

DVD Audio Lingo

DVD-A

DVD Audio: A new specification for audio media designed to replace Compact Disc. In comparison to DVD Video, DVD-A can carry uncompressed linear PCM audio with up to six channels (5.1) and/or high resolution audio with up to 24-bit and 192 kHz. Like DVD Video, this format is based on DVD ROM, means: it's a computer-readable data disc with special DVD-A content in a typical computer file architecture. In addition to audio, DVD-A also supports pictures, text, graphic menus and video. Its video features allow it to be backward-compatible to current DVD Video players (if authored for that purpose). Against Compact Disc, DVD-A not only supports high-resolution and multi-channel audio, it also allows any combination of different formats and configurations on a single disc. This makes it a very powerful and flexible format.

MLP

Although DVD-Audio offers more bandwidth for uncompressed high-resolution audio, a 5.1 mix with 24-bit/96kHz on all five channels even exceeds the capacity of DVD-A. Therefore, a special "lossless" compression format was included in the DVD-A spec in order to support this higher data rate. MLP = Meridian Lossless Packing (see www.meridian-audio.com). Against popular thinking DVD-Audio does NOT require MLP. In fact, the original concept of DVD-Audio was NOT to use compression and the format doesn't require it. It's up to the user to decide whether 5.1 with 24/96 on all channels make sense or not. The current price for the MLP encoder is \$2,500.00. Creating a DVD-A in WaveLab costs NOTHING but the price of a blank media.

CPPM

CPPM is the complement to the (now hacked) CSS for DVD-Video, the copy protection scheme for DVD-Audio. WaveLab 5 does not use CPPM copy protection and DVD-As created in WaveLab are not copy protected. In turn, WaveLab 5 can import DVD-Audio discs which are not copy protected by CPPM.

Track Groups

A regular Compact Disc has only one Playlist. A DVD-Audio can have up to 9 different playlists (track groups), comprised of tracks from the same pool of tracks on the disc. For example: one track group could be all tracks, whereas another track group could be just the up-tempo tracks and a third track group could be the ballads only. WaveLab 5 supports 9 track groups with up to 99 tracks each.

DVD Text

DVD Audio can contain two types of text: static text (like disc or track titles displayed while the track is playing) and real time text (text which is displayed in realtime with the music at specific places. Think: Karaoke). Depending on the player, text can be displayed on a video screen or directly on the player's display. WaveLab 5 supports both types of DVD Text. However, only latest-generation players support this feature.

SMART Downmixing

One problem of multi-channel audio is the compatibility with stereo playback systems. One solution could be to provide different mixes (stereo and multi-channel) for each track on the disc. This is supported by the DVD Audio specification. However, if a track only exists in multi-channel format, it would not play properly on a stereo system. The SMART down-mixing – which is part of the DVD Audio spec – allows for automatic down-mixing within the player, based on a set of "rules" (channel mapping and levels for internal mixdown) determined in the "down-mix coefficients" setup. WaveLab not only supports down-mixing, it also offers a preview for the down-mix, thus eliminating the need to create a disc in order to hear the results.

Video Capabilities

In addition to video menus and pictures, DVD Audio also allows for true DVD Video content (a Video Clip, or Dolby Digital/DTS versions of the audio tracks). This content can be played both on DVD Audio and DVD Video players. It is stored in a special "Video_TS" zone on the disc. WaveLab 5 does not support any authoring for a video zone, however it does support import and burning of a "Video_TS" folder and its content created elsewhere. Suitable applications to produce and author DVD Video content and output a "Video_TS" folder are Pinnacle STUDIO and LIQUID EDITION.