



Dolby Atmos VR Transcoder

Guide

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1 Introduction to the Dolby Atmos VR Transcoder

The Dolby Atmos VR Transcoder enables you to encode Dolby Atmos content to B-format (Furse-Malham [FuMa], AmbiX) output formats and Dolby Digital Plus (.ec3, .ec3 in .mp4 container) output formats on VR applications.

- [About this guide](#)
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1.1 About this guide

This documentation describes how to install and use the Dolby Atmos VR Transcoder application to encode .atmos files.

1.2 Channel abbreviations

Several channel abbreviations are used in this documentation.

This table lists the channel notations.

Abbreviation	Channel
L	Left
R	Right
C	Center
LFE	Low-Frequency Effects
Ls	Left Surround
Rs	Right Surround

1.3 Contacting Dolby

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

If you have technical questions about this product, visit <https://developerkb.dolby.com/support/home>.

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

2 Installing the Dolby Atmos VR Transcoder

Use the Dolby Atmos Renderer installer to install the Dolby Atmos VR Transcoder.

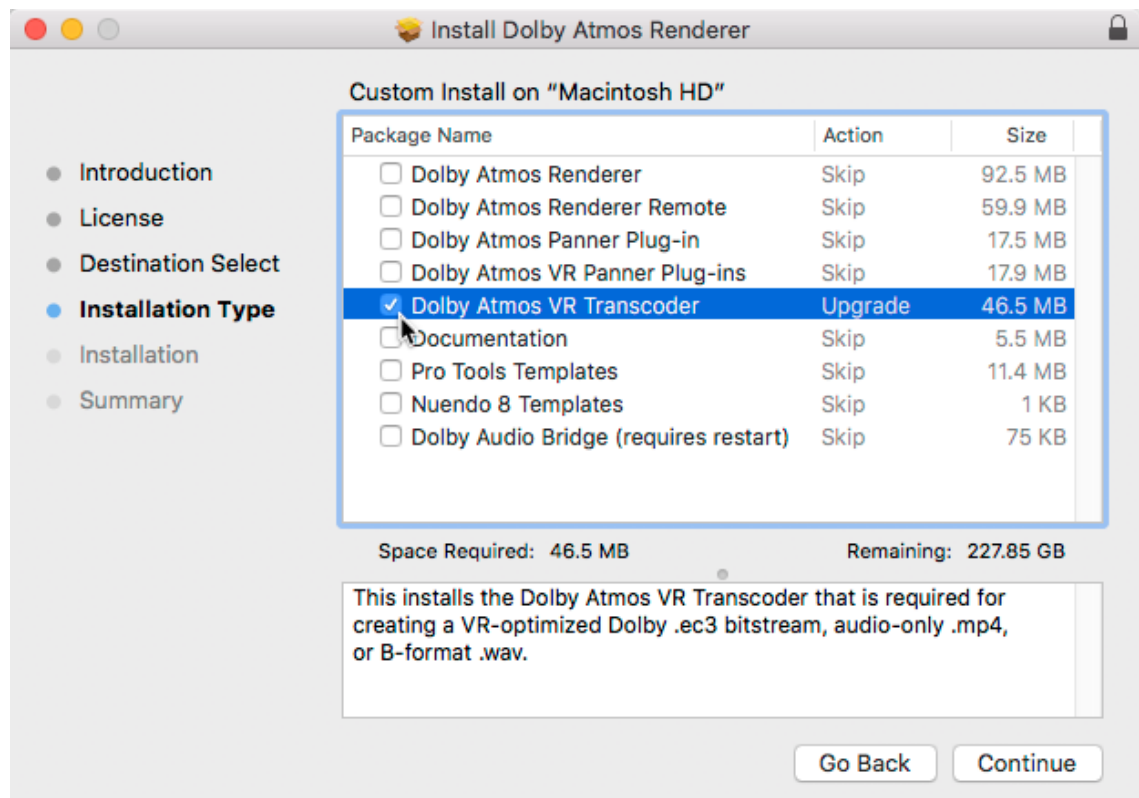
Prerequisites

Ensure that your computer meets the requirements.

System component	Requirement
Operating system	Mac OS X 10.9 or later
Processor	2.6 GHz Intel Core i5
Memory	8 GB random-access memory (RAM)

Procedure

1. If updating the Dolby Atmos VR Transcoder, ensure that it is not running.
2. Double-click the Dolby Atmos Renderer mountable disk image file (Dolby Atmos Renderer-3.0.0-xxxxxx.dmg).
3. Double-click the Dolby Atmos Renderer installer package (Dolby Atmos Renderer.pkg).
4. Follow the onscreen instructions until you get to the **Installation Type** section.
5. In the **Installation Type** section, select **Dolby Atmos VR Transcoder** only.
Deselect any other components that are checked by default.



6. Click **Continue**, and follow the onscreen instructions to complete the installation.

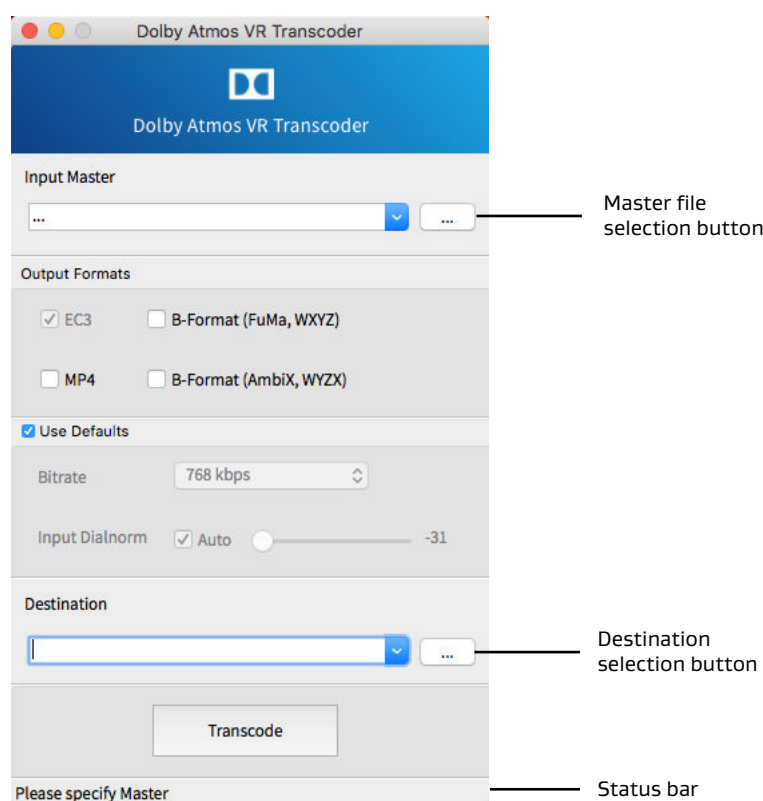
Results

The Dolby Atmos VR Transcoder is installed and ready to use.

3 Transcoder UI

The Dolby Atmos VR Transcoder user interface (UI) is a single window that consists of several sections.

Figure 1: Dolby Atmos VR Transcoder window



Input Master section

This section provides a field and browser button to select a master file for transcoding.

Output Formats section

This section lets you select the file types that will be generated from the input master. The Dolby Atmos VR Transcoder generates a master file for each format selected:

- **EC3**



Note: By default, **EC3** is checked and cannot be changed. The Dolby Atmos VR Transcoder always generates an .ec3 file output.

- **MP4**

- **B-Format (FuMa, WXYZ)**

- **B-Format (AmbiX, WYZX)**

Use Defaults section

This section provides settings for **Bitrate** and **Input Dialnorm** (dialogue normalization value). By default, this section is disabled and the Dolby Atmos VR Transcoder calculates a dialogue normalization value (dialnorm) automatically.

To change the **Input Dialnorm** settings, deselect both the **Use Defaults** and the **Auto** box, and then use the **Input Dialnorm** slider to set the value.

Destination section

This section provides a field and browser button to set the destination folder for the transcoded file.

Status bar

The status bar at the bottom of the Dolby Atmos VR Transcoder window provides information about errors, and prompts the next step when using the application.

4 Transcoding .atmos master files

The Dolby Atmos VR Transcoder reads Dolby Atmos masters, processes them, and generates encoded output. Use the Dolby Atmos VR Transcoder to encode Dolby Atmos content to desired B-format (Furse-Malham [FuMa], AmbiX) output formats and Dolby Digital Plus (.ec3, .ec3 in .mp4 container) output formats on VR applications.

- [Input files](#)
- [Output files](#)
- [Advanced settings](#)
- [Default settings](#)
- [Debug messages](#)

Procedure

1. Launch the Dolby Atmos VR Transcoder application by clicking the icon.



2. Select an input file by performing one of these steps:
 - In the **Input Master** section, click the master file selection button, and choose an .atmos file.
 - Paste the complete path in the **Input Master** field.

When selecting the input through the master file selection button, only .atmos files can be selected. All other files are grayed out.

3. Select the output formats by checking one or more formats:
 - .ec3: This format is checked by default, and it is always generated.
 - .mp4
 - B-format for FuMa normalization
 - B-format for AmbiX normalization

4. Optional: Clear the **Use Defaults** check box to specify additional features:

 **Note:** If the **Use Defaults** check box is selected, then the recommended values are used.

- a) Set the target audio bit rate with the **Bitrate** drop-down menu.
 - b) Specify the **Input Dialnorm** value.
5. Select the **Destination** folder by performing one of these steps:
 - In the **Destination** section, click the destination selection button, and select a folder.
 - Paste the complete path in the **Destination** field.

The output file name uses the name of the input file by default. For example, if the .atmos file name is movieSurround.atmos, then the output for an .ec3 file is movieSurround.ec3, and is movieSurround.mp4 for an .mp4.

6. Click the **Transcode** button to encode the file.

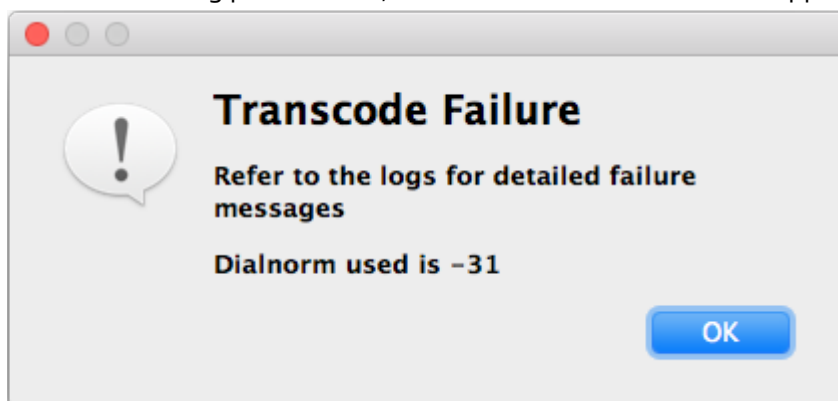
Results


When the transcoding process completes, the Dolby Atmos VR Transcoder reports whether the transcode is successful or has failed. In either case, the value of an automatically computed or a manually set Dialnorm parameter is shown:

- If the transcoding process is successful, the **Transcode Success** window appears.



- If the transcoding process fails, the **Transcode Failure** window appears.



 **Note:** In case of failure, we recommend that you read the debug file for information on how to correct the errors, or contact Dolby for more information.

4.1 Input files

The Dolby Atmos VR Transcoder application accepts .atmos files only.

4.2 Output files

The Dolby Atmos VR Transcoder can generate several output formats from a single master. You can select one or more output formats to be encoded simultaneously.

The Dolby Atmos VR Transcoder can generate these outputs:

- A B-format .wav file for VR applications. This output is provided for backward compatibility with devices that do not support Dolby Atmos playback technologies. The following B-format data exchange formats are supported:
 - FuMa: Zeroth and first-order ambisonics with WXYZ channel order and FuMa normalization
 - AmbiX: Zeroth and first-order ambisonics with WYZX channel order and Schmidt seminormalization (SN3D)
- A Dolby Digital Plus (Enhanced AC-3) elementary stream (.ec3) with joint object coding content that is backward compatible with all Dolby Digital Plus decoders.
- A Dolby Digital Plus (Enhanced AC-3) elementary stream with joint object coding content in an MPEG-4 (.mp4) container.

4.3 Advanced settings

Use the **Bitrate** and **Input Dialnorm** settings to customize the .ec3 and .mp4 output.

Bitrate

Sets the target audio bit rate (in kbps)

Input dialnorm

Specifies the Dialnorm for the input audio stream in the range from -31 to -1



Note: If set to **Auto** in the application UI, the Dolby Atmos VR Transcoder automatically computes the dialnorm when processing a master file.

4.4 Default settings

The Dolby Atmos VR Transcoder application uses certain default settings when transcoding an .atmos master to .ec3 or .mp4 format.

By default, the Dolby Atmos VR Transcoder uses these settings:

- **Bitrate: 768 kbps**
- **Input Dialnorm: Auto**

4.5 Debug messages

The debug information is stored in the Transcoder_log.txt file.

To access the log file, go to the Dolby Atmos VR Transcoder menu bar and select **Session > View Log**. In the **Logs** window, click **Show in Finder** and open the Transcoder_log.txt file.

Glossary

B-format

A speaker-independent representation of a soundfield.

container

A formatted file (such as an MP4 file) comprising one or more multiplexed elementary streams and including format-specific metadata.

dialnorm

Dialogue normalization value.

Dolby Digital Plus

An advanced perceptual audio-coding system that expands and improves Dolby Digital coding technology, with higher bandwidth efficiencies, support for additional channels, and enhanced metadata capabilities.

elementary stream

A bitstream that is the output of an audio or video encoder and contains only one type of data, such as audio or video.

E-AC-3

Enhanced AC-3.

Dolby Digital Plus, also known as Enhanced AC-3 or E-AC-3, is a digital audio compression coding system for transport and storage of multichannel digital audio specified in Annex E of ATSC A/52 and Annex E of ETSI TS 102 366.

The file extension for a Dolby Digital Plus file is .ec3.

MPEG-4

An MPEG standard (ISO/IEC 14496) for a group of audio and video coding formats and related technologies.

RAM

Random-access memory.

transcoding

The digital-to-digital conversion of one encoding format to another; this is usually done in a two-step process in which the original file is decoded to an intermediate, uncompressed format (such as PCM for audio), and then encoded into the target format (for example, a Dolby Digital Plus bitstream).

UI

User interface.