

Automatic Position Reporting System, APRS

APRS is a Shareware program authored by Bob Bruninga, WB4APR. No charge is made for use of the software, however a one-time registration fee gets you a validation number, giving you the ability to store an automatic start-up configuration so you don't have to sign-on each time you start the software. In addition, a validated copy will be able to hold six pages of position reports and beacons versus two pages for unregistered copies.

The information contained in this brochure will give you, the potential user, an overview of the capabilities of APRS and will, hopefully, encourage you to join us in the Northwest APRS network!

APRS in the Northwest

Local Frequency:	144.39 MHz
Coverage areas:	Vancouver BC, Puget Sound, Centralia, Longview/Kelso, Vancouver WA, Portland, Astoria, Newport, Yakima, Wenatchee, Chelan, Richland/Tri-Cities, The Dalles, Moses Lake, Spokane, Coeur d' Alene, Lewiston ID, Boise, Kalispell, Helena, Salmo and Richardson BC.
HF Gateway Frequencies:	10.151 MHz LSB (this is within the band)
Internet Gateways available:	Seattle, Portland, Spokane

What exactly is APRS?

In a nutshell, APRS is a graphical means of disseminating real-time position information in a "broadcast" format using standard Unnumbered Information (UI) packet frames in an "unconnected" mode. By sending latitude and longitude or grid-square location information, stations are placed on a high-detail map. In addition to actual location, course, speed and altitude can also be included and the object may be tracked by "dead-reckoning" by the program until an updated position is received.

What is APRS used for?

Locally, APRS is used for several purposes: Among them are Weather reporting, tracking mobile stations, supporting public service events, and Radio Direction Finding.

There are several automatic weather stations operating and you can set one up yourself for less than \$200.00! These report current weather information in the region. The map will often indicate 3-5 mobile stations and you can watch their progress by zooming in on the map of they're area.

This past year APRS has supported the summer parade in Boise, ID, the MS 150 bike marathon in Everett, and other smaller events where it was desired to track certain individual's movements. GPS Tracker Units are placed on critical resources (Ambulance, buses, police cars, water trucks, race directors) and displayed on monitors in various locations for emergency personnel. We'd love to support more events, too!

Nationally, APRS was used throughout the 1996 Summer Olympics to track TV broadcast camera equipped helicopters and motorcycles, the annual New York, Honolulu, Boston, and Washington DC Marathons. APRS is widely used in storm-prone areas to track violent, often destructive weather patterns like hurricanes and tornados.

What area is covered?

Our regional APRS network covers most of the Pacific Northwest. More specifically, the I-5 corridor from Vancouver BC to Portland is fairly well covered, as well as the I-90 corridor from Seattle to Coeur d'Alene, and the I-84 corridor from Wenatchee to the Tri-Cities area. The HF gateways on 30 meters allows us to see stations as far away as Haiti and California. Live NWAPRS activity may also be seen on the Internet by accessing the following address: <http://www.aprs.net>

Do I need any special equipment to use APRS?

NO! The only equipment necessary is standard packet radio equipment (a computer with CGA graphics, a TNC, a radio and an antenna!).

Somebody said that I had to have a GPS unit to use this software! Is that true?

NO! While a GPS unit MAY be used, the detail of the maps visible on your monitor is such that any can place himself, or any other object, on the network by merely selecting a spot on the map and using the INPUT MY POSITION command. If you plan to use a GPS unit mobile with a laptop and TNC, you'll need an optional GPS registration number.

Do I need a hard-drive?

NO. A working, MINIMAL, system can be configured that can be run off of a single 720K diskette.

What can I expect to see on APRS?

Once you have logged on to the network, your software will request other APRS stations active at that time to beacon their position sometime in the next two minutes. Objects should begin appearing on your screen fairly quickly. You will see stations with various symbols displayed. Most home stations will appear as a small house, digipeaters will show up as a star (green indicates a WIDE-area digipeater), weather stations will appear as blue dots with white wind barbs, indicating which direction the wind is coming from. Mobiles will appear as autos, trucks, RVs, bikes, motorcycles, etc.

Can I communicate with others on the frequency?

APRS offers both one-line, automatically acknowledged, messages and a direct station-to-station using a built-in terminal emulator. You can even send NTS messages in support of ARES/RACES communications while in APRS.

How does GPS come into play with APRS?

Any GPS receiver capable of outputting its data in standard NMEA-0183 format can be connected into your APRS system directly and the position information indicated by the GPS to the computer will automatically place you on your map. A second method of GPS tracking is also being used: direct interface of a GPS unit to the serial port of your TNC. This creates what is known as a "stand-alone" tracker and enables the user to be tracked without need for a computer or operator intervention! No GPS registration number is required for this sort of use.

What kind of software support is available?

The author, Bob Bruninga (WB4APR), is constantly working to improve the APRS software. Upgrades are released often and once you register your software you merely re-enter your validation number as necessary to save a new configuration. Program upgrade files are available on many amateur radio bulletin boards or through the Internet.

Where is the APRS info found on the Internet?

TAPR (Tucson Amateur Packet Radio) sponsors a Special Interest mailing list called APRSSIG. It works through Email and is free. To sign up, visit TAPR's Web page at <http://www.tapr.org>. There will be a section allowing you to sign up. Once on the SIG, please monitor the traffic for a few days before posting anything. The folks on the SIG welcome newcomers but would rather you try to solve your problem locally before alerting the whole World. Be forewarned, there are at least 50 mailings each day!

How do I get on APRS RIGHT NOW??

It's simple! Just pick up a disk here at the meeting or download the software from a landline BBS or the Internet. Load it into your computer, print off the README files, read and follow them and you should be able to be up and running in short order!!!

How much does it cost?

APRS is shareware. You may use the program without charge, however to realize the full capabilities of the system you should register your software. The registration fee of \$29.00 gets you a validation number which will allow you to save a your configuration and eliminates the logon procedure as well as allowing you to plot 6 pages of stations instead of only two. To add a Weather Station, GPS, or Direction Finding system, the additional registration fees are \$9.00 each when registered at the same time as APRS. To receive the latest version on a 3.5" diskette, the cost is \$9.00.

We can help you register your software at this meeting, by taking your information and forwarding it to WB4APR and requesting a validation number, which you can receive quickly by email, or slower by regular mail.

APRS on 3.5" disk (WITH NORTHWEST) MAPS	\$3.00
APRS Registration (dos version only)	\$29.00
Options(GPS, WX, DF, Addl or new Callsign)	\$9.00 each

You must pay HERE with check or cash only. You'll be notified of your registration codes soon.

Welcome to APRS!!! Load it, try it. You'll like it!!!

Please direct inquiries, comments or questions regarding WIDE-area digipeaters, nodes and so forth to:

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Local APRS users around Puget Sound use the 146.96 for voice QSOs. You may also check there for more info. Efforts to form support groups on other frequencies may already be ongoing in your coverage area.

The easiest way to build interest among other hams is to get on the air and talk about APRS operations or elmering tips. When you say "I see you moving on my map now, you are on the freeway now", that is sure to spark the interest of others who may be listening.

Be patient. It takes awhile to learn this software.

Are there Windows and Macintosh versions of APRS available?

Yes, both platforms are heavily supported and the map detail is much greater. Check the NWAPRS home page for details: www.nwaprs.org