

Echo Digital Audio Corporation
Echo PCI drivers

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MiaMIDI
Mia
Layla24
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Gina3G
Layla3G

WaveRT version 8.1 for Windows Vista

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Disclaimer

This is a fully supported release. While we have tested these drivers extensively, there may still be bugs lurking. Please be aware that these drivers are used at your own risk; Echo Digital Audio Corporation is not responsible for any damage or loss incurred by the use of these drivers.

Introduction

This driver supports the following versions of Windows:

- Windows Vista
- Windows Vista 64-bit Edition

Windows Vista

This release provides support for Windows Vista running in 32-bit and 64-bit mode.

Windows Vista features a completely new audio architecture. This new architecture affects any application that uses DirectSound, wave/MME, or the new Vista audio interfaces. Applications that use ASIO are unaffected by this new architecture and should work as before.

This driver has been specifically designed for Windows Vista. If you have used Echo hardware on a previous release of Windows, the driver may behave differently than you expect.

WaveRT

WaveRT is a new driver model that is only supported by Windows Vista. Essentially, WaveRT lets the driver get out of the way, enabling audio applications to connect more directly to the hardware.

Applications that use standard Windows audio APIs such as DirectSound, wave or the new Core Audio API should enjoy more robust, glitch-free performance with the new driver.

Surround sound playback

This driver supports surround sound playback and will automatically create multichannel audio devices depending on the configuration of your hardware. Unlike the Windows XP driver, no further configuration is required.

ASIO optimizations

The ASIO driver included with this release includes Vista-specific improvements; please refer to the ASIO section of this document for more information.

Features that are no longer supported

The driver no longer supports surround sound delay management. In addition, PureWave mode is no longer available as it has been superseded by Vista's new Exclusive Mode.

Audio application support

Finally, please be aware that not all audio applications have been updated for Windows Vista and may not behave properly. Some may require you to run them with administrator privileges.

Since WaveRT is a new driver model, Cakewalk's SONAR may not work correctly in WDM/KS mode. We recommend that you use ASIO mode in SONAR. Echo is working with Cakewalk to improve the situation.

Changes

- Added support for playing compressed audio formats (Dolby Digital, DTS, and WMA Pro) over S/PDIF (does not include Indigo cards or original Mia)
- MIDI input and output should now be available (devices with physical MIDI ports only)
- Fixed a problem where audio could glitch after sustained playback.
- Fixed a bug with the pan controls on the console
- Windows volume controls are disabled for devices with virtual outputs (all Indigo cards, Mia, or Mia MIDI); this ensures that the volume controls are saved and restored properly.
- Fixed several bugs with the uninstaller.
- The uninstaller is now digitally signed.

Known issues

- Importing sessions from the old console is not supported.
- Console volume controls are not synchronized with Windows volume controls.
- Multiclient mode may work differently than you expect.

64-bit Windows

Using Windows in 64-bit mode is very similar to using 32-bit mode. Currently, GSIF is not supported in 64-bit Windows.

This release includes support for both 32-bit ASIO applications and 64-bit ASIO applications.

The Echo Console

This driver release includes a console that has been specifically developed for Windows Vista. If you are used to the console for previous versions of Windows, this one works similarly. The main difference is that you select the output using the tabs across the top of the window.

The new console provides almost all of the same functionality as the previous one, with the exception of features that are not available with the WaveRT drivers.

You can access the new console from the Start menu in the Echo Digital Audio folder or via the shortcut on your desktop.

Core Audio

Core Audio is the name for Windows Vista's new audio system.

You can set the sample rate and format used by Core Audio in the Sound control panel. If you open the Sound control panel, you should see one or more playback and recording devices for your Echo hardware.

For Echo hardware, each of these playback and recording devices share a common physical audio clock – in other words, if you have your analog outputs set for 48 kHz, your digital or headphone outputs are also running at 48 kHz.

However, Core Audio does not recognize this concept. Therefore, rather than setting the Core Audio sample rate from the Sound control panel, you can set the Core Audio sample rate from the Echo PCI console.

Be aware that setting the Core Audio sample rate or the digital mode (for products with optical S/PDIF and ADAT only) from the console will cause the current playback and recording devices to be removed and new ones created in their place; this ensures that the sample rate is consistent. The downside is that this will stop any applications that are currently playing or recording. We therefore recommend that you only change the Core Audio sample rate or the digital mode when you are not playing or recording.

If you set your audio software to play or record at a different format or sample rate than that specified for the Core Audio sample rate, Windows Vista will automatically perform format conversion.

Note that none of this applies to audio software that uses ASIO. Setting the Core Audio sample rate has no effect on the sample rates available to or used by ASIO.

ASIO support

This driver release includes full ASIO 2.2 support. Just select "ASIO Echo PCI" from within your ASIO-based application.

New features for Windows Vista

The scheduler in Windows Vista has a new feature called MMCSS, or Multi Media Class Scheduler Service. MMCSS is intended to enable audio software to run at the highest priority to avoid glitching.

The ASIO driver included with this release supports MMCSS. On the ASIO control panel, you will see two new settings.

- *Use Vista multimedia priority boost:* Checking this box tells the ASIO driver to use MMCSS to run at a higher priority.
- *Lower Vista window manager priority:* Checking this box causes Vista to prioritize audio playback and recording over drawing windows on the screen.

Both settings are checked by default.

Finally, the ASIO driver now stores the ASIO control panel settings separately for each individual user.

Help! I don't see all of my inputs and outputs.

This is probably due to the fact that another program is using them. The most likely culprit is the Microsoft wavetable synthesizer, which is being opened by your audio application as a MIDI output device. Make sure that your audio application does not have "Microsoft GS Wavetable SW Synth" selected as a MIDI output device.

If your outputs still don't show up, you may have some other software that's doing the same thing.

Windows volume controls

The WDM driver supports Windows volume controls. However, the current release of the console does not synchronize its volume controls with the Windows volume controls. We therefore recommend that you change the volume either using Windows volume controls or the console, but not both simultaneously.

Troubleshooting

If your computer spontaneously reboots on you, you probably have experienced what Microsoft calls a “bug check”, but what everyone else calls the Blue Screen of Death (BSOD).

The default setting for the BSOD is not to show the BSOD, but to reboot the computer. This isn't very helpful for tracking down problems. If you are experiencing blue screens, here's how you can help us track it down:

Select Start/Settings/Control Panel/System

Click on “Advanced system settings” in the left column

Click on the “Settings” button under “Startup and Recovery”

Uncheck “Automatically restart”

Set the memory dump to “Small Memory Dump” in the drop down menu under “Write debugging information”

Now, next time you get a blue screen, look at it. See if the crash occurred in echo3g.sys, echo24.sys or echondgo.sys; if it did, it may be something we need to fix.

Restart your computer and find the most recent .dmp file – this is the memory dump. It's located in a folder called “Minidump” under your main Windows folder.

Zip up this .dmp file and send it to techsupport@echoaudio.com along with a description of how it happened.

Version History

8.1

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8.0

- Initial release with WaveRT support

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