

Cygnnet® Software – What are the minimum computer requirements?

The **minimum computer requirements** are:

(this is the minimum to run Cygnnet, for a smoother experience and support for all modern feedback options including VR, please consider using recommended specs above)

- Windows 7/Windows 8.1/ Windows 10 (Home or Pro)
- Intel® Core™ i5 or greater
We explicitly and exclusively recommend Intel processors.
- 16 GB RAM
- Graphics Card: The most important factor in selecting a computer for Cygnnet is the graphics card. Running the usual Cygnnet dual-screen setup with high-end 3D graphics on the second monitor is very demanding on a modern computer. Consider using a VR-ready graphics card like the ones recommended above. At minimum look for an AMD or NVIDIA cards with at least 2 GB dedicated video ram.
- Laptop Graphics cards: "integrated" graphics memory is not supported. (Dual graphics cards that switch between a low power and high power chip are supported but require special video driver configuration. Please contact tech support for driver version and links)
- Sound card
- DVD-Rom Disc Drive - required if you want to use DVD movies
- Netbooks or Nettops are probably not suited; we recommend Multimedia or game computers. These are usually also quite cheap.
- Malware protection: s. notices further below.

Please note that the Cygnnet® software and feedback games are continuously enhanced and thus, the requirements for PCs might change.

In the following, we like to give a couple of **recommendations** if you are looking for a **appropriate computer for your Neurofeedback system**. These days, you can use almost any PC for neurofeedback. However, there are a few considerations and recommendations:

- Cygnnet is qualified for 32 and 64 bit operating systems. Only with the serial QIK devices that we sold a few years ago there is an incompatibility with 64bit systems. For this issue we offer a special USB-Serial adapter. We now sell only USB QIKs.
- For convenience reasons and because they allow a higher mobility, we recommend to use a notebook. Desktop PCs can be used only stationary and have no integrated monitor.
- Don't get a notebook with low screen resolution. Most cheap notebooks come with 1366 x 768 pixels, we recommend at least 1600x900 or better Full-HD (1900x1080), otherwise all windows overlap all the time and you'll have to scroll a lot. Of course, the optimum screen resolution depends on your eyes.
- If you intend to use the notebook mostly stationary, consider a 17" screen. You will not regret it. A desktop computer should better be provided with a 24" screen.
- DVD player: See notice in FAQ "What to do when DVD drive problems occur?"
- If you have a chance, check for the noise of the built-in fan. Some computers produce quite noticeable noise with can be annoying in a quite practice room.

- SSD hard drives came down in price quite substantially. They are still more expensive than conventional mechanical drives but produce no audible noise and increase the speed of a computer substantially.
- When choosing an anti virus software it should be kept in mind that the "real-time capability" of our neurofeedback system (NeuroAmp amplifier and software) is an essential prerequisite for the successful application of neurofeedback. All processes of other software that run in the background (and this addresses particularly the virus protection programs), can interfere the "real-time capability" or even prevent it. An example are McAfee security products that can interfere with Cygnet® dramatically and unfortunately very often are pre-installed on new computer systems. But also the anti virus software "Avast" and "Kaspersky" have led to problems with Cygnet, for example the startup procedure of Cygnet was interrupted showing the error message "Invalid Exit Code -2". Our recommendation: The protection, which is integrated in Windows since Windows 7 ("Microsoft Security Essentials") is sufficient for most applications. Cygnet was developed and qualified on computers that either use "Microsoft Security Essentials" or "Norton Internet Security" for virus and firewall protection. Our experiences are exclusively constrained to this protection software and therefore we recommend only the mentioned products.

The rest is up to your taste: size, weight, battery lifetime, etc. We are happy to review your computer choice and comment if it is suitable or not.

Before downloading the newest Cygnet® version make sure, your pc complies to the pc requirements.

In general, we recommend to have your computer serviced by a professional, unless you enjoy maintaining your computer by yourself. It is a similar situation as with cars, where most people go to a garage.

- PC installation
- Computer safety
- Backups