

This brief document describes what you will need in order to operate a contest using CQ/X. Of course this depends somewhat on the type of operation you would like to do so several different scenarios are described all the way from a minimal configuration to a full-blown configuration that utilizes the complete capabilities of the program. The devices that CQ/X supports, and for certain types of operations requires, are: radio, external keyer, and GPS receiver. Given the minimal serial port capabilities of today's generation of laptops use of all of the above devices will certainly require a USB to RS232 Port Expander or one of the USB interface boxes. First a few words about each of these device types.

**Computer and Operating System** – You will need a desktop or laptop running a late version of the Windows operating system to run this program. Any Pentium class machine capable of running Windows XP should work fine. The program has also been tested on W2K and works fine with that operating system. The program will not run under DOS or Windows 3.x and, although not tested on Windows 95, it probably will not run very well, if at all, on a Windows 95 machine. Limited testing has been performed on Windows 98 so performance on that operating system is an unknown at this time. If you use that operating system your results would be of interest to the author. The program has not been tested on Vista. If you try it on that operating system your results would be of interest to the author.

**Radio** – If it is desired to have the program automatically track changes in the frequency and mode of the radio then, of course, the radio must be interfaced with the computer. To see the radios supported by the program and to connect those radios use the Radio menu item to get to the connection dialog. If your radio is not on the list or if you do not have sufficient ports to interface the radio to the computer you can use the manual tracking option under the Radio menu item. If you use certain Yaesu or Kenwood radios and don't find your radio listed in the device connection dialog look for the file Devices.dat in subdirectory Devices. Removal of the double slashes for the radios listed under "These radios are untested" will enable them on the connection dialog following a restart of the program. Of course, as noted, the interface for these radios is untested. If you test any of these radios your results would be very useful to the author.

**External Keyer** – CQ/X does not generate CW internally but relies on an external keyer provided by the user. The program sends commands and message strings to the external keyer causing the keyer to generate CW appropriate to the situation at hand. Two external keyers are currently supported: the Hamation keyer and the WinKey by K1EL. While you could operate CW without an external keyer that is interfaced to the program that would defeat the convenient automatic message management of the program. If you wish to operate CW it is strongly recommended that you obtain one of these inexpensive keyers.

**GPS Receiver** – The main innovation in CQ/X is the integration of a GPS receiver with the contest logging software to support mobile QSO party contest operation. If you plan to operate mobile in a QSO party it is strongly recommended that you obtain a GPS that will generate the industry standard NMEA 0183 protocol. This is currently the only protocol supported by CQ/X. Most GPS receivers support this protocol. You should also make sure that you obtain a receiver that provides RS-232 outputs. If your GPS only

provides USB outputs you will need to insert a USB-RS232 adapter between the GPS and the PC. However, please note that information is available on [www.no5w.com](http://www.no5w.com) describing how to interface the Delorme LT-20 to the program without using an adapter.

**USB to RS232 Port Expander/Adapter** – In order to interface a radio, an external keyer, and a GPS receiver at least three serial ports will be required. These ports can be obtained from a single USB port using a USB to RS232 Port Expander which normally come in four serial port configurations. My best results have been with the Keyspan device described on [www.keyspan.com](http://www.keyspan.com). I have also used the Navigator box that is available from US Interface. This box provides all of the interfaces needed: radio CAT, WinKey, and an auxiliary RS-232 port which is convenient for interfacing the GPS. Other similar interface boxes such as the ones available from MicroHam should also work but have not been tested.

**Virtual Null Modem/Serial Ports** – For communication between CQ/X and a mapping program it is possible to use a pair of virtual serial ports as a virtual null modem. Free software implementing a virtual null modem is available from [www.n8vb.com](http://www.n8vb.com). This eliminates the need for two additional serial ports to interface CQ/X and the mapping program. Of course, you could also use a serial splitter to drive the mapping program and CQ/X simultaneously.

**Mapping Program** – A software item that is very handy if you are planning to operate mobile in a QSO party is a mapping program. This is useful in the trip planning as well as trip real-time tracking phase of a mobile QSO party operation. CQ/X provides the ability to pass GPS data through to the mapping program to allow real-time display of position. It should be obvious that it is important to make sure that the mapping program is capable of showing the county lines.

Device	Fixed Phone Radio-Man	Fixed Phone Radio – Auto	Fixed CW Radio – Auto	Mobile Phone Radio-Man No GPS	Mobile CW Radio-Man No GPS	Mobile CW Radio-Auto GPS
External Keyer	No	No	Yes	No	Yes	Yes
GPS Receiver	No	No	No	No	No	Yes
USBx4RS232 Port Expander	No	No[1]	Yes[2]	No	No[1]	Yes
Mapping Program	No	No	No	No	No	Optional

Notes:

1. Assumes there is at least one serial port on the computer
2. You could use a single USB to RS-232 adapter along with the existing single serial port

The features you will give up if you choose to operate without a GPS include:

- Ability to view the distance to the next county crossing
- Ability to auto-detect the current county
- Ability to determine the distance to any specified waypoint.
- Ability to view current position in real-time