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High-End Computer Audio

Welcome to a journey to achieve the absolute high-end of computer audio, made in Switzerland. You will experience an analog-like audio quality you’ve probably never heard before on your computer audio transport system. Our mission is to get you there in a pleasant way, without the hassle of complex adjustments and changes to your operating system. This guide will show you how to get your own high-end computer audio transport using Windows Server 2012 R2, Windows Server 2016 or Windows 10.

Our solution will transform your AudioPC into a true audiophile component. A dedicated AudioPC becomes an ultra-high-end component, ready to use with a simple press of the power button. You don’t even need to log in once everything is set up. Press the power button again to shut it down properly. If your system contains a SSD and a modern motherboard, it will be up and running within a couple of seconds and your shutdown times will be even faster.

Kernel-Streaming is one available option Windows offers which is, in our opinion, by far the best option to choose even if it’s "ancient technology". You will get the best sound quality and stability, the lowest latency, and it works with most devices. A typical driver developer will certainly tell you WASAPI is the way to go, no doubt about that. But in the end, you should use whatever sounds best to your ears and matches your system. No matter if you use Kernel-Streaming, ASIO or WASAPI, you will enjoy a unique audio experience.

Please take your time and read this guide very carefully. It will not only show you how to run the AudiophileOptimizer, it will cover many more topics aside from AO’s usage. It will show you exactly how to setup and fine tune your computer audio system to get the maximum sound quality possible. Follow these instructions as close as you can.

Please don’t employ methods aside from those recommended in this guide. We will not support foreign scripts, optimization scripts, optimization tools, anti-virus software, software firewalls or anything else not listed in these pages. Please don’t install, configure or disable anything not mentioned in the guide or not specifically needed to run your audio device. The AudiophileOptimizer will take care of all OS related settings.
Recommended Scenarios

SinglePC Setup
In most scenarios, a well-made SinglePC setup is the way to go. It’s not very complicated to set up and will sound better than a DualPC setup made without enough attention to details and carefully selected hardware. You will get very fast boot times, even faster shutdown times, phenomenal analog-like sound quality and a very stable system. If you need the comfort and usability of the desktop environment, GUI edition is what you need. If you seek much better sound quality, but still need some compatibility (WASAPI, WLAN, etc.), minimal-server mode will be the mode for you. And if you are looking for the very best sound quality the AudiophileOptimizer can deliver, core mode is the route to go (only available on server grade OS). On a SinglePC setup JPLAY is not needed but can be used if you prefer to do so.

JPLAY DualPC Setup (Streamer Mode)
For more advanced users a DualPC setup is an option to further increase sound quality. For a DualPC setup you need JPLAY as digital transport between the two machines. A DualPC configuration requires advanced skills, knowledge about TCP/IP and network configurations. Both machines need to be fully optimized and treated equally well. You should use only the best components you can afford. So often a well-made SinglePC setup sounds better than a DualPC setup made without the needed attention and love for details.

For the most purist audiophiles, we recommend to have the AudioPC as well as the ControlPC in core mode. But be aware, the lack of a GUI may be tricky if you are not used to DOS commands. To get the best sound quality possible, you clearly should use a carefully configured DualPC setup. If you want the best possible sound quality, go with core mode for both systems. But be aware, the price for this stunning sound quality means living with some drawbacks regarding the usability (no desktop environment etc.) of the Windows operating system.

Another possible setup would be to have the ControlPC in GUI mode and the AudioPC in core mode. This setup will almost reach the level of the DualPC setup in core mode but offer much more comfort in usage and handling.

Best Practice
After installing Windows, a Media Player, Drivers for your DAC or DDC as well as the AudiophileOptimizer be sure that everything works before you actually use the AudiophileOptimizer. Read the entire guide carefully to get the maximal effect from the AudiophileOptimizer. It is recommended to use the ServiceTool to configure “Autologon” and a “Shell Replacement”. Combining both Autologon and Shell Replacement will configure your system so it can automatically log in upon start and directly start the Media Player of your choice without the need to press a single button. Your Computer Audio setup will turn into a High-End HiFi Device.

Remote Apps
Don’t forget about apps for iPhones, iPads and other mobile devices. You can easily control your computer audio transport via RemoteApp by just using one finger, sitting on your couch...
Software Package

The AudiophileOptimizer, ServiceTool and Setup can be run in GUI, minimal-server or core mode. Remember, you must only run this software on dedicated AudioPC's running Windows Server 2012 R2 or Windows 10. Do not try to run either one on a Windows 7, Windows 8, 8.1 or any other non-supported OS.

SETUP.EXE
This is the installer for the AudiophileOptimizer package. It will create a Folder called “AO” in the root directory of your system drive (most likely C:\AO). It will install all components in that folder and create the needed shortcuts on your desktop as well as the needed entries in the start menu and path variables. You can use setup.exe for an initial installation and also to upgrade your existing AO installation.

AUDIOPHILE_CORE.EXE
This is the most important part of the package; this program will optimize your system. Only use it on your dedicated Audio/ControlPC or in a dual-boot configuration. The AudiophileOptimizer will make permanent changes to your system. Be sure to make an image backup made with Macrium Reflect, Paragon, Clone-Zilla or Acronis, etc. before you use the AudiophileOptimizer. See the detailed instructions in this manual in chapter AudiophileOptimizer

SERVICE_TOOL.EXE
The main purpose of the ServiceTool is to set all disabled drivers and services back to their original state. The ServiceTool can also be used to reset all settings of the AudiophileOptimizer. The ServiceTool can be used for many tasks: for example, to switch between modes (core/minimal/GUI). You can also use it to replace your shell or configure and enable Autologon. It’s a very powerful tool that will greatly support you on your journey.

SHOW_ADAPTERS.CMD
This will show you the name of your Ethernet connection if you are already in core mode. You need this information to set an IP address with netsh command. This is sometimes needed because of lazy coded drivers that won’t work with sconfig.vbs.

SET_IP.CMD
If you want to set an IP address in core mode, and sconfig.vbs does not work with your network card driver, take the information generated by "show_adapters.cmd" and edit "set_ip.cmd" with an editor like notepad. Put in the name of your Ethernet connection and replace your desired IP-Address, subnet mask, etc.

ATTENTION: All cmd files must be used in command prompt and not in PowerShell.
Mandatory Software

You will need an ISO of Windows Server 2012, 2012 R2, 2016 or Windows 10. Burn the ISO to DVD or use the Windows 7 USB Tool to create a bootable USB-Stick of the ISO. This USB Stick can only be used for the installation itself. Please install the Windows operating system on a SSD (mechanical drives should be avoided for best sound quality). Windows evaluation or trial installations can be converted to a permanent retail version later if so desired.

Here’s what you need:

- AudiophileOptimizer & ServiceTool
- DAC/DDC/Soundcard drivers
- Windows Server 2016 RTM Standard, Foundation, Datacenter & Essentials Edition (DOWNLOAD EVALUATION ISO) or
- Windows Server 2012 R2 Standard, Foundation, Datacenter & Essentials Edition (DOWNLOAD EVALUATION ISO) or
  Recommended: Pro, Enterprise, K&N or LTSB Edition (DOWNLOAD EVALUATION ISO)

INFO: The trial period of Windows trial/evaluation editions can be extended several times, see this Microsoft article for detailed instructions: http://support.microsoft.com/kb/948472/en-us

Optional Software

- Roon, RoonServer, RoonBridge, JPLAY, Hysolid, MQn Player, Bug head Emperor, HQPlayer, Foobar2000, TIDAL, Spotify, Quboz, WiMP, Logitech Media Server, etc.
- Process Lasso, Shairport4w (AirPlay), Accurate Convolver, dBpoweramp, etc.
- VB-Audio ASIO Bridge & Virtual Cable Driver
- Chipset drivers for your Mainboard & network card(s)
- Drivers for SotM, Adnaco or JCAT USB Card
- Windows 7 USB Tool (do not use a newer version of the USB Tool)

Windows 7 USB Tool

You can use the Windows 7 USB Tool to make a bootable USB Stick of a Windows Server 2012 R2 or Windows 10 ISO. This is not a WinToGo Installation. The USB Stick is meant to be an installation media for a traditional installation. If you make a bootable USB Stick with the Windows 7 USB Tool, you will not have to enter a product key for Server 2012 R2 during the installation (using the retail ISO). The Evaluation or Trial ISOs don’t need a key at all.

YOU CAN DOWNLOAD THE WINDOWS 7 USB TOOL HERE
Windows Setup

Need-to-know
A certain skillset is required to successfully set up a computer audio transport system. You must feel comfortable executing the following tasks:

- Experience with the basic setup of Windows operating systems
- Copying setup.exe into the root directory of a USB-Stick, CD-ROM, etc.
- Selecting drives, changing folders, running commands
- Using basic DOS commands (command prompt)

If you also want to use JPLAY (optional) you have to be very familiar with:

- Setting up and configuring JPLAY Streamer Mode (DualPC setup)
- Basic network configuration and TCP/IP knowledge
- Basic troubleshooting of network problems (ping etc.)
- Starting the registry editor, editing the registry, etc.
- JPLAY registry settings and tweaking

Basic DOS Commands

Commands are followed by pressing enter if not stated otherwise:

- Core edition configuration sconfig.vbs
- Start PowerShell powershell.exe
- Reboot server shutdown /r /t 0
- Shutdown server shutdown /s /t 0 or press the power button
- Show files and directories dir
- Change directory cd
- Change drives enter drive letter colon and press enter
- Go back by one directory cd..
- Go back to root cd\
- Last command up arrow
- List of last commands F7
- Stop JPLAY service net stop JPLAYService
- Start JPLAY service net start JPLAYService

Do you want to map a network share while in you are in core mode? Use this command to map a share called “music” on your NAS (IP of NAS is 10.10.10.50) as drive m:

net use m: \10.10.10.50\Music /persistent:yes

VIDEO: Watch this video for basic DOS commands in core edition. How to start JPLAYSettings, players etc.: https://www.youtube.com/watch?v=4xJwDDL8jpl
**BIOS/EFI Settings (optional)**

If this is your first installation, you can skip the following steps as they are optional. If you are more experienced, feel free to employ the following steps. First of all, update your BIOS to the latest version available. Disable every device you don’t need including serial ports, onboard soundcard, and anything else you won’t need for the purpose of playing high quality audio with your DAC or DDC. The following pictures represent examples; try to match them as close as possible. Depending on your BIOS/EFI you won’t be able to set every option but do as much as you can.
It’s very important to disable everything related to **Intel SpeedStep, Turbo Mode, C-States, Virtualization Technology & especially Hyper-Threading**. You can experiment with different speeds of your CPU and or RAM frequencies, as long as you use a fixed value (do not use “auto”). Listen to whatever sounds best to you.
Enable HPET (High Precision Event Timer); disable Rapid Start and Smart Connect. You can also try HPET disabled. Use whatever sounds better to you.
Partitioning, Shrinking & Cloning

Now is the time to think about your partition layout. Once installed, it will be very tricky for a non-IT Pro to create or resize partitions without the disk management mmc console. It’s worth thinking a moment about the layout. If you already have a working Windows 10 CAPS for example, you could shrink the partition and free up some gigabytes for a dual-boot system, without losing your current working Windows 10 AudioPC. In fact, only about 7GB are needed for the Server 2012 R2 Core Edition.

For Windows Server 2012 R2/2016 we recommend using a 32GB SSD (64GB for Windows 10) for the OS partition and a larger SSD as local music storage. Use the highest quality SATA cables you can find (Be sure to browse our computer audiophile online shop: http://www.highend-audiopc.com/shop/en/sata-cables).

Please do not install the operating system of a computer audio transport directly onto a USB Stick. A so called “Windows To Go” Installation is not the optimal platform for audio usage for several reasons.

How to shrink a partition: http://www.tweakhound.com/2013/01/02/how-to-resize-your-windows-8-partition/

OS Installation

Boot your Windows Server 2012/R2/2016/Windows 10 USB Stick or your DVD. Choose the appropriate settings and go on. Setup will be familiar as it will be similar to a Windows 7 or Windows 10 installation.
Click on the “Install now” button.

Install the GUI Edition (Server with a GUI). Do not yet install Server Core at this point. Windows 10 does not offer different versions like Windows Server, you will always install the GUI Edition of Windows 10.

**ATTENTION:** For Windows Server 2016 you must **finally** decide about GUI or Core installation at this point. It is not possible to switch between core mode & GUI in Windows Server 2016!

“Windows Server 2016 Standard/Datacenter” will install core while “Desktop experience” means GUI.
Accept License terms and click next.

Choose Custom: Install Windows only (advanced)

**ATTENTION:** It is also possible to upgrade an existing installation, but this is absolutely not recommended.
Let’s go on and create the partition according to your needs, the minimum size is 15GB (Server 2012/R2). Use at least 64GB for Windows 10.

**ATTENTION:** The 350MB Partition called “System Reserved” is common and mandatory.
Once the installation is finished, you will get the logon screen.

You have to set a password. Your password has to contain upper and lowercase letters as well as numbers and at least one special character.

**ATTENTION:** If you are using the Trial/Evaluation Edition of Server 2012/R2/2016, you need an active internet connection for the system to activate itself online. If the system cannot activate itself online, it will not run for the full trial period and will start shutting down the machine automatically if idle.
Server 2016 & 2012 R2 Essentials Edition

You can skip this chapter if you don’t use the Essentials Edition of Windows Server 2016 or 2012 R2. The Essentials Edition needs some special preparation before you can use it as platform for the AudiophileOptimizer. Right after the first logon you will see a configuration wizard:

 DON’T START THE CONFIGURATION WIZARD, CANCEL IT IMMEDIATELY!

Install the AudiophileOptimizer package (setup.exe) according to the installation instructions found in this manual. Then run ServiceTool and select "P" to prepare Essentials Edition. After this process, you can continue with the manual.
Driver & Software Installation

Once the GUI Edition is installed, please install all device drivers needed in device manager. Install the latest chipset drivers of your motherboard, the latest drivers for your network card, and install all drivers needed for your DAC or DDC and anything else that shows a missing driver in the device manager. **Do not install the 3rd party driver of your video adapter if not absolutely needed.** Many graphic card drivers set system priority in favor for the graphic card. If you really need the graphic cards driver, try to install only the INF files with PnPUtil and not the whole driver package.


**Please see chapter “Device Manager” to see how to enable Device Manager on Windows Server 2016 core.**

Disable Firewall (Optional)

Before you start configuring JPLAY you should disable the Firewall. Open a command prompt and enter:

```
netsh advfirewall set AllProfiles state off
```

Roon, Hysolid, Bug head Emperor, JPLAYmini, HQPlayer, Foobar2000 & Co.

Once all drivers are setup, install JPLAY (if you plan to use JPLAY) and reboot. On a SinglePC or a ControlPC, also install the music player of your choice. For the very best sound quality we recommend Bug head Emperor or Hysolid. JPLAYmini and HQPLAYER work in core mode but require a tool like Total Commander to choose files for playback. Roon offers the best overall experience and usability.
Network Tuning (optional)

Edit the settings of the network card used for the direct link between ControlPC and AudioPC and uncheck everything besides TCP/IPv4 and QoS. The JPLAY card(s) don’t need a gateway or DNS Servers, leave those fields empty. This is only for dedicated "JPLAY" network cards and not for your internal LAN adapter. Apply these changes only on both dedicated network cards for JPLAY StreamerMode. Don’t make these changes on your internal LAN card, especially not if you want to use network related services like SMB/CIFS shares (Windows file shares) etc. You have to use fixed IP Addresses under any circumstances; do not use dynamic (DHCP) IP’s!

Open properties of the network card used for JPLAY StreamerMode and open TCP/IPv4 properties. Uncheck everything under DNS and WINS, disable NetBIOS over TCP/IP.
WASAPI

You can skip this section if you don’t use WASAPI. WASAPI is supported in minimal-server and GUI mode, but not in core mode (except on Windows Server 2016 by using our WASAPI Injector). If you have multiple WASAPI capable devices, choose one as your standard sound device. After the conversion to minimal-server edition, you won’t be able to switch between different WASAPI devices inside JPLAY settings anymore. **It is very important to set the volume to 100% if your device supports that option.** Also disable all enhancements in the properties of your device. All these settings do not matter if you use ASIO or Kernel-Streaming.

**INFO:** Every server OS has all windows audio services disabled by default. If you need WASAPI, or your driver is related to WASAPI architecture in any way, you need to set the windows audio services to automatic start.
Device Manager

Open the Device manager and select your hard disk drives. In the properties, turn off write-caching of all disks. All power management features (USB, network cards, etc.) get automatically disabled by the AudiophileOptimizer. The AudiophileOptimizer further includes several USB optimizations. The following adjustments are optional:

ATTENTION: Often a device called "PCI Simple Communications Controller" shows up. You can safely disable it; you won’t need it.

ATTENTION: Please see page 44 if you want to enable the device manager on Windows Server 2016 core.
DAC/DDC Drivers

Most driver vendors do not yet offer DAC/DDC drivers made for Windows Server 2012/R2/2016. Drivers made for Windows 8/8.1 or Windows 10 will work without any issues since Server 2012/R2/2016 share the same binaries in wide areas. If no driver for Windows 8/8.1/10 is available, you will have to use the Windows 7 driver. Sometimes the compatibility mode is needed to install a Windows 7 driver on Windows Server 2012/R2/2016. You can use the Driver Helper function of ServiceTool to install such drivers, please see detailed instructions in this manual in chapter "Driver Helper"

ATTENTION: If you still encounter problems during driver installation, start a command prompt and run "install.cmd" found here: https://www.highend-audiopc.com/Drivers/install.rar. From the same command prompt window, start the setup.exe of your DAC/DDC driver and install its drivers. Run finish.cmd after you've finished the installation.
Latency Settings

If an adjustment is possible at all, don’t forget to adjust the latency settings of your DAC/DDC driver to minimum latency. You may also set the streaming mode to "always on". We use and can highly recommend the SOTM dx-USB HD USB/AES converter with upgraded super clock and intelligent dual-battery power supply (SOTM mBPS-d2s). USB Streaming Mode set to minimum latency is crucial for having the most magical sound quality possible. Be aware that minimum latency causes a lot of stress on your hardware and might cause hiccups and dropouts. If your hardware is not up to the task, it will possibly sound better with a less aggressive latency setting. You will have to experiment to find the optimal setting for your setup.
Converting Evaluation to Retail Edition

If you have installed the evaluation or trial edition of Windows Server 2012 R2/2016, you can convert it to a retail edition before you activate it by using the key you receive when you purchase Windows Server 2012 R2/2016. Use this command (in command prompt, not PowerShell) to convert the trial edition:

```bash
```

**NOTE:** You need to replace `XXXXX-XXXXX-XXXXX-XXXXX-XXXXX` with a legit Windows Key!


OS Activation

If you have installed a retail version, you can enter the Key and activate your copy via sconfig. You can also activate the core edition with these commands:

1. Enter Product key: `slmgr.vbs -ipk XXXXX-XXXXX-XXXXX-XXXXX-XXXXX`
2. Activation: `slmgr.vbs -ato`

Remember, you need an active and working internet connection for the online activation. So you may have to reconfigure your network settings and connect your AudioPC to your internal LAN one last time.

**ATTENTION:** You can also activate your copy of Windows Server 2012/R2/2016 via telephone. Enter "slui.exe 4" in the command prompt to start the telephone activation wizard. This works only in GUI mode.

If you are using the TRIAL/Evaluation edition and do not activate your copy online, your system will start to shut itself down when idle.
### JPLAY (optional)

**JPLAY Settings**

This is an example how a JPLAY configuration might appear. You should start with the default settings and first learn more about what the JPLAY settings do. Then you can experiment with the JPLAY Settings and the registry settings for JPLAY. Once you installed AO, you can start JPLAY Settings by typing "js" in a command prompt, no matter what directory you currently are in.

If you encounter sonic problems, drop outs, distortion, or get no sound at all, please increase JPLAY buffer sizes.

**JPLAY Registry**

Don’t forget to optimize your JPLAY settings in the registry of your ControlPC. The settings are located in the following registry key on the ControlPC: [HKEY_CURRENT_USER\Software\JPLAY]. There is no need for adjustments on the AudioPC’s registry; JPLAY will handle this for you. If you have everything working, it is a good idea to make a backup of the JPLAY registry of the ControlPC.

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<th>Typ</th>
<th>Daten</th>
</tr>
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<td>(Standard)</td>
<td>REG_SZ</td>
<td>(Wert nicht festgelegt)</td>
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<tr>
<td>ADCChannelOffset</td>
<td>REG_SZ</td>
<td>0</td>
</tr>
<tr>
<td>AudioPC</td>
<td>REG_SZ</td>
<td>name='AudioPhil' ips=192.168.10.1&gt;</td>
</tr>
<tr>
<td>DriveBuffer</td>
<td>REG_SZ</td>
<td>0</td>
</tr>
<tr>
<td>Host</td>
<td>REG_SZ</td>
<td>192.168.10.1</td>
</tr>
<tr>
<td>MiniCache</td>
<td>REG_SZ</td>
<td>750</td>
</tr>
<tr>
<td>Port</td>
<td>REG_SZ</td>
<td>40168</td>
</tr>
<tr>
<td>Interface</td>
<td>REG_SZ</td>
<td>100</td>
</tr>
<tr>
<td>JPLAYER</td>
<td>REG_SZ</td>
<td>2000</td>
</tr>
</tbody>
</table>
JPLAY StreamerMode

It’s important that you get JPLAY Streamer Mode working, and verify that Kernel-Streaming, WASAPI and ASIO are all working (this functionality depends on what your hardware supports and what you want to use in the end) before you switch from GUI to core edition. Your Media Player, JPLAY, etc. has to work before you can continue.

Do not use dynamic (DHCP) IP addresses under any circumstances. You must use manually defined (fixed) IP addresses, especially in a DualPC configuration. How-To: http://sysads.co.uk/2013/01/16/assign-a-static-ip-address-to-windows-server-2012/

Please refer to the JPLAY manual for detailed instructions on how to install, configure and fine tune JPLAY in a DualPC configuration. http://jplay.eu/manual

Properly configured network cards are very important for JPLAY StreamerMode. Your ControlPC should have two network cards, one card for your internal LAN and another dedicated network card for JPLAY StreamerMode. Your AudioPC should have only one network card, and this should be connected directly to the second card of your ControlPC. This will make a remarkable step up in sound quality, so don’t miss it.

Enter "ncpa.cpl" at the command prompt and click on advanced settings and check the order of your NIC’s. The dedicated LAN Interface must be on top.

Example network topology
AudiophileOptimizer

Installation
We recommend you to copy setup.exe into the root directory of a USB Stick and then run it on your dedicated audio machine. Do not try to run setup on a Windows 7 or Windows 8.x machine. Setup.exe will install the complete AudiophileOptimizer package into the folder "AO" on your system drive (most likely C:), create shortcuts on the desktop and add the needed start menu entries for the AudiophileOptimizer and ServiceTool.
**Activation**

It is very important that you have all hardware (network cards, DAC, DDC, etc.) connected, turned on and all needed drivers properly installed prior to activation of AudiophileOptimizer. Avoid using dynamic (DHCP) IP-addresses or DHCP-reservations under any circumstances; you must use a static (fixed) IP addresses. Disable all unneeded network adapters in BIOS or through device manager but have at least one active LAN adapter.

You must not have any "unknown devices" with a yellow or red sign in your device manager before you activate the Audiophile Optimizer. If you have any "unknown devices" with a yellow or red sign, the mechanism generating the Hardware-ID will not work as expected, resulting in additional Activation-Keys needed. Devices with a yellow sign which you don’t plan to use anyway can be safely disabled.

When you run the AudiophileOptimizer for the first time, you will be asked if you already have an Activation-Key for this machine. If you already activated this machine in the past, please enter the Activation-Key that was generated and emailed to you. If this is the first time you want to activate the AudiophileOptimizer on a new machine, enter "no".
Activation Portal
If you have never activated a machine before, enter "no" and you will be displayed a Hardware-ID. Open our self-service activation portal and enter the email (PayPal) address you ordered the AudiophileOptimizer with together with the Hardware-ID displayed.

Important: you can use any other internet enabled computer to open the activation self-service portal! No need to do this on the actual music server! On this other computer, simply go to the activation portal and generate your Activation key then enter it on the music server to activate AO.

Once you have generated your Activation-Key, you will also get a confirmation email containing your Activation-Key and matching Hardware-ID. DO NOT DELETE THIS EMAIL because as long you use the same hardware, the same Activation-Key will work on the same machine.

Upgrading AudiophileOptimizer
If a new version of the AudiophileOptimizer is released, run the new version of setup.exe over your current setup. Setup.exe can be run in core, minimal-server and GUI mode. You don’t have to do a reset via ServiceTool before you run setup.exe. Once setup.exe updates your current version of AudiophileOptimizer, it will automatically launch the latest ServiceTool to make a full reset.

AO 2.20 Upgrade Notice: If you upgrade AO 1.40 (or older) to AO 2.20, setup will launch ServiceTool 2.20 to make the full reset at the end of the installation. Since your old Activation-Key will no longer work for the new AO version, ServiceTool will need a new Activation-Key before it can make the full reset. Do not close ServiceTool: go to the Activation-Portal and generate a new AO 2.20 compatible Activation-Key and activate ServiceTool with the Key; this will also activate AO. This is by design.
Using AudiophileOptimizer

Read the warning and press "C" if you agree and want to continue.

![Warning dialog box]

While the AudiophileOptimizer prepares the system, it will also check the version of the operating system. It will only run on supported operating systems. If no supported OS is detected, the AudiophileOptimizer will exit without making any modifications to your System. Supported operating systems are:


Once a supported operating system is detected, the AudiophileOptimizer will start with the optimization. The AudiophileOptimizer will not start on any unsupported platform; it will only run on the OS’s listed above.
Usage type
First, you will have to define the usage type of the PC on which you are currently running the AudiophileOptimizer. AudiophileOptimizer has an integrated JPLAY-Detector which will check if the JPLAY service is running or not. If no JPLAY service is running, SinglePC mode will automatically be selected. If you use JPLAY, you can choose between ControlPC, AudioPC & SinglePC mode. The usage type can only be set once; if you want to change it again you have to do a reset using the ServiceTool. If you want to see the usage type menu and do not use JPLAY, start AO with the parameter -ut (type "ao -ut" and press enter).

Express, Advanced & Ultimate Mode

If you choose express mode, AudiophileOptimizer will run without asking you any questions. It will automatically choose the Sound-Signature and Digital-Filter setting that about 80% of all users like the most (based on the experiences of the development phase). Express mode will result in a mildly optimized but very compatible configuration, but certainly not the best sounding.
For more experienced users, advanced mode offers several options and configuration settings. It will let you take control over what AO does and doesn’t; it will give you the ability to fine tune your system using Sound-Signatures and Digital-Filters. It will let you deactivate or disable more services/drivers and enable a host of other configuration possibilities. Advanced mode is only recommended for advanced and experienced users.

Ultimate mode offers the full range of options and best performance AO can offer; it will give you maximum control over every aspect of AO and your sound quality. Ultimate mode is only for very experienced users; this includes deep knowledge about Windows systems in general, TCP/IP and network configuration as well as the AudiophileOptimizer itself.

If you want to hear the full potential of the AudiophileOptimizer, your system must be in core or minimal-server mode and you have to select ultimate mode in AO and take advantage of all options offered.

Sound Signatures
After you’ve selected the usage type of your machine, you can decide between four different Sound Signatures. Find out for yourself which Signature matches best with your hardware, your loudspeakers or headphones, and last but not least, your personal taste. If you are not sure which Sound Signature to start with, use Signature 4. Option X represents the windows default setting.

If you run a DualPC setup in StreamerMode, the sound Signatures of the ControlPC and AudioPC can be mixed, so a total of 16 (25, including Windows default settings) different combinations are possible.

Digital-Filter Mode
After selection of the sound signature, you will be able to choose the Digital-Filter mode. If you are not sure which mode to use, start with mode D. Use the mode that sounds best to your ears. Option X represents the windows default setting.
If you want to change the Sound Signature or Digital-Filter mode, just run the AudiophileOptimizer again. Starting with the second run of the AudiophileOptimizer, it is possible to choose a new Sound Signature or Digital-Filter mode and then exit (by pressing "E") the AudiophileOptimizer without having to set all other options again. The other option is "S" to start over; no reboot is required.

**Best Practice**

To most easily find your personal Sound Signature and Digital-Filter mode, it’s best to change both during playback of a song. If you choose "S" to start over, you can change the Sound Signature and Digital-Filter mode again and again until you find your perfect setup. Once you have found it, you can choose "E" to exit. Press Ctrl-Alt-Del during music playback to start the Task Manager. You can then start the AudiophileOptimizer to adjust your Sound Signature and Digital-Filters.

**INFO:** All Sound Signatures and Digital-Filter modes are 100% bit perfect and do not alter the source in any way. They only change the way the operating systems handles the running tasks and their priorities as they relate to the operational state of the CPU. Always use the latest available version of the ServiceTool & AudiophileOptimizer.
Installation of Kernel-Streaming and MediaPlayer Support
This feature primarily re-enables the Kernel-Streaming architecture in Server Core. Aside from that it enables countless media players in either core, minimal-server and GUI Mode of Windows Server 2012 R2.

Overview of Kernel-Streaming and MediaPlayer support features:
- Enables WASAPI in core mode (Server 2016)
- Enables Device Manager & Sound Control Panel (Server 2016)
- Enables Kernel-Streaming in core mode (Server 2012, 2012 R2 & 2016)
- Enables TIDAL (2016) in Minimal-Server Mode (Server 2012 & 2012 R2)
- Enables Bug head Emperor/Infinity Blade in core mode
- Enables MMCSS (Multimedia Class Scheduler) in core mode
- Enables Kernel-Streaming (x86 & x64) in core mode
- Enables Kernel-Streaming support for JRiver Media Center in core mode
- Enables Kernel-Streaming support for JPLAYmini in core mode
- Enables Kernel-Streaming support for JPLAY in core mode
- Enables Foobar2000 in core mode
- Enables JRiver Media Center 20.0.16 and higher in core mode
- Enables many other Media Players and Streaming Clients in core mode
- And many more...

Roon Support
This feature installs all needed Windows components for Roon & Roon Server to run on Windows Server 2012 R2 & Windows Server 2016, this includes GUI & minimal-server mode. On Windows Server 2016 RoonServer and RoonBridge can even be used in Core mode. More details about Roon, Windows Server & AO here:

https://www.computeraudiophile.com/forums/topic/26766-how-to-roon-and-roonserv-on-windows-server-2012-r2/
Registry Optimization
Once the Sound Signature and Digital-Filter mode are set, the AudiophileOptimizer will make all the changes to the registry needed to optimize the system for the best audio quality possible. It will take care of your hard drive settings, optimize the file system, memory management, CPU management, power settings, TCP/IP tuning, IRQ prioritization, turn off many unnecessary or counterproductive windows features, disable all visual effects, adjust system settings for best performance, customize the GUI, taskbar and icons, and much more. Hundreds of changes occur during this process.

Enable or disable HPET
Try both options; use whatever sounds better on your system. Default recommendation is to enable it.
Enable or disable SEHOP
Try both options; use whatever sounds better on your system. Default recommendation is to disable it.

WASAPI/MMCSS Optimization
It’s highly recommended you enable WASAPI/MMCSS Optimization no matter what mode you are in. If you are in core mode, this feature will even re-enable MMCSS in core mode.
**SCSI-MiniPort Drivers**

Be very careful if you want to use this option. Only use it if you have IDE or SATA drives. Do not use this option under any circumstances if you have SAS, SCSI or RAID drives. If you still do so your system might not be able to boot again!

![SCSI-MiniPort Drivers](image)

**Display Stand-By Behavior**

You can select from A to D to choose after how many minutes your display will go into stand-by mode. **Do not use this feature if your DAC or DDC is connected via HDMI!**

![Display Stand-By Behavior](image)
**USB Optimization**

Press "E" to enable USB optimization or "D" to disable it. Press "D" as well if you don’t want to use USB optimization at all. It is highly recommended that you enable USB optimization (also on the ControlPC if you run a Dual-PC setup) but, as always, use whatever sounds best in your system.

If you select to use USB Optimization, USB 3 Link Power Management will be made visible in power management (windows default is to hide this option) and disabled automatically as well.

**Disabling Drivers & Services**

You will be able to disable many unnecessary Windows services and drivers, all of which are unneeded in common computer audio scenarios. Disabling "Drivers & Services" will have a nice effect on the overall sound quality of your system.

**ATTENTION:**

If you get in trouble and software you need working does not work anymore, please run ServiceTool and choose "A" for a full reset, then run AudiophileOptimizer again without disabling "Drivers and Services".
Plug & Play Service
Some DAC’s need the Plug & Play service (or even the event log service) running. If you disabled the Plug & Play service, you may not change the USB ports of your devices (DAC etc.) anymore. If you want to enable the Plug & Play service again, enter "sc config plugplay start= auto" in a command prompt window and reboot your machine.

Network related Services
This is one of the most important settings to decide about. Especially on the AudioPC it is very important to disable all network related services; this will result in a very nice step-up in overall sound quality. If you decide to disable network related services, Remote Desktop and Windows Remote Management will be automatically disabled as well. Depending on your scenario (ControlPC for example), disabling all network related services also means dealing with some drawbacks. Depending on your needs, it might be best not to disable network related services on the ControlPC. If you use network drives or a NAS, you won’t be able to connect to them anymore.
Windows Management Instrumentation

Certain applications like Roon, Acourate Convolver, HQPlayer, HQPlayer NAA or Fidelizer Pro need the WMI service to be running. If you plan to use such software, answer this question with "no". Our default recommendation is to say "yes".

USBPAL Drivers (RigiSystems)

DAC's or DDC's that use USBPAL drivers by RigiSystems (like the Mytek STEREO192-DSD DAC or the Audio Research DAC8) need certain windows services running to work properly. By choosing N, the AudiophileOptimizer won’t disable the services needed by those devices.
Defragmentation
Just before the optimization is finally done, you will be asked to defrag your hard drive or TRIM your SSD. The Microsoft defrag utility will automatically know if it is a hard drive or SSD and will give it the right treatment. You should do this at least once every few months.

Short Names and Parameters
Instead of manually changing directories in a command prompt and starting AudiophileOptimizer by typing "audiophile_core.exe", you can take advantage of short names. This means you can start AO by just typing "ao" (instead of "audiophile_core.exe") and pressing enter. This also works for ServiceTool: just type "st" and hit enter.

Thanks to the path variables (which setup.exe created for you), you don’t need to change the directory anymore. The short names will work in any directory or path, no matter where you are. This example shows how to start AO in a command prompt.
AO and ServiceTool offer several parameters. These parameters can also be combined if needed.

**AudiophileOptimizer:**
- **AO -U**  Start AO in ultimate mode
- **AO -E**  Start AO in express mode
- **AO -L**  Creates AO settings log file
- **AO -UT** Possibility to select usage type even if JPLAY is not installed
- **AO -WASAPI** Starts AO in WASAPI Injector mode (cannot be combined with other parameters)

**ServiceTool:**
- **ST –R**  Force a full reset via ServiceTool

This example shows how to start AO in ultimate mode and generate a settings log file:

```
C:> ao -u -l
```

**Update Notification**
If your system is connected to the internet and a newer version of the AudiophileOptimizer is available, each the AudiophileOptimizer, ServiceTool and Setup will notify you about the new update. Just go to our [download portal](https://www.highend-audipc.com/download) and get the latest version of the AudiophileOptimizer and install it according to this guide.
**WASAPI Injector**

Run "AO -WASAPI" to launch the WASAPI injector and say YES to the question if you want to install the WASAPI support. During the procedure it is absolutely normal that the screen will go blank for a while (might be 1 or 2 minutes), just wait and let AO do its job. **Be aware that the WASAPI injector is a dedicated part of AO which is not available during normal runs of AO.**

You can now install JPLAY, RoonServer, TIDAL, HQPlayer or whatever your player of choice is. **Now run AO again** and do a full run with your desired settings. During this run you do not need to install KS & Mediaplayer or Roon Support again, the WASAPI injector has already done so for you.

**The WASAPI Injector works only with Windows Server 2016 in core mode!**
Sound Control Panel
If you like to check the sound control panel you can do so by entering "mmsys.cpl".

Device Manager
AO’s setup.exe also re-enables the device manager in Windows Server 2016 Core Mode. If you want to launch the device manager you can simply enter "devmgmt.msc".

INFO: For both device manager and sound control panel your current location (path) does not matter. Both Device Manager and Sound Control Panel only work in Windows Server 2016 core mode!
**AO Settings Log File**

AudiophileOptimizer can generate a settings log file for you. This will get handy if you ever want to achieve the exact same settings in the future. To get a proper log file, do a full reset using ServiceTool, then run AudiophileOptimizer using the argument "-L". Once AO completes the run, it will write the log file to C:\AO\AO_Settings.log. After the reboot, go into C:\AO and open your Log file and print it if you like. You can also save the log file in any other location, but don’t leave it in the AO directory (C:\AO).
Windows Server 2016

From version 2.20 and up the AudiophileOptimizer also offers support for Windows Server 2016. Windows Server 2016 has a few important differences compared to Server 2012 R2, this section of the guide will help to outline those fundamental changes in the new server OS.

Switching between Core & GUI mode
Since switching between different modes often not worked as expected, Microsoft decided to entirely remove the ability to switch between Core & GUI mode. With Windows Server 2016 you have to either install GUI or Core mode directly, you can no longer switch back and forth between them.

Minimal-Server Mode
Microsoft eliminated Minimal-Server Mode, it does no longer exist in Windows Server 2016. If you want WASAPI aside from Kernel-Streaming in Windows Server 2016 Core mode, then AO’s WASAPI Injector will make it possible for you. See Chapter “WASAPI Injector” for detailed instructions.

DAC Driver Installation in Core Mode
You may use the ServiceTool’s DriverHelper feature to install your DAC or DDC driver in Core mode. Depending on your driver it might be needed to completely uninstall and re-install the driver after the first installation. If your DAC driver does not work after initial installation, then completely remove it, reboot, and do another installation. (This applies for all supported server grade OS which are directly installed in core mode.)

If you need support to install your DAC or DDC driver, please reach out to online community to get support.

Supported Editions
These are the supported Window Server 2016 editions:
- Standard
- Datacenter
- Essentials

These are not supported Window Server 2016 editions:
- Hyper-V Server 2016
In addition to supporting server grade operating systems, the AudiophileOptimizer now also offers support for Windows 10. Version 2.00 was the first version of the AudiophileOptimizer that works on a client-based Windows operating system. AudiophileOptimizer 2.20 now also covers the recent “Spring Creators Update” of Windows 10 (and all updates since the initial release).

The improved “out of the box” sound quality of Windows 10 (compared to prior client-based versions of Windows) as well as its low price relative to Windows Server 2012 R2/2016 are key reasons why audiophiles might choose to pair the AudiophileOptimizer with a client OS. AudiophileOptimizer and Windows 10 provide an alternative option for those that don’t want to pay the high price for Windows Server 2012 R2/2016, but still want to get fantastic sound quality out of their computer audio systems.

**Supported Editions**

These are the **recommended** Window 10 editions:
- Pro, Enterprise, K&N or LTSC Edition

These are the **supported** Window 10 editions:
  *(Home Editions is not recommended!)*

**INFO:** Since Windows Home edition is not able to process group policies, it does offer less potential for optimization. Therefore, it is supported but not recommended. Windows 10 only offers a Graphical User Interface (GUI). It does not offer Core or Minimal-Server modes like Windows Server 2012 R2 or Server 2016.
**AO Requirements**

It is **absolutely mandatory** that you set up a **dedicated** installation of Windows 10 in order to use the AudiophileOptimizer. The AudiophileOptimizer applies many permanent and deep changes to your Windows installation, so be aware that the AudiophileOptimizer cannot be uninstalled once applied.

**Use only ISO from Microsoft for your Windows Installation.** **DO NOT USE** modified and customized installation media from vendors like HP, IBM, Lenovo, Acer, etc.

If you don’t have a separate machine dedicated to your music setup, you must establish a so-called “Dual-Boot” system. This will allow you to continue using your regular (untouched) Windows 10 system and have the dedicated and highly optimized Windows 10 installation available for listening to music. When you boot your computer, you will be asked to choose which of the installations to boot from.

We do not recommend to use the AudiophileOptimizer on your “daily work” machine unless you are fully aware of all its features and what impact they have on Windows.
Remove OneDrive

If you select this option, AO completely removes OneDrive from your system (instead of just disabling it).

![Image]

Anti-Spy Feature

The Windows 10 Anti-Spy Feature takes care of the built-in Windows 10 telemetry applications on several layers. It will not only disable the unwanted Spyware but will also block possible transmissions of data. This will both make your system sound better and help secure your privacy.

![Image]
Disable Windows Defender
If you say yes to this option, AO completely disables the Windows Defender. This is recommended for better sound quality, but if you disable Windows Defender, make sure you have a good Firewall or UTM system that provides at least a basic layer of virus and malware protection.

Strip Down & Repair Windows 10
The “Strip down Windows 10” feature removes most of the unneeded but still pre-installed Windows 10 components (Metro UI Apps). If you want to reinstall these components, you can simply run the “Repair Windows 10” feature.

ATTENTION: The AudiophileOptimizer and the ServiceTool for Windows 10 offer new features specifically applicable only to Windows 10. Also, please be aware that some features specifically applicable to Windows Server 2012 R2 or Server 2016 are not available in AudiophileOptimizer or ServiceTool under Windows 10.
ServiceTool

This is an overview of all functions ServiceTool can offer. ServiceTool will help you greatly to accomplish a lot of maintenance and configuration tasks.

![ServiceTool screenshot]

**Reset Optimization**

The main purpose of the ServiceTool is to reset the changes made to services and drivers by the AudiophileOptimizer. Selecting (A) will partially undo the optimizations and restore the original state of all drivers and services. For example, it will enable you to maintain your system and install Windows updates. Using the reset does not uninstall or disable AO. After a reset via ServiceTool, your system is still partially optimized via AO (about 95%). After doing a reset via ServiceTool, don’t forget to start AO again and do a full run to get in a fully optimized state again.

![Command prompt screenshot]

If you want ServiceTool to directly do a full reset, start it using parameter -r (type "st -r" and press enter).
Converting GUI to Core Edition (Windows 2012/R2 only)

If you want to run your system in GUI mode, then directly proceed with the next step. If you want to remove the desktop environment (GUI) to get the maximum sound quality possible, please start the ServiceTool and select A for “Reset Optimizer/switch between modes”.

Then select A "Switch to core mode" to switch to core or C to switch to minimal-server mode.

**ATTENTION:** If you had your system already optimized with the AudiophileOptimizer and want to switch between modes (core, minimal, GUI), you have to run the ServiceTool twice. If you choose “Reset Optimizer/switch between modes”, the first run will reset drivers & services state, revert certain changes made by the AudiophileOptimizer and then reboot your machine. The second run of the ServiceTool will then offer you to switch between modes (core/GUI/minimal-server).
Depending on your CPU and hard drive, removing the GUI will take a couple of minutes or more. After the reboot, you will see the command prompt of the Windows Server core edition. You may also replace the shell with another MediaPlayer like Bug head Emperor, HQPlayer, Foobar2000, Roon or Total Commander. You can use the shell replacement function of the ServiceTool to do so (please see detailed information in chapter "Shell Replacement

**IMPORTANT:** Right after the conversion to core mode, Kernel-Streaming will no longer work. This is by design of the operation system, but the AudiophileOptimizer will take care of this if you run it again and select to install Kernel-Streaming and MediaPlayer support. **Don’t forget to run the AudiophileOptimizer again after every switch between any mode.**

**Minimal-Server Mode (Windows 2012/R2 only)**

The "minimal-server mode" is a special variant of the core mode. You will end up in core mode, but still have access to the device manager, have WASAPI and WLAN support, and have most of the control panels available like in GUI mode. Please use the ServiceTool to switch to minimal-server mode.
Converting Core to GUI Edition (Windows 2012/R2 only)

Windows Server 2012 R2 will allow switching back to GUI in case some major maintenance tasks need to be undertaken. **If you need to switch back to GUI mode and had your system already optimized, you need to run the ServiceTool twice.** Chose A and then choose A again after the reboot. Then you will have the possibility to switch between modes:

![ServiceTool screenshot](image1.png)

If you are uncomfortable with the minimalism of core or minimal-server, leave your system in GUI mode.

![Windows Server 2012 R2](image2.png)

**ATTENTION:** Don't forget to run AudiophileOptimizer AGAIN after you switched between modes!
Wireless LAN-Support (Windows 2012/R2/2016)

Windows Server 2012 R2 doesn't have Wireless-LAN support installed by default. So even if you can successfully install your WLAN driver, it won’t work until you have additionally installed Windows Server Wireless-LAN support.

Component Store Corruption Repair

Should you encounter any problems during switching between modes, your component store is probably corrupted. You can try running the component store corruption repair function to repair it. Should any defects be detected, they can only be repaired if you have an active and working internet connection.


Driver Helper

Instead of using install.cmd to install a driver, you can now use the Driver Helper from ServiceTool. If you can’t install a driver because of compatibility issues, Driver Helper will get it done. Once you start Driver Helper, browse and select the EXE file of your driver (setup.exe or install.exe). Driver Helper will automatically set compatibility-mode and a few other settings that will help to install your driver. Driver Helper will not run with INF or any other files than EXE. Should you have manually edited your driver's INF files, you can use the Driver Helper to enable or disable driver test-signing but not to install the INF files itself.
**Shell Replacement**

In GUI mode your desktop environment is your so called "shell". In core or minimal-server mode your shell is a simple command prompt. Instead of starting the desktop or command prompt as shell, you can replace the shell with your favorite media player. This has an auto start character and is better for sound quality. You can enable and configure such a shell replacement via ServiceTool. The ServiceTool has a built-in check routine to make sure you cannot configure a shell replacement that won’t work. However, you should only use this feature if you know exactly what you’re doing.

You can set Roon, HQPlayer, Bug head Emperor, TIDAL, Fidelizer Pro, Total Commander, Foobar2000, Qobuz, muso and others as shell; all of them need to be installed in their default locations.

If your files are not in the correct place, ServiceTool will show you a warning and won’t change anything on your system. Example warning message:
**Restoring default shell**

You can also restore the default shell using the ServiceTool. It will automatically check whether you are in core, minimal-server or GUI mode and restore the appropriate default shell for you. It will restore the command prompt in core/minimal-server or the desktop environment in GUI mode.

**Autologon**

If you want to enable Autologon, you can do so by using the ServiceTool. Choose "E" on the first screen, then run "A" to enable & configure Autologon. ServiceTool will use your current user and will ask you for your current password; the rest will be automatically configured by the ServiceTool.

INFO: Don’t worry about password expiration; AudiophileOptimizer will take care of this for you.
Compacting Feature

You can use the ServiceTool's Compacting Feature to make your system partition much smaller. This is useful for "Windows in RAM" systems. Please see external documentation about how to setup Windows in RAM. Be aware that compacting is a very intensive process and will take a long time to complete. **DO NOT INTERRUPT THE PROCESS UNDER ANY CIRCUMSTANCES!**

INFO: The compacting feature is not designed for Windows 10.

System Information

You can use the ServiceTool to display information about your hardware. It will show you the exact model of your mainboard, CPU, your DAC or DDC, the vendor’s name of your RAM, its speed in MHz and the part number of your RAM.
AO Diagnostics

You can use the ServiceTool to collect several log files of your system and have it send them to our diagnostics facility. Start the ServiceTool and select Option "I" to enter AO Diagnostics.

Press "A" and follow the onscreen instructions to start the collection of the diagnostic log files. If you have a working internet connection, the logs will be automatically uploaded to our diagnostic facility. If you have no internet connection, the log file (diagnostic.log) will be saved locally and you can send them via email.

**ATTENTION:** You have to open a support request via email before you upload your diagnostic log files. If you do so without first opening a support case, your log files will be deleted after a few days.
Frequently Asked Questions

Q: I cannot find or did not receive my Activation-Key via email, what’s wrong?
A: The AudiophileOptimizer uses a hardware-bound copy-protection system. This means your Activation-Key must be generated according to your machine specific Hardware-ID. To get your Hardware-ID, you must run audiophile_core.exe on your target system. Note the displayed Hardware-ID and open the self-service portal to generate your personal Activation-Key. Once you generate your Activation-Key, you will also get a confirmation email containing your Activation-Key and matching Hardware-ID. **DO NOT DELETE THIS EMAIL** because as long you use the same hardware the same Activation-Key will work on the same machine.

Q: After using the shell replacement function, I am stuck in my media player. How can I get a command prompt or start the ServiceTool to get back to GUI mode?
A: Press Ctrl-Alt-Del to start the Task Manager. Click on "File", then click "Run new task", enter "cmd" to start a command prompt or enter "st" or "service_tool" to start the ServiceTool.
Q: After switching to core mode/minimal-server mode or after using the AudiophileOptimizer, my remote app (JRemote, Gizmo, etc) can no longer connect to JRiver Media Center, what’s wrong?

A: You forgot to set a static IP-address. You may not use DHCP-addresses (automatically configured). You have to set a static IP address: http://sysads.co.uk/2013/01/16/assign-a-static-ip-address-to-windows-server-2012/ (If you are in core or minimal-server mode, use show_adapter.cmd and set_ip.cmd found in C:\AO\Tools. Don’t forget to edit set_ip.cmd before you run it!

Q: After switching to core mode, AO needs a new Activation-Key. What’s wrong?

A: This behaviour is by design of Windows. Core mode does not offer WLAN capabilities so by switching into core mode, the WLAN functionality is removed again. The copy protection of AO also takes the (W)LAN card into consideration, so if the WLAN card was removed due to switching to core mode, a new Activation-Key is needed. You should always have at least one LAN adapter installed so this behaviour can be avoided.

Q: After a few days, my system suddenly started to shut itself down. What’s wrong?

A: You are using a Trial or Evaluation version of Windows Server 2012/R2/2016. Those versions need to have an active internet connection at least one time to automatically activate themselves over the internet. If they cannot activate over the internet, they will start shutting down on a regular basis. Check your control panel to see if your Windows installation is activated. Or you can use the method described here: https://support.microsoft.com/en-us/kb/2806745

Q: I installed WiFi drivers and the device shows up correctly in device manager, but my WiFi does not work.


Q: My Activation-Key does not work at all. What’s wrong?

A: There are only five possible scenarios if your Activation-Key does not work:

1.) You try to activate AO 2.00 (or newer) with an Activation-Key for AO 1.40 (or older)
2.) You try to activate AO 1.40 (or older) with an Activation-Key for AO 2.00 (or newer)
3.) You are using the self-service portal for the trial version of AO instead of the regular portal
4.) You mistyped your Hardware-ID in the self-service portal
5.) You mistyped your Activation-Key in AO or ServiceTool
Q: Why do I get a warning message regarding UAC when I try to start Internet Explorer?
A: Use the shortcut on your desktop to start Internet Explorer.

Q: What are the minimum hardware requirements for Windows Server 2012 R2?
A: You need at least 2GB of RAM, an x64 compatible CPU, about 25GB disk space and a DAC or DDC.

Q: What are the minimum hardware requirements for Windows 10?
A: You need at least 2GB of RAM, an x86 or x64 compatible CPU, about 60GB disk space and a DAC or DDC.

Q: On how many machines or how many times can I use the AudiophileOptimizer?
A: The personal license of AO contains 5 Activations. Generally, only one Activation-Key is needed for one system assuming the hardware does not change too much. Among other factors, the Mainboard, network card and hard drive signature are used to calculate the Hardware-ID. You can either install AO on five different machines or use more Activation-Keys if you need to change your hardware and therefore have to enter new Activation-Keys.

Q: What exactly happens if I do a reset via ServiceTool?
A: The reset via ServiceTool primarily resets the states of all services and drivers. This is needed to do maintenance work on your setup like installing Windows Updates. Some Device Drivers also need a reset via ServiceTool before they can be installed. Once you finished your maintenance work, don’t forget to do a full run with AO again.

Q: Is AO disabled or uninstalled when I do a reset via ServiceTool?
A: No. Over 95% of the optimizations are still in place after a reset via ServiceTool! Only drivers and services are set back to their original state. (Automatic start, etc.)

Q: Why can’t I switch into Core or Minimal-Server Mode on Windows 10 or Windows Server 2016?
A: Windows 10 does only offer a Graphical User Interface (GUI). Windows 10 does not offer Core or Minimal-Server mode like Windows Server 2012 R2, therefore our ServiceTool does not offer switching if Windows 10 is detected. Windows Server 2016 cannot switch between modes as well.
Support

ACTIVATION/WEBSITE
If you lost your Activation-Key, have a question regarding activation process, the self-service portal, your license count, the download site, or encounter any problems related to the activation of the AudiophileOptimizer, you must send your support request via email to activation@highend-audiopc.com.

TECHNICAL PROBLEMS
If you encounter technical problems or get an error message directly related to the AudiophileOptimizer, you must send your support request via email to support@highend-audiopc.com.

Please understand that we do not offer free email-support for all topics aside from the AudiophileOptimizer, like general Windows handling questions, setting up and configuring TCP/IP settings, mapping network drives, installing any kind of drivers, and so on.

SUPPORT THREAD
If you have questions regarding best practices as they relate to the AudiophileOptimizer, Windows 10, Windows Server 2012/R2/2016, core mode, network driver installation, or any other product that you would like to run on Server 2012/R2/2016, or you just need tips and tricks, please submit a post to the official support thread found here: http://jplay.eu/forum/computer-audio/windows-server-2012-audiophile-core-edition-official-support-thread/.

Feedback
Feedback about sound quality, discussions about Sound Signature and Digital-Filter settings, etc. are always welcome; please submit a post to the audio forum of your choice or to any of the threads below:
- http://www.computeraudiophile.com/f10-music-servers/whos-used-audiophile-optimizer-windows-2012-server-or-windows-8-a-17897/
- http://www.aktives-hoeren.de/viewtopic.php?f=30&t=4295 (Germany)
- https://www.facebook.com/groups/712100898817969/ (Asia)
Highend-AudioPC Shop

Please visit our Highend-AudioPC shop, especially made for computer audiophile enthusiasts. Here you can find carefully selected computer audiophile products from MUTEC, SOTM-Audio, Pachanko Studio, VOVOX, JCAT, JPLAY, Fidelizer Audio and others.

Should you want to order a product not listed in our shop, need technical assistance or have any questions, please don’t hesitate to contact us via e-mail to shop@highend-audiopc.com. We are very confident that we will find the perfect solution for your setup.

www.highend-audiopc.com/shop

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JCAT USB Card FEMTO

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SOtM dx-USB HD USB/AES Converter

SOtM tx-USBhubEx (internal)

SOtM ISO-CAT6 LAN Isolator