Information

Audio Source Tracks for DVD: Notes for Producers

Source Materials for DVD Soundtracks

Film and music soundtracks are prepared in a variety of formats, including mono, stereo, matrix-encoded, and discrete multichannel surround. These guidelines briefly describe the preparation and creation of Dolby Digital soundtracks for DVD-Video from the most common formats.

A brief explanation of terms

- **Dolby AC-3** is a proprietary audio coding technique developed by Dolby Laboratories for storing and transmitting single or multiple channels of audio.

- **Dolby Digital** is the digital sound format using Dolby AC-3 for such applications as cinema sound, DVD-Video discs, and digital broadcast. In addition to audio, a Dolby Digital data stream can carry extra information such as instructions for consumer decoders on how to configure the audio to suit different playback systems.

- **5.1** describes the standard discrete surround-sound configuration of three full-range front channels, two-full range surround channels, and a bass-only low-frequency effects channel.

- **Lt and Rt** (for "left total" and "right total") are used to identify the two channels of Dolby Surround and Dolby Stereo matrix-encoded soundtracks.

5.1 masters

5.1-channel masters have individual tracks for left, center, right, left surround, right surround, and low-frequency effects (LFE). They are commonly stored on multitrack tapes or magnetic film. If the program was encoded with Dolby SR, it should be decoded with Dolby SR before encoding as a Dolby Digital bitstream at a bit rate of 448 kbit/s.

Dolby Surround /Dolby Stereo encoded two-channel masters

A matrix-encoded, two-track master (Lt/Rt) is provided for material originally released in Dolby Surround or Dolby Stereo.

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The matrix-encoded, two-track format should be maintained right on through to the release DVD. *No attempt should be made to create a discrete multichannel master* by deriving LCRS components with a Dolby SDU4 or similar surround decoder, as the resulting soundtrack would never meet the expectations of a true 5.1 production. If a 5.1 master is required but has not been provided, the only acceptable practice is to access the original multitrack components and perform a proper 5.1 mix.

Deal with a Dolby Surround or Dolby Stereo program as you would any standard stereo program. If noise reduction such as Dolby SR was used in the preparation of the master, be sure to decode it appropriately. If required, apply compression or equalisation evenly to both left and right channels, preferably using stereo-ganged devices.

The conformed material is then encoded for DVD as a stereo Dolby Digital (2/0) track with a flag indicating the material is surround-encoded. On playback, the consumer decoder sees this flag and activates the Dolby Surround Pro Logic decoding to reproduce the soundtrack in four-channel surround (L, C, R, S) as the director had intended. The audio bit rate for this track should be at least 192 kbit/s.

Stereo two-channel masters

LR two-channel audio is currently the most common music format. As with Dolby Surround masters, no attempt should be made to create artificial LCRS components. The material should be encoded as a stereo Dolby Digital (2/0) bitstream at the highest bit rate possible (192 kbit/s or higher). In this case the surround flag would not be set.

Please refer to the Dolby Digital Professional Encoding Manual for more details.

Identifying Dolby Digital soundtracks on DVD

Because DVDs can carry a variety of soundtracks in different languages and audio formats, it is important to identify audio content clearly on disc packaging. The DOLBY DIGITAL logo should be used along with a simple description of the audio format. For example:

DOLBY DIGITAL
English: 5.1
Spanish: Dolby Surround
German: stereo

Dolby Laboratories has developed icons which can also be used to distinguish formats. For example:

English (5.1)
Spanish (Dolby Surround)
German (stereo)

Important note: Use of the Dolby logo requires a Trademark Agreement between the distributor or program copyright owner and Dolby Laboratories Licensing Corporation. This agreement and appropriate artwork are issued at no cost and are only available directly from Dolby Laboratories.