















Setup Manual

Version 5.92

PHOTOSS Setup Manual
Version 5.92
2013-11-02

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Prerequisites



Please check the following prerequisites before installing PHOTOSS. If the requirements are not met, the installation or functioning of the software may be impaired or even fail.

For future releases of PHOTOSS, the requirements may change without notice.

Hardware Requirements



PHOTOSS is designed to run on standard PC hardware equipped with:

- ✓ Intel® Pentium® IV compatible CPU running at 2.50 GHz or faster, or AMD® Athlon™ XP 2600+ compatible CPU running at 1.92 GHz or faster
- ✓ At least 1024 MB of RAM
- ✓ At least 200 MB free space on the hard disk partition where it is installed
- ✓ Display adapter and monitor with a minimum resolution of 1024 x 768 pixels
- ✓ An unused USB or parallel (LPT) port, depending on the protection dongle
- ✓ A network (LAN) interface
- ✓ *For GPU accelerated fiber simulation:*
 - NVIDIA® CUDA™ compatible GPU with compute capability 1.3 or higher (including 2.x, 3.0) and at least 96 stream processors (CUDA™ cores); see <http://developer.nvidia.com/cuda-gpus> for details
 - At least 1024 MB of dedicated VRAM

There is no guarantee for error-free installation or functioning with hardware that does not meet the above requirements or with any non-standard hardware.

Software Requirements



PHOTOSS is designed to run with the following software prerequisites:

- ✓ Microsoft® Windows® XP 32-bit with Service Pack 3, or Microsoft® Windows® Vista (32-bit or 64-bit) with Service Pack 2, or Microsoft® Windows® 7 (32-bit or 64-bit) with Service Pack 1
- ✓ User account with administrator privileges for the installation
- ✓ Graphics environment with OpenGL support
- ✓ Microsoft® Windows® compatible TCP/IP network
- ✓ *For using the MATLAB® programming interface:*
A supported version of MATLAB® (see section *MATLAB® Interface* for details)

There is no guarantee for error-free installation or functioning when used in combination with any other software or operating systems.



PHOTOSS does not support Microsoft® Windows® versions prior to XP.



Any other versions or editions of Microsoft® Windows® than those listed above are not officially supported, which means we do not test them and do not guarantee that PHOTOSS works with them. PHOTOSS may or may not work properly.



While PHOTOSS does support the 64-bit editions of certain operating systems, it is still a 32-bit application. This means that even on 64-bit systems, each instance of PHOTOSS will run in 32-bit mode and is subject to 32-bit memory limitations.

PHOTOSS Setup

Launching the Setup Program



Log in with administrator privileges and run the PHOTOSS setup program (typically "PHOTOSS-Version-Setup.exe"). If you received PHOTOSS on CD or DVD media, and the auto-run feature is enabled, the setup program will start automatically after you insert the disc.

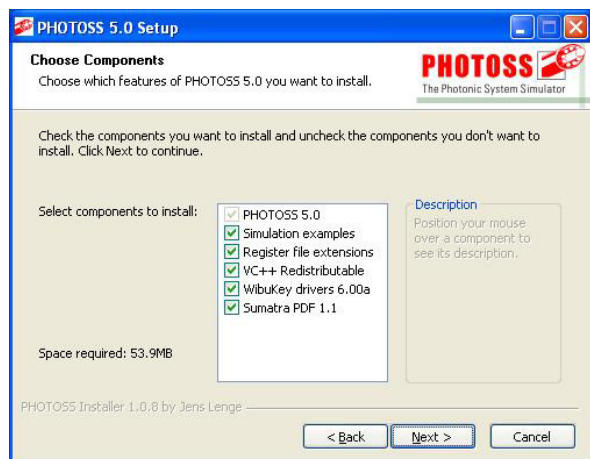
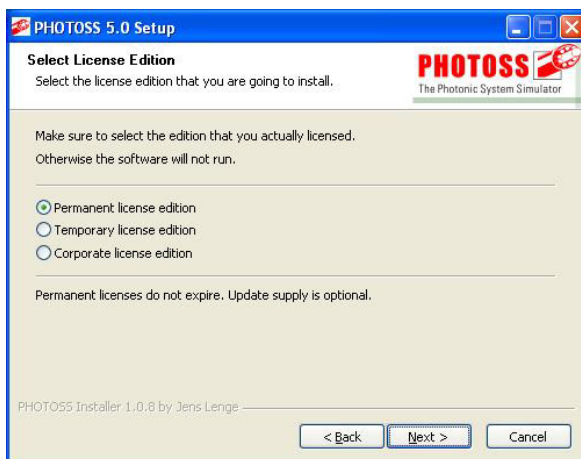
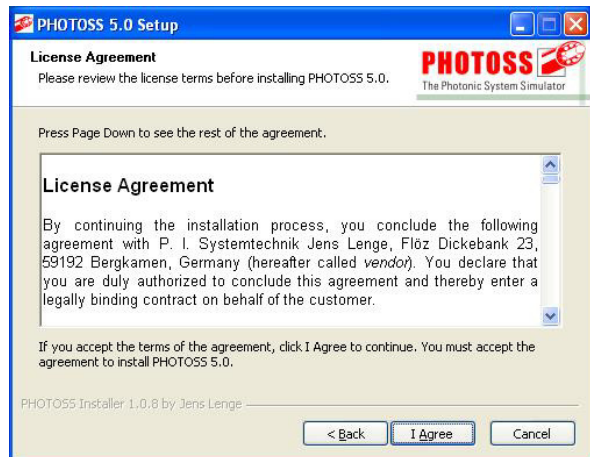


We recommend that you turn off all anti-virus or similar software before installing or uninstalling PHOTOSS. Otherwise certain actions (such as copying or deleting files) might be blocked, resulting in an incomplete (un)installation.

Installing PHOTOSS



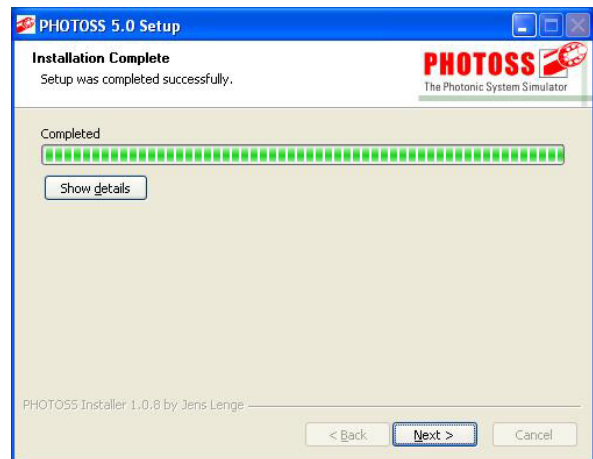
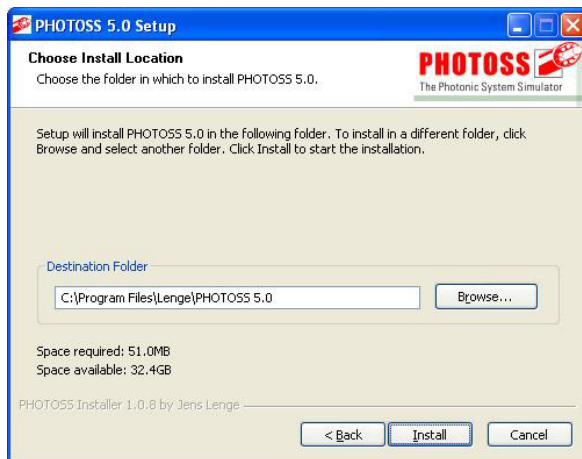
The setup program will guide you through the installation process. Follow the on-screen instructions to complete the installation.



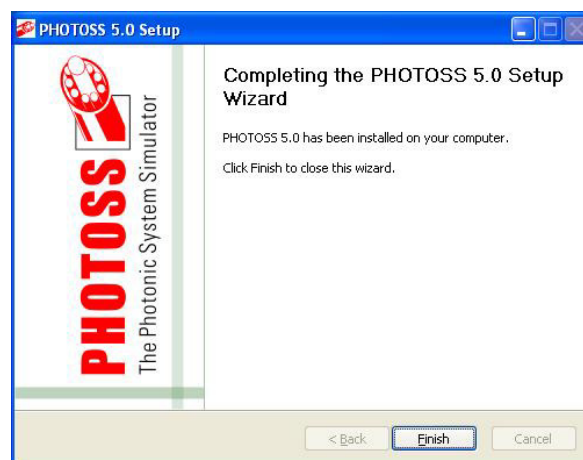
On the *Select License Edition* page, be sure to select the license edition that you actually purchased, or else PHOTOSS will not run afterwards. (This page is not shown if you install the free demo version of PHOTOSS.)

The *Choose Components* page offers the following optional selections:

- Simulation examples*
installs a collection of example simulations that illustrate the use of PHOTOSS.
- Register file extensions*
registers the *.pho* and *.pscript* file extensions so that according files are automatically associated and opened with PHOTOSS.
- VC++ Redistributable*
installs the Microsoft® Visual C++® 2005 Redistributable. **A supported 32-bit version of the redistributable is required to run PHOTOSS.**
- WibuKey Runtime* (not shown for the free demo version of PHOTOSS)
must be installed and properly configured to run PHOTOSS except for the demo version. Refer to section *WibuKey Software Protection* for details.
- SumatraPDF*
installs SumatraPDF, a lightweight viewer software for PDF documents such as the PHOTOSS manuals. **SumatraPDF is required to show context related help from within PHOTOSS.** Please refer to section *SumatraPDF* for details.





On the *Choose Install Location* page, be sure to **select an installation folder that does not yet exist**. The default location is typically a good choice.

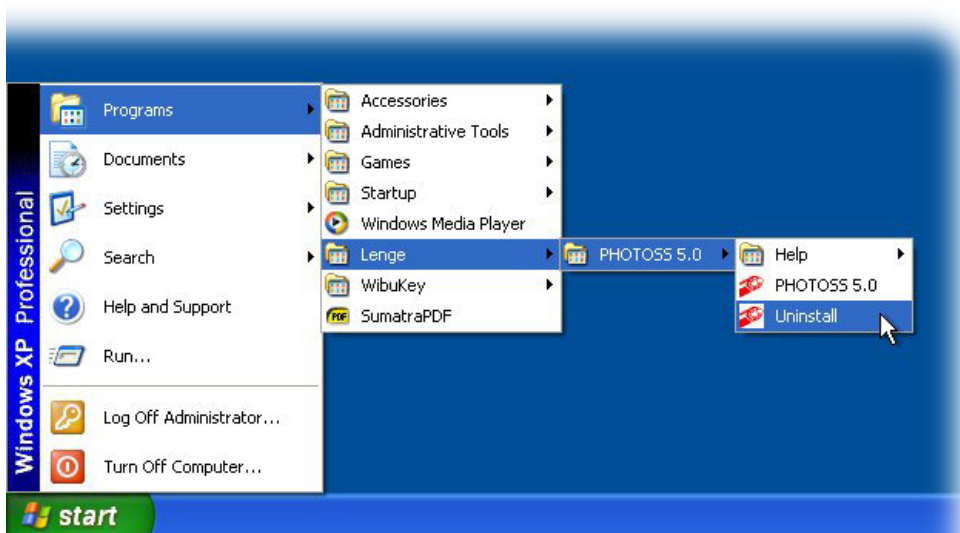


Uninstalling PHOTOSS

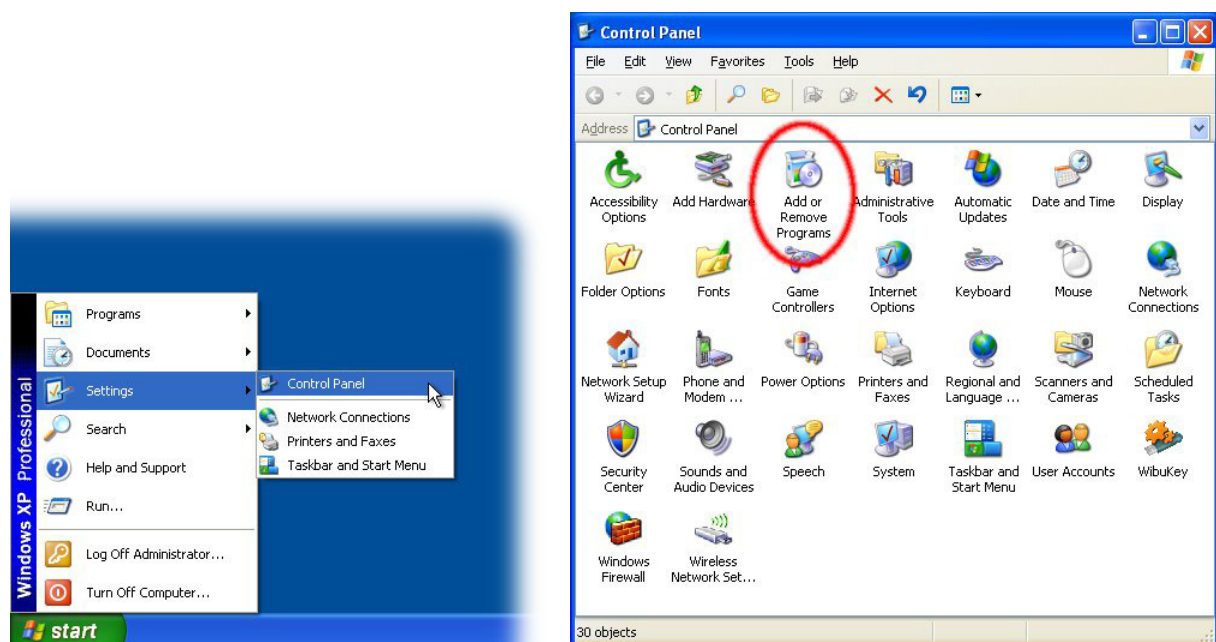



 Depending on your version of Microsoft® Windows® and the user interface settings, the appearance of the *start* menu, the control panel, and the *Add or Remove Programs* window may differ from the pictures in this manual.

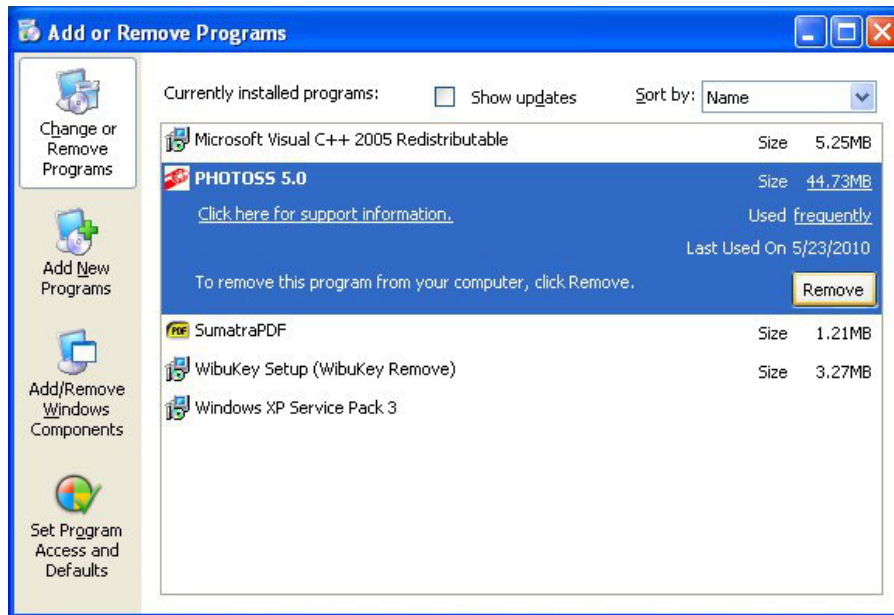
 **Uninstalling PHOTOSS will not remove any third party software that might have been installed along with PHOTOSS (such as the Visual C++® Redistributable, the WibuKey Runtime, or SumatraPDF). If required, uninstall these separately.**



To uninstall PHOTOSS, select the *Uninstall* entry in the *start* menu and follow the on-screen instructions. Alternatively, you may also uninstall PHOTOSS from the Windows® software list. To do so, select *Settings* ⇒ *Control Panel* in the *start* menu to open the control panel, then double-click the *Add or Remove Programs* symbol.



 Note: On Windows® Vista and 7, the symbol is named *Programs and Features* instead.



Select the according PHOTOSS entry in the list and click *Remove*. Then follow the on-screen instructions to complete the uninstall process.

Installing multiple versions of PHOTOSS



In general, you may install more than one version of PHOTOSS in parallel and operate them independently without mutual interference. However, the following rules apply:

- You can only co-install different versions of PHOTOSS. In this respect, two versions are "different" if they differ in at least one of the first three version numbers. Versions that only differ in the fourth version number (build number) cannot be co-installed.
- You may co-install Demo or Beta versions along with the respective "normal" version even if they share the same version number.
- You may not co-install different license editions of the same PHOTOSS version (such as permanent, temporary, or corporate).
- The *.pho* and *.pscript* file extensions can only be registered for one PHOTOSS installation at a time.

WibuKey Software Protection



PHOTOSS is protected by the WibuKey protection system, a product of Wibu-Systems AG. This chapter describes the WibuKey setup and configuration as far as required to run PHOTOSS.

Note: The free demo version of PHOTOSS does not use WibuKey protection and does not require any further setup. You may skip this chapter if you use the demo version.

Local Protection and Network Protection



Local Protection



Local protection means that the WibuKey drivers directly interact with local dongle hardware without using a network connection. There are two drawbacks with this approach: First, WibuKey offers only a restricted local license management that does not account for your actual number of licenses. Second, the local subsystem may interfere with the network subsystem when both are used in parallel.



Therefore, PHOTOSS does not support local protection. You need to use network protection even if you run PHOTOSS with a local dongle. In this case, just configure your PC both as a server and its own client.

Network Protection



Network protection requires that all participating computers are connected by a Microsoft® Windows® compatible TCP/IP network. Please refer to the Microsoft® Windows® manuals and the documentation of your network adapters in order to set up the network drivers and the TCP/IP protocols.

Servers One or more computers act as license servers. These provide a number of PHOTOSS licenses that can be allocated by multiple client computers across the network in parallel as long as the total number of licenses in use does not exceed the total number of licenses provided by the servers. License servers must

- have the WibuKey Runtime including the *32 bit WkNet/WkLAN Network Server* option installed (see section *WibuKey Runtime Setup*),
- be equipped with one or more hardware dongles,
- be running the WibuKey network server application.

You need not install PHOTOSS on license servers unless you want the server itself to also run PHOTOSS (and thereby also act as a client).

Clients In a network protection setup, computers that run PHOTOSS act as license clients which automatically allocate and release available server licenses as required. License clients must have both PHOTOSS and the WibuKey Runtime installed and must have network access to at least one license server, but need not be equipped with dongle hardware themselves.

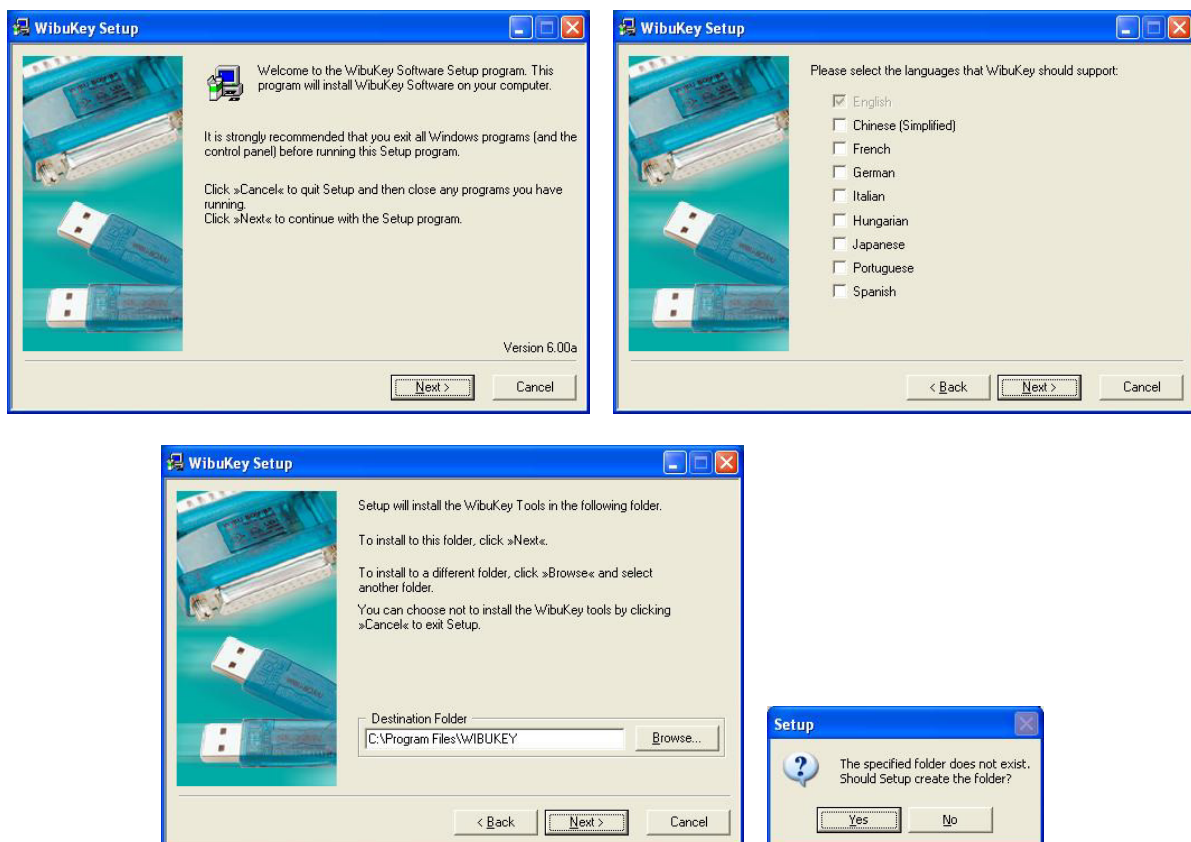
WibuKey Runtime Setup



If you choose to install the WibuKey Runtime along with PHOTOSS (see chapter *PHOTOSS Setup*), the WibuKey setup program is automatically launched by the PHOTOSS setup program.

You may also install the WibuKey Runtime alone (without PHOTOSS). This is useful for pure license servers that do not run PHOTOSS themselves, or if PHOTOSS is already installed. To only install the WibuKey Runtime, log in with administrator privileges and run *WkRuntime.exe* which is located in the *WibuKey Runtime* folder.

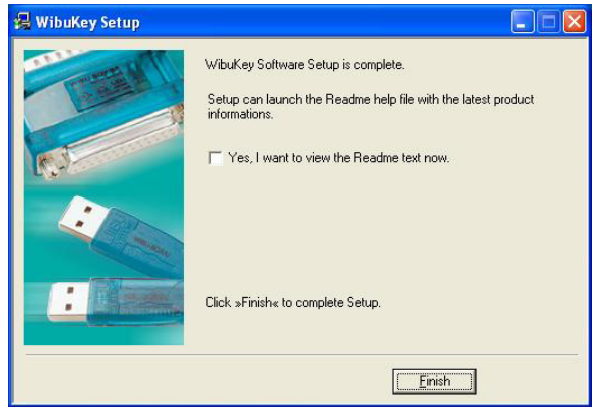
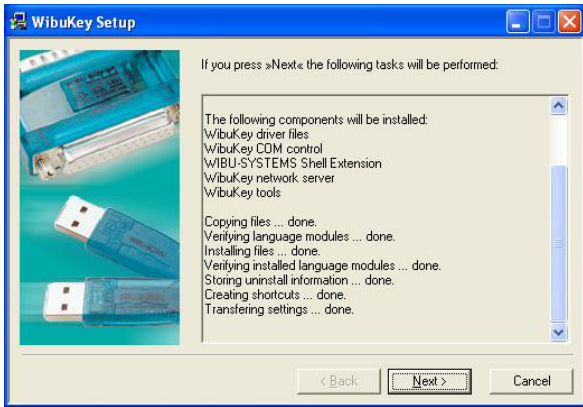
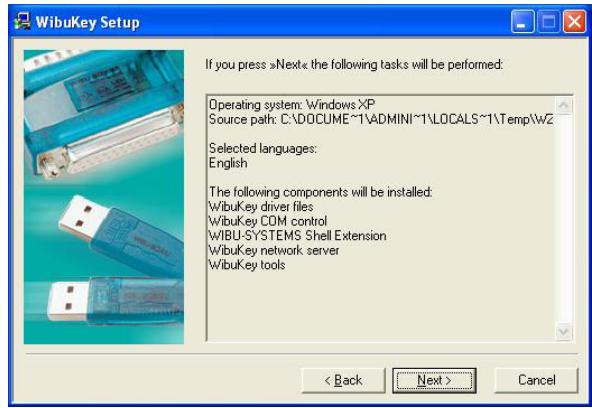
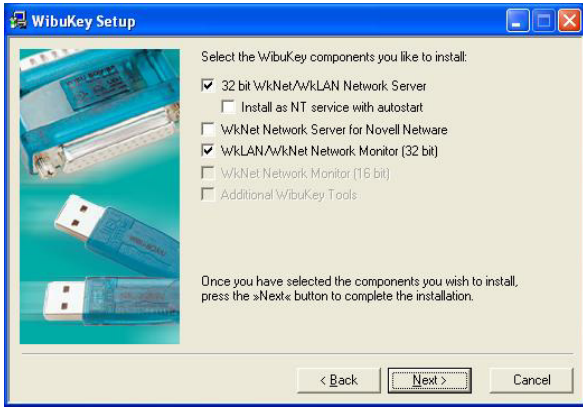
Follow the on-screen instructions to complete the WibuKey setup.



On the components page, two items are checked by default:

- 32 bit WkNet/WkLAN Network Server* must be selected if the computer is intended to act as a license server, otherwise you may de-select it. You can optionally install the server component as a system service (“*NT service with autostart*”).
- WkLAN/WkNet Network Monitor (32 bit)* is an auxiliary tool that monitors all available network servers. It is not mandatory, but we suggest installing it on both license servers and clients for diagnostic purposes.

Leave the remaining choices unchecked (default).



Protection Hardware (Dongles)



Protection dongles are required for license servers, but not for license clients. Depending on the type of the dongle, connect it to a Universal Serial Bus (USB) or a parallel (LPT) port. The dongle may not be removed while PHOTOSS is running.

Parallel Port Dongle



An arrow symbol indicates which side of the dongle to connect to your PC. The appearance of the arrow may vary according to the production series of the dongle. Make sure to always plug the dongle into a parallel (LPT) port.



Never try to connect the backside of the dongle to a serial (COM) port! You may seriously damage both your computer and the dongle!



The backside of the parallel port dongle serves as a bypass. You may connect other parallel port devices such as printers to the backside of the dongle.

USB Port Dongle



Install the WibuKey Runtime before you plug the dongle into a USB port. The dongle will then be automatically recognized shortly after.

Whenever you plug a dongle into a new USB port for the first time, a driver installation window as shown below might appear. If this happens, just select *Install the software automatically (Recommended)* and proceed with *Next*. Finally confirm the installation with *Finish*. Note that you may require administrator privileges to install the USB drivers.

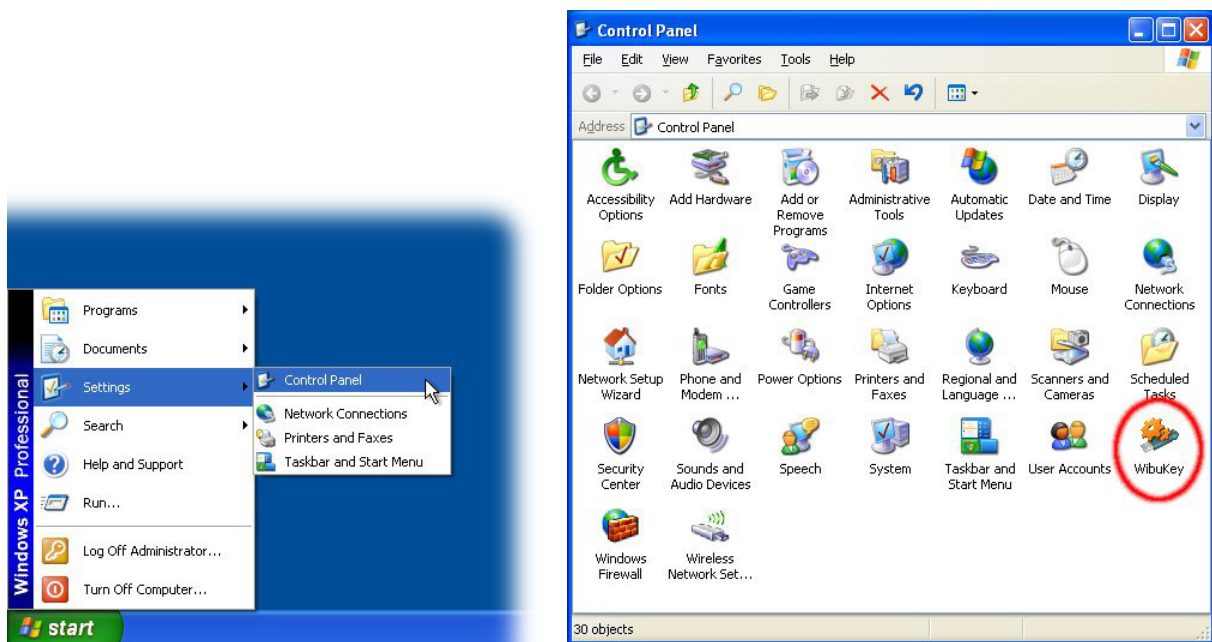


Depending on your version of Microsoft® Windows® and the user interface settings, the appearance of the windows may differ from the pictures shown above.

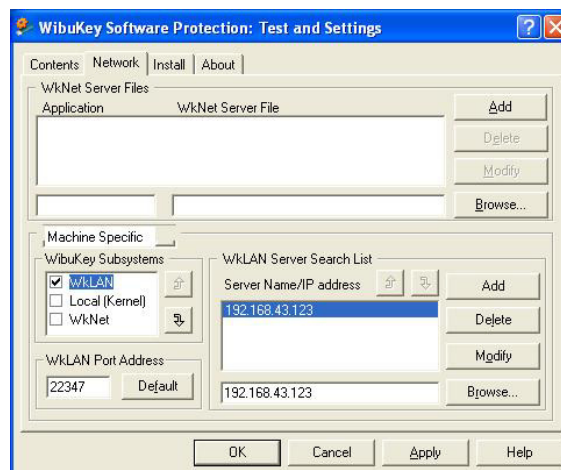


Control Panel Settings (Clients and Servers)

Open the control panel by clicking *Settings* ⇒ *Control Panel* in the *start* menu, then double-click the *WibuKey* symbol to open the WibuKey settings window.



Depending on your version of Microsoft® Windows® and the user interface settings, the appearance of the *start* menu and the control panel may differ from the pictures.



Open the *Network* page as shown above. The *WkNet Server Files* section corresponds to the obsolete WkNet subsystem which is not supported by PHOTOSS, so you may ignore it.

The options in the lower half can be set *Machine Specific* (for all users) or *User Specific* (for the current user only). Administrator privileges are required to edit machine specific settings.

WibuKey Subsystems

- *Local (Kernel)* is not supported by PHOTOSS. We recommend unchecking it.
- *WkLAN* enables network protection. Must be checked both on servers and clients.
- *WkNet* is not supported by PHOTOSS. We recommend unchecking it.
- Alter the search order in which licenses are tried to allocate with the arrow buttons.



Always uncheck *Local (Kernel)* on computers that act as license servers and also run PHOTOSS themselves! Otherwise network clients may not be able to allocate licenses while PHOTOSS is running on the server.

WkLAN Port Address

- Sets the TCP/IP port number that is used for network protection (22347 by default). It may be necessary to change the port if it interferes with your network setup, firewall settings, or other software. Ask your network administrator.
- The port address can only be changed as a *Machine Specific* setting.



You need to specify the same port on all involved client and server computers.



Due to an error in the WibuKey Runtime prior to version 6.0, the allocation of PHOTOSS licenses will fail on 64-bit operating systems if any port other than 22347 is used. The bug is fixed with version 6.0 of the WibuKey Runtime.

WkLAN Server Search List

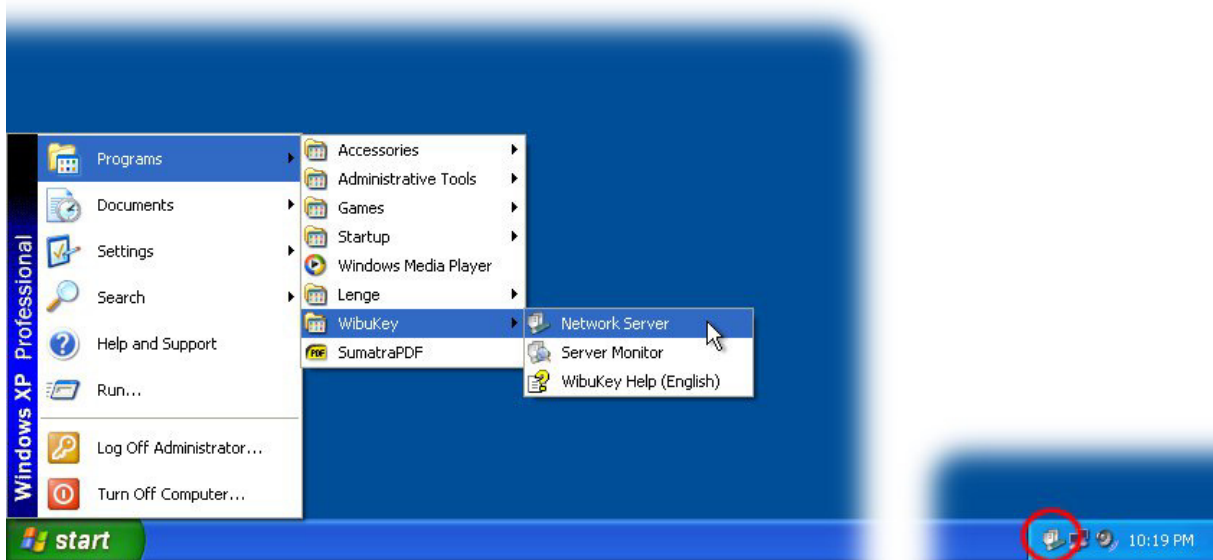
- This list contains the IP addresses (or names) of the license servers to be used.
- To enter a new server, type its name or IP address into the edit field below the list and click *Add*. You can *Delete* or *Modify* existing list entries by selecting them and clicking the respective buttons.
- Use the arrow buttons to change the order in which the servers are accessed (top to bottom).
- The *Browse* button will search the network and display all detected servers in a list from which they can be selected into the *WkLAN Server Search List*.



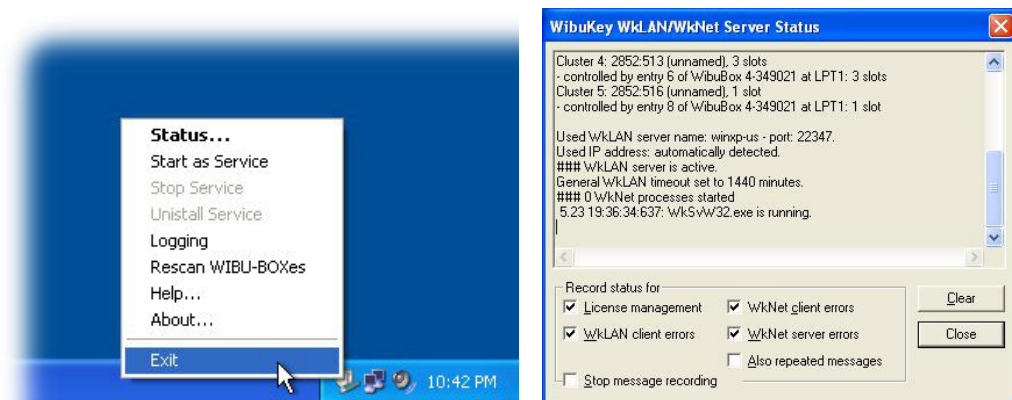
If no server name or IP address is specified, a search broadcast is used to find available servers. If broadcasts are blocked by network devices such as routers, the search is restricted to the local subnet and will not detect servers outside of it. You need to explicitly specify these servers in the search list.


Network Server Application (Servers only)

If you have installed the 32 bit WkNet/WkLAN Network Server component as a system service, it will run automatically when the computer is powered on (see section *WibuKey Runtime Setup*). Otherwise click *Programs* ⇒ *WibuKey* ⇒ *Network Server* in the *start* menu to run the network server application.



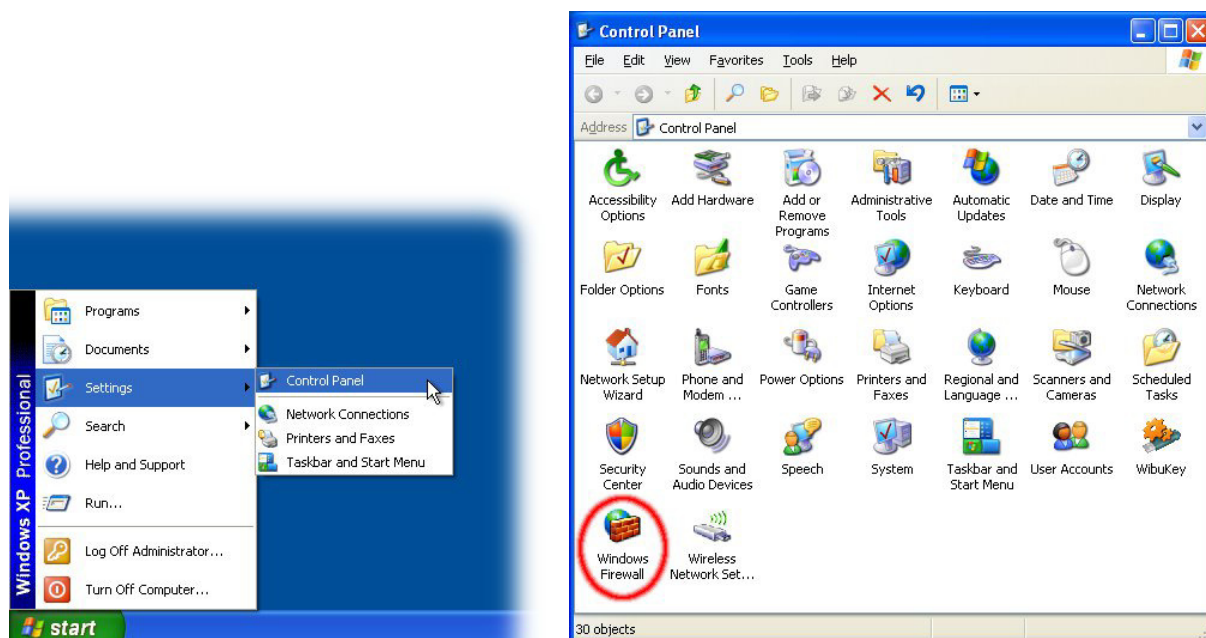
The application places an icon in the system tray to indicate that the license server is active. Right-clicking the tray icon opens a context menu with options such as viewing the status window (see below), starting as a system service, or exiting the server application.



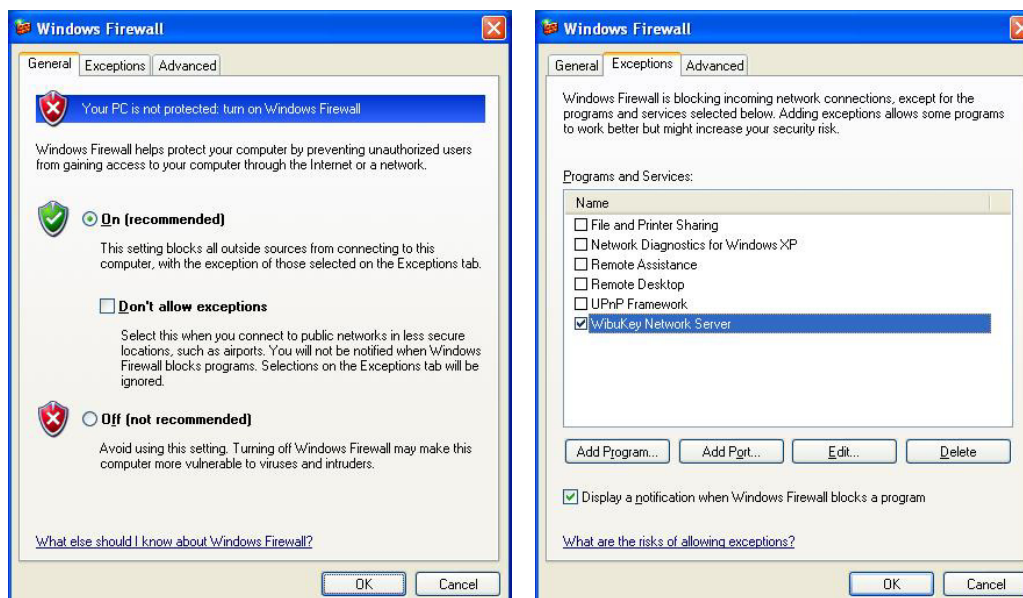
 Depending on your version of Microsoft® Windows® and the user interface settings, the appearance of the *start* menu may differ from the pictures shown above.

Windows® Firewall Settings (Servers only)


In order to enable access to a WibuKey license server over the network, you need to set an according firewall exception. Open the control panel by clicking *Settings* ⇒ *Control Panel* in the *start* menu, then double-click the *Windows Firewall* symbol.



 Depending on your version of Microsoft® Windows® and the user interface settings, the appearance of the *start* menu and the control panel may differ from the pictures.



On the *Exceptions* page, check the *WibuKey Network Server* item (unless it already is) and confirm with *OK*.

 Note: The *WibuKey Network Server* item will not appear before the WibuKey network server application has been run for the first time.

Additional Setup Information

SumatraPDF



The PHOTOSS documentation is installed along with PHOTOSS in Portable Document Format (PDF). In order to read PDF documents, you need according viewer software such as SumatraPDF. SumatraPDF is a slim, free, open-source PDF viewer for Microsoft® Windows®. It is not part of PHOTOSS, but is included in certain PHOTOSS distributions with friendly permission of the author.

SumatraPDF is written by Krzysztof Kowalczyk and is (at the time of writing) distributed under the terms of the GNU General Public License Version 3 (which is enclosed with every PHOTOSS distribution that includes SumatraPDF). You can obtain the latest version, source code, and additional information from <http://blog.kowalczyk.info/software/sumatrapdf>.

To install SumatraPDF along with PHOTOSS, check the according option in the PHOTOSS setup program. To install SumatraPDF separately, run "SumatraPDF-*Version*-install.exe" in the *SumatraPDF* folder. Follow the on-screen instructions to complete the installation.



Note: If you prefer a more feature-complete (but significantly larger) PDF viewer, you can download Adobe® Reader® free of charge at <http://www.adobe.com>.

Trademark attribution: Adobe, the Adobe logo, and Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.



Even if a different PDF viewer is installed, SumatraPDF is still required to show context related help from within PHOTOSS. However, SumatraPDF needs not necessarily be configured as the system's default PDF viewer.

MATLAB® Programming Interface



For the integration of user-defined algorithms, PHOTOSS includes a programming interface that connects to MATLAB®, a commercial software package for numerical calculations.

MATLAB® is a product of The MathWorks™ (<http://www.mathworks.com>). It is not part of PHOTOSS and is not included in PHOTOSS distributions. Please refer to the MATLAB® documentation for details on the installation.

PHOTOSS currently supports MATLAB® 7.2 (R2006a) to 8.1 (R2013a). By default, it will automatically detect and use the latest supported version of MATLAB® that is installed on your computer. If required, you may manually override the automatic selection; see the *PHOTOSS User Manual* for details.



PHOTOSS does not support MATLAB® versions prior to 6.0 (R12).



Any other versions or editions of MATLAB® than those listed above are not officially supported, which means we do not test them and do not guarantee that PHOTOSS works with them. PHOTOSS may or may not work properly.

Hint: Users have reported that PHOTOSS requires administrator privileges in order to work with MATLAB® 7.0 (R14). The bug is fixed in MATLAB® 7.0.1 (R14 SP1).



On 64-bit operating systems, you need to install the 32-bit edition of MATLAB® in order to make it work with PHOTOSS. Instead of installing MATLAB® normally, run the *setup.exe* file in the *win32* folder on your MATLAB® DVD.

In rare cases, PHOTOSS might be unable to run MATLAB®. If this occurs, the MATLAB® installation may be broken or incomplete. Re-install MATLAB® to fix the problem.

