

Dolby Atmos Conversion Tool v2.0

Release Notes

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Notices

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Dolby Laboratories, Inc.

1275 Market Street
San Francisco, CA 94103-1410 USA
Telephone 415-558-0200
Fax 415-645-4000
<http://www.dolby.com>

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1

Introduction to the release notes

This documentation covers installation steps, software changes, and known issues for Dolby Atmos Conversion Tool version 2.0.

- [About this documentation](#)
- [Contacting Dolby](#)

1.1 About this documentation

This documentation is for engineers, and others who work with Dolby Atmos content for cinema or home theater. Use the conversion tool to convert one Dolby Atmos master file format to another, edit or join masters as a composition, or perform other tool operations (such as applying frame-rate conversion to a Dolby Atmos master file).

For complete information, see the *Dolby Atmos Conversion Tool Guide*.

1.2 Contacting Dolby

You can contact Dolby regarding this product and its supporting documentation.

If you have technical questions about this product, consult the knowledge base at <https://developerkb.dolby.com/support/home>. For additional questions, refer to the community forum for the Dolby Atmos Mastering Suite.

If you have questions or comments about this documentation, please send an email to documentation@dolby.com.

2

New in this version

Dolby Atmos Conversion Tool v2.0 includes new features and improvements, including a new graphical user interface (GUI) that supports editing, joining, and converting masters.

- [System and installation updates](#)
- [New conversion and new composition workflows and GUI](#)
- [Miscellaneous updates and fixes](#)
- [New in previous versions](#)

2.1 System and installation updates

Dolby Atmos Conversion Tool v2.0 provides system and installation updates.

- Support on macOS Catalina (version 10.15.x)
- New application icon

Figure 1: Dolby Atmos Conversion Tool icon



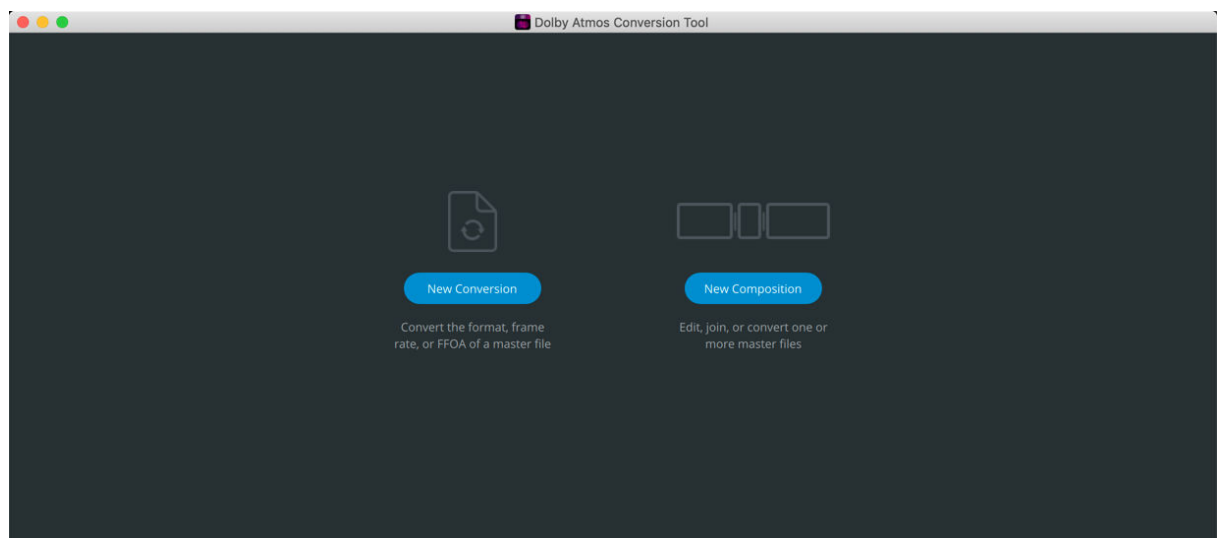
2.2 New conversion and new composition workflows and GUI

Dolby Atmos Conversion Tool v2.0 has a new GUI with controls and menus to support and simplify workflows for performing format and other conversions, and editing or joining Dolby Atmos masters.

New conversion and new composition workflows

The Conversion Tool supports two primary types of workflows, which you access from the Conversion Tool home window.

Figure 2: Dolby Atmos Conversion Tool home window

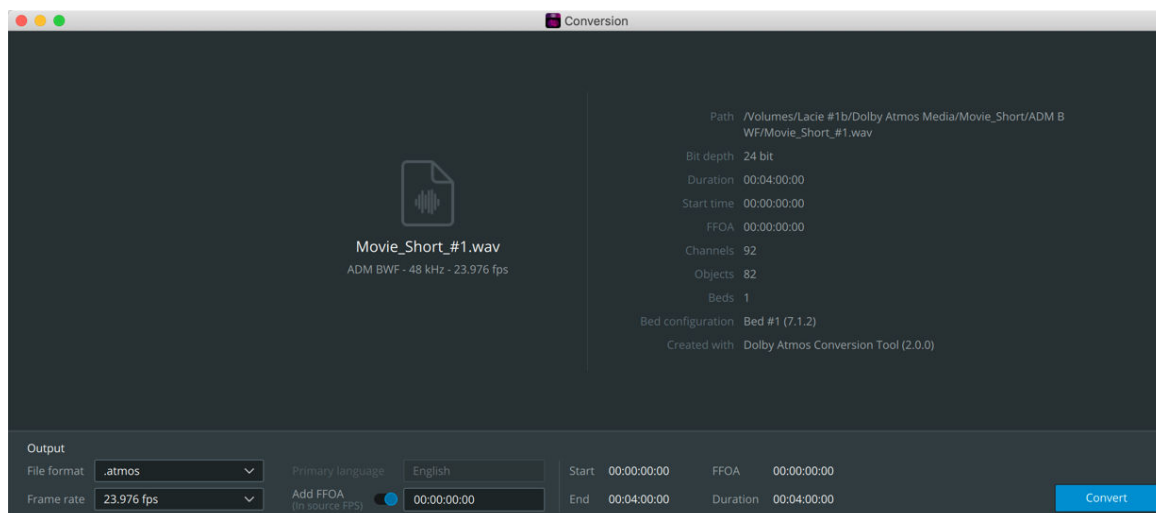


New conversion

Create a new conversion to convert the format, frame rate, first frame of action (FFOA), or primary language (Interoperable Master Format (IMF) immersive audio bitstream (IAB) only) of a master.

You perform conversions in the **Conversion** window.

Figure 3: Example of conversion window, with an imported master file



You can perform changes to the format, frame rate, FFOA, or primary language (IMF IAB only) simultaneously or separately.

The length of a master file opened in the **Conversion** window is not altered if the master file starts and ends on non-frame boundaries.

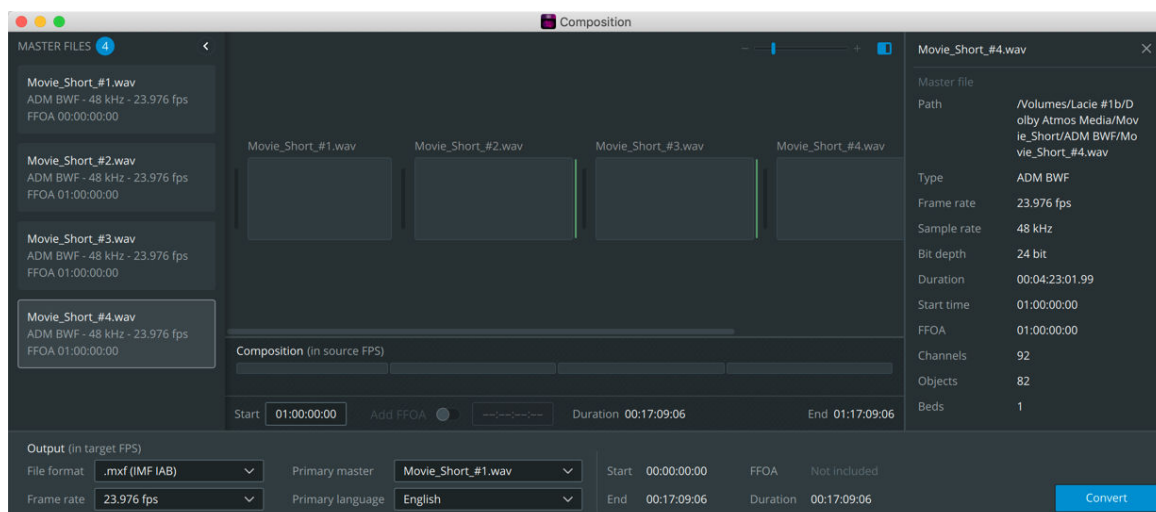
Note: Alternatively, you can create a new composition to perform a conversion in the **Composition** window.

New composition

Create a new composition to edit, join, or convert one or more master files in the composition timeline. Editing and joining masters are new features in the GUI.

You perform compositions in the **Composition** window.

Figure 4: Example of a composition with multiple master files in the master files list and composition timeline



You can perform changes to the format, start time, frame rate, FFOA, or primary language (IMF IAB only) simultaneously or separately.

When a file that starts or ends on subframe boundaries is imported into the **Composition** window, it is extended with silence to the next frame boundary in either direction so that no underlying content is trimmed. This is indicated by green lines at the start and/or end of each clip.

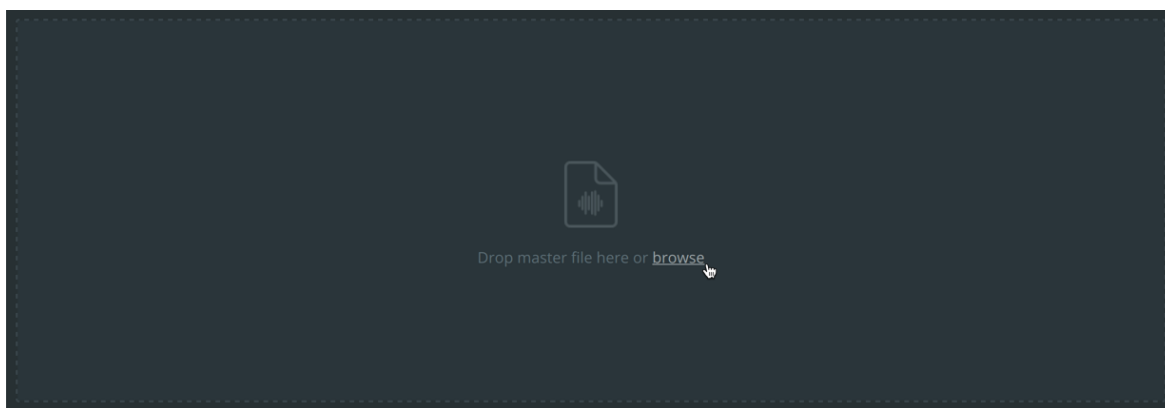
Menus and submenus focused on workflows

The Dolby Atmos Conversion Tool GUI now provides menus and submenus for managing and performing conversion tasks. The available menus are dependent on the current window (home window, **Conversion** window, or **Composition** window). The tool includes keyboard shortcuts for many menu commands.

Workflow features for a new conversion or new composition

This version includes features that apply to performing a new conversion or composition:

- Clicking in the empty, dotted area in the **Conversion** or **Composition** window opens the file browser, where you can import a master.



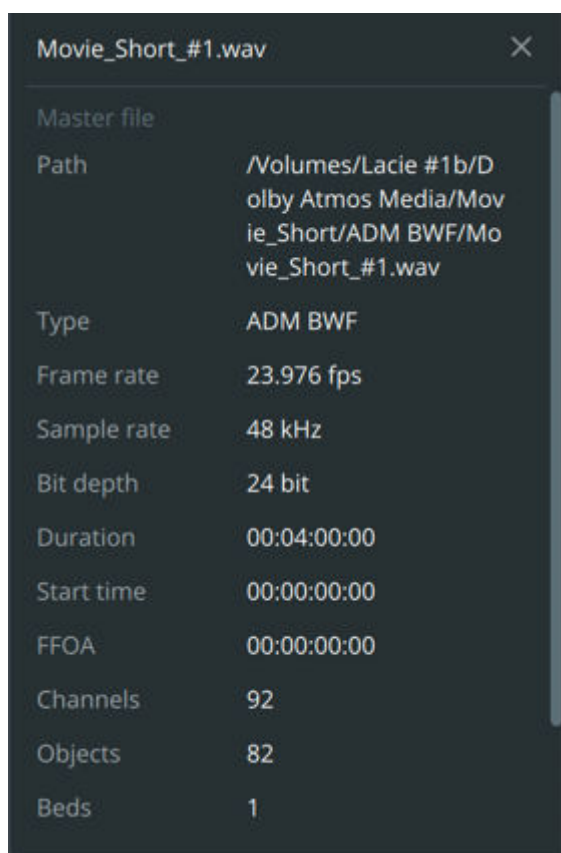
- The metadata view displays detailed information about the master.
- The application includes copy and paste support of timecode values.
- The FFOA of the converted master can be excluded (set to **Not included**). This feature is supported by the Dolby Atmos Conversion Tool GUI and command-line interface (CLI).
- The FFOA is now rounded to the nearest frame boundary if on a subframe.
- The last used import and save location are remembered when you close the Conversion Tool or use another function. This helps to speed up workflows when using the same import and save locations.
- When the target format is *.atmos*, *.wav* (ADM BWF), or *.mxf* (IMF IAB), the output file name for a conversion uses the source file name by default (Mac only).

Workflow features for a new composition only

This version includes features that apply to performing a new composition only:

- Joining and editing masters
- Setting the primary master in the GUI determines which master program-level metadata will be used when multiple masters are joined together.
- Trimming a master
- Splitting a master
- Adding silence to a master
- Zooming view options for how one or more masters display in the timeline
- Advanced metadata view, which provides detailed information about a master file or clip in the timeline. Additionally, the view can display the length of a silence clip.

Figure 5: Advanced metadata section, with a master selected




2.3 Miscellaneous updates and fixes

Dolby Atmos Conversion Tool v2.0 includes miscellaneous updates and fixes.

Miscellaneous updates and fixes

Command-line improvements: The FFOA of the converted master can be excluded (set to not included). This feature is supported by the GUI and CLI.

 **Note:** The CLI no longer adds an FFOA by default if it has been undefined in the source master.

New .xml (pmstitch) file examples and location

Example *.xml* (*pmstitch*) files have been updated to better represent real-world workflow scenarios and needs. Example files (and supporting media) are now available online, instead of being included with installation.

You can find examples and a link to supporting media files online at <https://developerkb.dolby.com/support/solutions/articles/16000103176-where-can-i-find-more-examples-of-pmstitch-xml-files->.

Dolby provides *.xml* (*pmstitch*) file examples for use when creating a new *.xml* configuration file for padding (adding silence) a master, joining masters, or trimming a master. With the CLI, the examples can also be used to create *.xml* files for other tool operations (such as converting the master file format).

2.4 New in previous versions

This version of Dolby Atmos Conversion Tool includes new features, improvements, and fixes that were included with previous versions.

2.4.1 New in v1.9

Dolby Atmos Conversion Tool v1.9 includes new features and improvements.

- Support for IMF IAB *.mxf* masters in the Conversion Tool user interface (UI) and command-line options. Includes the ability to:
 - Convert to an *.mxf* (IMF IAB) master from another Dolby Atmos master format.
 - Convert from an *.mxf* (IMF IAB) master to another Dolby Atmos master format.
 - Change the frame rate of a master during a conversion to or from an *.mxf* (IMF IAB). When converting to an IMF, the FFOA is not included.

The IMF IAB format supports these frame rates: 23.976, 24, 25, and 30 fps.

- When converting to an IMF IAB, the Conversion Tool includes an option to set the primary language.
- *.xml* (pmstitch) support for *.mxf* (IMF IAB) files.

Additionally, this publication of the guide provides more information regarding *.dbmd* metadata file parameters.

2.4.2 New in v1.8

Dolby Atmos Conversion Tool v1.8 includes new features and improvements.

- Support for converting from a 96 kHz *.atmos* master file set.
- Updates to Audio Definition Model (ADM) Broadcast Wave Format (BWF) (*.wav*) master files to conform to ITU BS.2076-0.
- Support of non-English master file names.
- Improvements to frame-rate conversion ratios when the difference between the source and target frame rates is larger (for example, when converting from a source frame rate of 25 fps to a target frame rate of 23.976 fps).
- Support for Binaural render mode metadata, which is designed for use when content is being encoded as Dolby AC-4 immersive stereo.
- Support for Trim metadata, which is designed to provide better control of 5.1 and 7.1 encodes when Dolby Atmos content is rendered in a 5.1 or 7.1 playback environment.
- Changes to *.xml* (pmstitch):
 - *primary="true"* attribute in the *source* element sets which source master of a stitch workflow defines the metadata values to be used for all masters (for example, when stitching together masters that have different program-level metadata, such as *.dbmd* parameters).
 - *<start>* and *<end>* now called *<outputStart>* and *<outputEnd>*, respectively, to better describe their function.



Note: *<start>* and *<end>* are still supported. Older *.xml* (pmstitch) files do not need to be updated.

- Ability to trim the beginning and end of a Dolby Atmos master via an *.xml* (pmstitch) and change the frame rate during the same conversion.
- Updates to Dolby Digital Plus segment parameters and values in a *.dbmd* metadata file: *program_id* removed.
- Command-line options removed from the Dolby Atmos Conversion Tool command-line application:
 - *--dump_bwav_chunks*
 - *-flatten*



Note: When joining masters that have different bed widths, the beds are flattened into a single 9.1 bed.

- `--force_write_current_damf_version`
- `--log_config arg`
- `--printmasterkeypath arg`
- Mac installer now installs the command-line application.

2.4.3 New in version 1.7.3

Dolby Atmos Conversion Tool v1.7.3 includes new features and improvements.

- Ability to trim or pad the beginning and end of a Dolby Atmos master via an *.xml* (pmstitch) file.
- Dolby Atmos Conversion Tool command-line application and options to perform tool operations on Linux, Mac, and Windows operating systems.
- Fixed issue: Running a conversion with an *.xml* (pmstitch) file that stitches two masters with different input configurations no longer results in a master in which there are audio gaps in the bed and object audio channels prior to the stitch sample point.

Installing the Dolby Atmos Conversion Tool package

You can install the Dolby Atmos Conversion Tool package on Linux, Mac, and Windows systems qualified by Dolby.

- [Dolby Atmos Conversion Tool package components](#)
- [System requirements](#)
- [Update considerations](#)
- [Installing the Dolby Atmos Conversion Tool package](#)
- [Launching the Dolby Atmos Conversion Tool](#)

3.1 Dolby Atmos Conversion Tool package components

The Dolby Atmos Conversion Tool package can include the Conversion Tool application (with a dedicated GUI) and CLI, depending on the operating system.

Operating system	Dolby Atmos Conversion Tool application (with a dedicated UI window)	Dolby Atmos Conversion Tool command-line application
Linux	No	Yes
Mac	Yes	Yes
Windows	Yes	Yes

3.2 System requirements

Before installing the Dolby Atmos Conversion Tool package, you should review system requirements and compatibility information to verify that your system supports the release and that you are ready to begin installation.

The Dolby Atmos Conversion Tool package applications have been qualified for use on these operating systems only:

- Linux (Dolby Atmos Conversion Tool command-line application only):
 - RedHat 7.3
 - Ubuntu 16.04.3 LTS (Xenial Xerus)
- Mac:
 - macOS Catalina (version 10.15.x)
 - macOS Mojave (version 10.14.x)
- Windows: Windows 10 (64 bit)

3.3 Update considerations

Installing the Dolby Atmos Conversion Tool package overwrites a previously-installed version. Additionally, example *.xml* (pmstitch) files and supporting media that were included with Conversion Tool v1.9 and earlier are also overwritten.

Older logs (on Mac and Windows systems) and the preference file (on Mac only) are not overwritten. You can navigate to these files and delete them, if desired.

- v1.9 logs are located here:
 - Mac: `~/Library/Logs/Dolby Laboratories/Atmos Conversion Tool`
 - Windows: `C:\ProgramData\Dolby Laboratories\Atmos Conversion Tool\logs`
- For Mac only, the v1.9 preference file (`~/Library/Preferences/com.dolby-laboratories.Dolby Atmos Conversion Tool.plist`) is located in the `~/Library/Preferences/` folder.

3.4 Installing the Dolby Atmos Conversion Tool package

Install the Dolby Atmos Conversion Tool package on a Linux, Mac, or Windows system qualified by Dolby.

3.4.1 Installing the Dolby Atmos Conversion Tool Debian package on a Linux system

You can install the Dolby Atmos Conversion Tool Debian package on a Linux system (such as Ubuntu Xenial Xerus) that is qualified by Dolby.

About this task

The Dolby Atmos Conversion Tool Debian package for Linux installs the Dolby Atmos Conversion Tool command-line application. The package does not include the Dolby Atmos Conversion Tool application (which has a dedicated UI window).

Procedure

1. Ensure that the Dolby Atmos Conversion Tool Debian package (.deb file) is on your Linux machine.
2. Open the terminal window.
3. Install the Dolby Atmos Conversion Tool package:
 - a) Execute one of these command lines:

```
sudo dpkg -i dolby-atmos-conversion-tool-2.X.X.xxxxxx-Linux.deb (where xxxxxxx is the build number)
```

```
sudo dpkg --install dolby-atmos-conversion-tool-2.X.X.xxxxxx-Linux.deb (where xxxxxxx is the build number)
```



Note: There are two dashes before the word *install*.

- b) If prompted with a warning that the package cannot be authenticated unless you accept the install without verification, execute *y* for yes.

Results

Each Dolby Atmos Conversion Tool package component is installed on your computer, at the noted location:

- Dolby Atmos Conversion Tool command-line application (*cmdline_atmos_conversion_tool*): */usr/bin*
- Dolby Atmos Conversion Tool documentation: */usr/share/doc/dolby-atmos-conversion-tool*

3.4.2 Uninstalling the Dolby Atmos Conversion Tool Debian package

You can uninstall the Dolby Atmos Conversion Tool Debian package that was previously installed on a Linux system (such as Ubuntu Xenial Xerus).

Procedure

Execute this command line:

```
sudo dpkg -r dolby-atmos-conversion-tool
```

3.4.3 Installing the Dolby Atmos Conversion Tool package on Mac

You can install the Dolby Atmos Conversion Tool package on a Mac system qualified by Dolby.

About this task

During installation, previous versions of the Dolby Atmos Conversion Tool are uninstalled.

Procedure

1. Start the installer by double-clicking the Dolby Atmos Conversion Tool installer package *DolbyAtmosConversionTool_2.X.X.xxxxxx_Mac.pkg* (where xxxxxx is the build number).
2. Follow the on-screen instructions.

Results

Each supported Dolby Atmos Conversion Tool package component is installed on your computer at the locations listed here:

- Dolby Atmos Conversion Tool: */Applications/Dolby/DolbyAtmosConversionTool*
- Dolby Atmos Conversion Tool command-line application (*cmdline_atmos_conversion_tool*): */Applications/Dolby/DolbyAtmosConversionTool*
- Dolby Atmos Conversion Tool documentation: */Applications/Dolby/DolbyAtmosConversionTool*

3.4.4 Uninstalling the Conversion Tool package on Mac

If necessary, you can uninstall the Dolby Atmos Conversion Tool package on Mac by deleting the folder that contains the application and other package contents. Alternatively, you can delete just the tool application or *cmdline_atmos_conversion_tool* Unix executable.

About this task

Uninstalling the Dolby Atmos Conversion Tool folder deletes these items:

- *DolbyAtmosConversionTool* application file
- *cmdline_atmos_conversion_tool* Unix executable
- All Conversion Tool documentation

Procedure**1.** To uninstall the package:

- Navigate to */Applications/Dolby*.
- Perform one of these steps:
 - Right-click on the **Dolby Atmos Conversion Tool** folder, and choose **Move to Trash**.
 - Drag the **Dolby Atmos Conversion Tool** folder to the trash.

2. To uninstall the tool application or command-line executable:

- Navigate to */Applications/Dolby/DolbyAtmosConversionTool*.
- Perform one of these steps:
 - Right-click on the *DolbyAtmosConversionTool* application file (or *cmdline_atmos_conversion_tool* Unix executable file) folder, and choose **Move to Trash**.
 - Drag the file to the trash.

3.4.5 Installing the Dolby Atmos Conversion Tool package on Windows

You can install the Dolby Atmos Conversion Tool package on a Windows system qualified by Dolby.

Procedure**1.** Start the installer by double-clicking the Dolby Atmos Conversion Tool installer package

DolbyAtmosConversionTool_2.X.X_XXXXXX_Win64.msi (where *XXXXXX* is the build number).



Note: If prompted to uninstall an earlier version, close the message window, uninstall the older version, and then start the installer again.

2. Follow the on-screen instructions.**Results**

Each supported Dolby Atmos Conversion Tool package component is installed on your computer at the locations listed here:

- Dolby Atmos Conversion Tool: *C:\Program Files\Dolby\DolbyAtmosConversionTool*

- Dolby Atmos Conversion Tool command-line application (*cmdline_atmos_conversion_tool*): `C:\Program Files\ Dolby\ Dolby Atmos Conversion Tool`
- Dolby Atmos Conversion Tool documentation: `C:\Program Files\ Dolby\ Dolby Atmos Conversion Tool`

3.4.6 Uninstalling the Conversion Tool on Windows

If needed, you can uninstall the Conversion Tool from your Windows computer.

Procedure

1. Navigate to **Control Panel > Programs > Programs and Features**.
2. Highlight **Dolby Atmos Conversion Tool**.
3. Click the **Uninstall** button.
4. Follow the on-screen instructions.

3.5 Launching the Dolby Atmos Conversion Tool

After the Dolby Atmos Conversion Tool software is installed, you can launch the tool.

Procedure

1. Locate the Dolby Atmos Conversion Tool application name or icon:

Figure 6: Dolby Atmos Conversion Tool icon

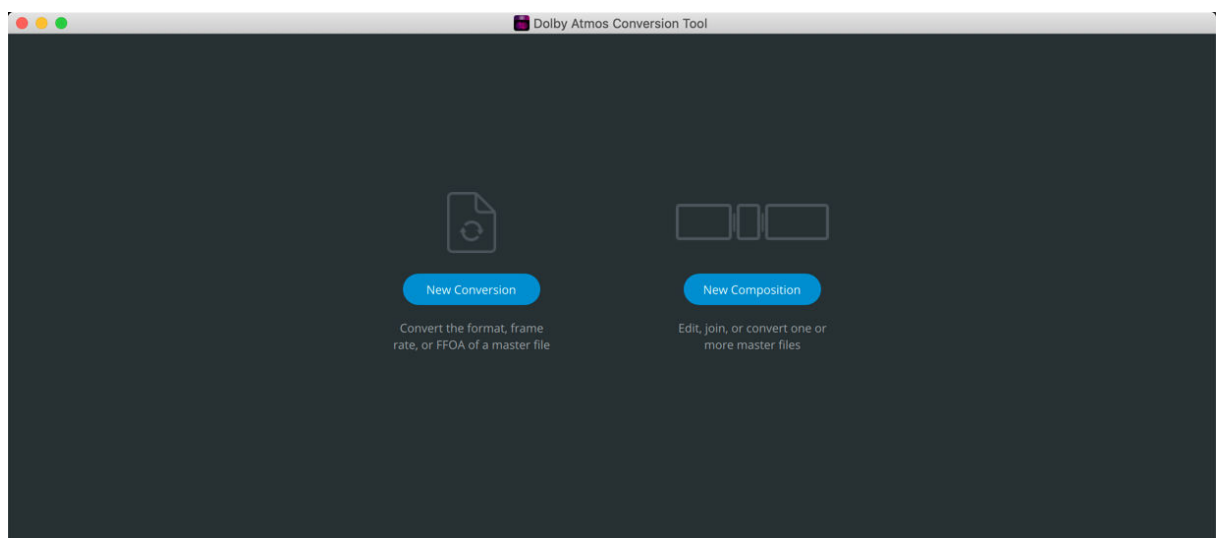


- Mac: The Dolby Atmos Conversion Tool application is in the *Applications/Dolby/Dolby Atmos Conversion Tool* folder.
 - Windows: The Dolby Atmos Conversion Tool application is in the *C:\Program Files\ Dolby\ Dolby Atmos Conversion Tool* folder.
2. Double-click the Dolby Atmos Conversion Tool application name, or click the icon in the dock (Mac only).

Results

The Dolby Atmos Conversion Tool home window displays.

Figure 7: Dolby Atmos Conversion Tool home window



4

Known issues

Before you install or use the new software in this release, we recommend that you review known issues, along with the respective workarounds, comments, and solutions.

- When converting a large master file, Dolby Atmos Conversion Tool will not warn the user when the destination drive does not contain enough available space, and will allow the user to begin the conversion. As a workaround, verify that the available space on the destination drive is larger than the source file by at least 50% before beginning the conversion. For example, if your source file is 100 GB, the destination drive should have at least 150 GB available space. [AWT-394]
- On macOS, a master file containing a forward slash (/) in the file name displays in the Conversion Tool with the forward slash changed to a colon (:). [AWT-3165]
- Importing a large *.rpl* file disallows other functionality in the application, including cancel, until the import is complete. This may be especially noticeable when importing from a storage location on the network. [AWT-3053]
- When importing an IMF IAB file with an invalid primary language, the primary language is set to English and no warning is shown. [AWT-3226]
- When converting to *.mxmf* (IMF IAB) in a composition that crosses the midnight boundary, you may experience multiple error messages. Crossing the midnight boundary is not supported. As a workaround, set an earlier start time, or shorten the composition duration. [AWT-2922]
- On macOS, quitting the Conversion Tool application with the Dock right-click Quit command while an *.rpl* file is importing can result in a crash. To avoid this issue, do not quit from the Dock when an *.rpl* import is in progress. [AWT-3225]
- Opening an *.xml* (*pmstitch*) file clears any master files in the master files list. If clips also exist on the timeline, you will be prompted with a warning message. However, no warning is displayed if there are master files in the master files list and no clips in the timeline. [AWT-3133]
- When working with an *.xml* (*pmstitch*) file that has multiple *.atmos* files, the *.atmos* file that is the primary source master does not define the binaural metadata for all *.atmos* files as expected. When converting from an *.xml* (*pmstitch*) to an ADM BWF file, binaural metadata from the first *.atmos* file is used and binaural metadata in subsequent *.atmos* masters is lost. When converting from an *.xml* (*pmstitch*) to *.atmos*, binaural metadata for each *.atmos* file is retained. [AWT-1913]
- In some cases, Avid Pro Tools version 2018.x or 2019.x can crash when importing session data from an ADM BWF file. This can occur if an IMF IAB *.mxmf* file is in the same folder as the ADM BWF. If this happens, the workaround is to move the *.mxmf* file to another location. We are working with Avid to resolve this issue in a future version of Pro Tools. [AWT-1991]

Glossary

A/V

Audio/video.

ADM

Audio Definition Model. A metadata model specified in ITU.R.BS.2076 that describes channel-, object-, or scene-based audio file formats.

ADM BWF

Audio Definition Model Broadcast Wave Format.

BWF

Broadcast Wave Format. An extension of the Microsoft Waveform Audio Format (*.wav*) file format to include metadata important to broadcast applications. This format is specified in EBU Tech 3285.

CLI

Command-line interface.

DCP

Digital Cinema Package. A packing list (PKL) file and all of the files that it references.

Dolby RMU

Dolby Rendering and Mastering Unit.

FFOA

First frame of action. The point on a film reel or corresponding file at which the program content begins.

fps

Frames per second. The number of unique consecutive audio or video frames an audio or imaging device produces in one second.

frame rate

The number of frames decoded per second in real-time operation.

GUI

Graphical user interface.

IAB

Immersive audio bitstream. A frame-based audio bitstream that includes audio channels and/or audio objects, plus metadata.

IMF

Interoperable Master Format. A SMPTE standard that defines an interoperable, file-based framework designed to facilitate the management and processing of multiple versions of the same high-quality finished work. See SMPTE ST 2067-2 and related documentation.

immersive stereo

A technology that delivers a virtualized immersive experience to headphones or stereo speakers through a Dolby AC-4 bitstream with appropriate stereo content and metadata that converts the stereo signal into the virtualized experience.

MXF

Material Exchange Format. A file format used to transfer and store different types of content (for example, audio, video, data, or metadata). MXF currently supports various compression and encoding formats, and its specification can be extended to new essence formats, if needed.

object

An audio signal plus associated object audio metadata.

rendering

Processing of audio content to adapt it to specific speaker layouts, such as 5.1- and 7.1-speaker feeds, or headphones and sound bars.

SMPTE

Society of Motion Picture and Television Engineers.

UI

User interface.

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