

Metadata: data about the data

Dolby[®] E metadata contains two parts, professional for the Dolby E signal and consumer for the eventual Dolby Digital encoding.

Most important metadata parameters:

Program Configuration

Metadata for Dolby E (professional) sets the Dolby E coding configuration for best efficiency. 5.1+2 would be a 5.1-channel program and a stereo program. 5.1+2x1 would be a 5.1-channel program and two mono programs.

Channel Mode and LFE Channel Enable

This is usually represented as number of front channels/number of rear channels/LFE. So 3/2/L would be a typical 5.1 program and 2/0 would be typical stereo program. Setting a 5.1 program to the 2/0 mode will result in the loss of dialogue and other center channel information.

For a given program, metadata for Dolby Digital (consumer) contains all of the parameters for that program. If the Dolby E stream contains more than one program, each program will have a separate consumer metadata set.

Dialnorm Value

The dialnorm value determines the output volume of the Dolby Digital decoder. It does not have any effect on the Dolby E signal levels. The dialnorm value also interacts with the dynamic range control and may cause unnecessary pumping of the dialogue if the dialnorm value is not set correctly. The correct setting of the dialnorm level is easily accomplished with the Dolby LM100 Broadcast Loudness Meter.

Surround 3 dB Attenuation

This flag is used when projects are mixed in a facility that normally presents feature films and is properly calibrated to film standards for sound reproduction levels. It is usually left off for projects that are mixed in facilities that are calibrated video style. Video-style facilities use the same sound pressure level (SPL) for each speaker. Film facilities set the surround speaker levels 3 dB lower than the front channel speaker levels. All levels are set individually. The setting of this parameter tells the Dolby Digital encoder how to set the gain for the surround channels before encoding.

Note: The incorrect setting of any of the above parameters may potentially result in less-than-optimal sound when the program is decoded at home by a consumer.

Other important metadata parameters:

Dolby Surround Mode

This setting is only valid in the 2/0 channel configuration. When set to “Dolby Surround,” the consumer decoder will automatically go into the Dolby Pro Logic[®] or Pro Logic II decoding mode.

Surround Phase Shift

This setting applies the 90 degree phase shift to the surround channels, which is necessary for proper decoding when a Dolby Surround Pro Logic or Pro Logic II decoder is used. Failure to turn the surround phase shift on will result in signals that won't properly decode and will usually be louder in one channel. The only circumstance in which you would not want to use the surround phase shift is when you are encoding test tone signals because the phase shift would cause problems with the steady-state tones when summed, leading to false measurements.

Other parameters to consider:

DC Highpass Filter, Lowpass Filter, LFE Filter

These parameters insert the appropriate filters to the inputs of the Dolby Digital encoder and prevent unwanted signals from being encoded. In most instances they are left on for protection.

Dynamic Range Profile

Separate dynamic range profiles are available for the Line and RF modes. Select the desired profile for each mode. You may want to experiment with these modes to find the profiles best suited to your program content.

Bitstream Mode

This parameter identifies the Dolby Digital stream type. It is normally set for Main Complete.

Mix Level

This parameter displays the mixing room calibration level. The proper use is to signify the maximum SPL for a single channel. If a signal at -20 dB Full Scale equals 85 dB SPL, then the mix level would be 105 dB (85 dB plus the 20 dB of headroom). A very small number of high-end consumer decoders can look at this level and adjust the output level to match the SPL at which the program was mixed.

Room Type

This parameter signifies the type of room in which the project was mixed. It currently has no effect on the audio in the decoder.

Extended Bitstream Parameters

These options are used to change the behavior of the downmix when used. Most decoders don't look at this information so the defaults are normally used to ensure compatibility with all decoders.

Dolby Surround EX Mode

This flag indicates that a project was mixed in the Surround EX™ format with a matrix-encoded surround signal embedded within the two surround channels. If set to Dolby Surround EX, this flag will turn on the proper processing in decoders that are capable of Surround EX decoding for the back surround channel.

All Dolby E and Dolby Digital bitstreams contain metadata, even if you don't officially author it. The encoders will use the default or last used values unless you set or change them.