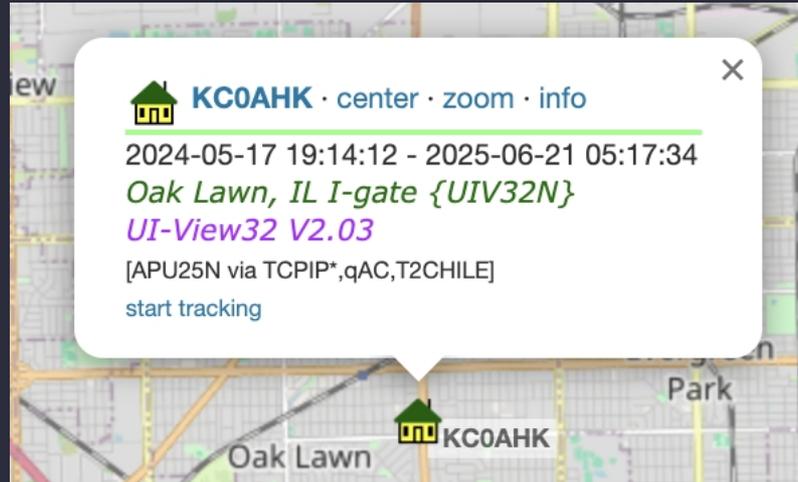
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2022-07-05 18:37:21 - 2025-06-21 05:36:25  
APRS/CWOP weather 2025-06-21 05:36:25: [show weather charts](#)

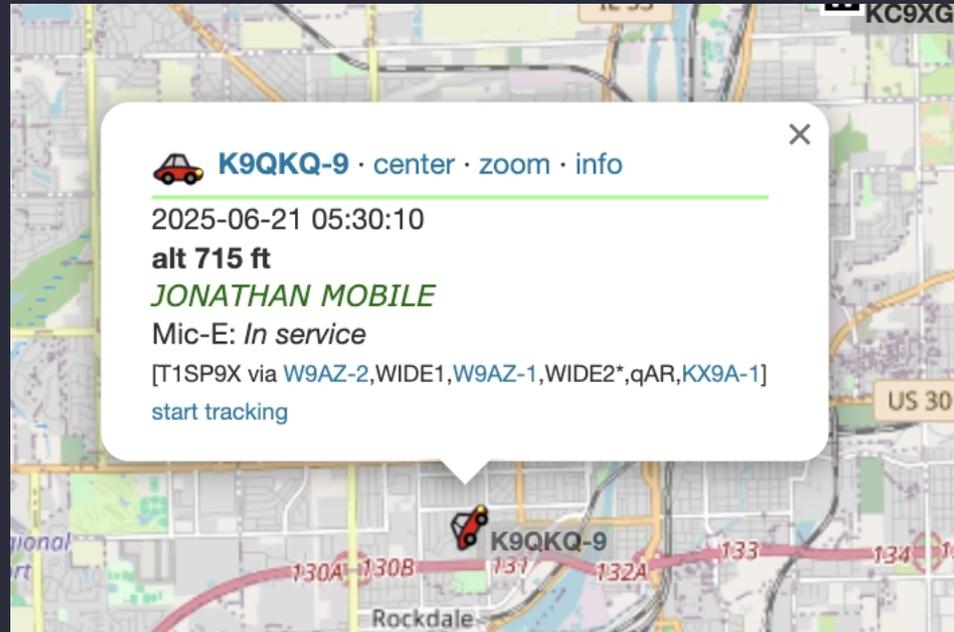
Temperature **77°F** Humidity **78%** Pressure **1011.9 mbar**  
Wind **227° 2.9 MPH** (Gusts **2.9 MPH**)  
Rain **0.0 inches/1h 0.0 inches/24h 0.0 inches/since midnight**

[AmbientCWOP.com](#)  
[APRS via TCPXX\*,qAX,AMBCWOP-1]  
[start tracking](#)

# APRS: Internet Sites



# APRS: Internet Sites



# APRS: CONCLUSION

- Remember this is a terrific hobby!
- If you need help, please ask! There are plenty of experts willing to help.
- Repeaters, servers, and networks require maintenance and funding.
- Get involved in your local radio club and help others around you.



# APRS: Questions & Comments

