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SMPTE STANDARD

for Motion-Picture Film — Channel Assignments and Levels on Multichannel Audio Media



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1 Introduction

This standard provides specifications for the placing of a 5.1 channel audio program onto multitrack audio media. The multichannel audio system consists of left, center, right, left surround, right surround, and subwoofer (SW) channels. This standard specifies a mapping between the audio signals intended to feed loudspeakers, and a sequence of audio tracks on multitrack audio storage media. This standard also specifies the relative levels of the audio signals. Media prepared according to this standard will play properly on a loudspeaker system calibrated according to the theatrical exhibition standard, SMPTE RP 200.

In theatrical exhibition systems, the SW channel is always reproduced. Domestic consumer multichannel audio employs a low-frequency effects (LFE) channel which can carry the information included on the cinema SW channel. However, in consumer audio systems, the LFE channel is considered optional in reproduction, and is intended to carry extreme high-level and low-frequency effects. When an audio program originally produced as a feature film for theatrical release is transferred to consumer media, the LFE channel is often derived from the dedicated theatrical subwoofer channel. When transferring programs originally produced for the theatrical reproduction over to media intended for domestic consumer reproduction, it may be necessary to remix some of the content of the subwoofer channel into the main full bandwidth channels so as to maintain the artistic integrity of the program content in case the LFE channel is not reproduced.

2 Scope

This standard specifies the audio channel assignment, and the relative levels of the audio channels, for recordings of audio programs containing six audio channels, onto storage media for film sound. Programs which are placed on media according to this standard are intended for reproduction in the cinema where the SW channel is always reproduced. This standard is not intended for application in the area of sound intended for reproduction in the domestic consumer environment.

3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

SMPTE RP 127-1999, Specifications for Type U Audio Level and Multifrequency Test Film for 35-mm Studio Audio Reproducers, Magnetic Full-Coat Type

SMPTE RP 155-2004, Motion Pictures and Television — Reference Level for Digital Audio Systems

SMPTE RP 200-2002, Relative and Absolute Sound Pressure Levels for Motion-Picture Multichannel Sound Systems — Applicable for Analog Photographic Film Audio, Digital Photographic Film Audio and D-Cinema