

EBU Technical Recommendation R59-1998

Dolby* Stereo*, Dolby SR* and Dolby Surround* in a Television Environment

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Film programmes

More and more 35-mm feature films are made in multichannel sound and are available in a version with a matrixed surround sound track using the Dolby Stereo or more recently the Dolby SR system. Broadcasting these sound tracks on television would offer viewers with suitable equipment the benefit of an enhanced experience. However, to provide other viewers with different receiving equipment with the best possible reception in mono, stereo and surround forms, and requires the correct technological procedures before transmission.

To meet this requirement, the EBU recommends that the following practices are adopted when Dolby Stereo or Dolby SR films are processed in the studio:

- Whenever possible, a stereo magnetic master or magnetic soundtrack should be used for sound reproduction. However, the most common source of sound accompaniment on film is the stereo optical soundtrack on a positive copy. It is recommended to clean such a copy before transfer.
- As a principle, avoid reproducing stereo optical sound track from a negative copy. Such a track should always be converted into a positive form.
- A Dolby Stereo optical track should always be reproduced using a stereo optical pickup. If only a mono signal is required, it should be derived as a down mix from the two-channel Dolby Stereo signals.
- Films marked “Dolby Stereo” should be reproduced using an expander of the Dolby A noise reduction system. Films marked “Dolby SR” should be reproduced using a Dolby SR expander. This procedure is necessary because domestic decoders do not provide dynamic signal processing. If both versions are available, it is advisable to always prefer the Dolby SR copy.
- A Dolby A noise reduction expander also gives satisfactory results in processing of sound tracks compressed in Dolby SR system. The reverse, however, is impossible.
- Television reception does not allow as high a dynamic range as the cinema. If any correction of dynamic range is necessary, it should be done after noise reduction expansion and applied simultaneously on both encoded channels.

Future digital television broadcasting systems (DVB)

The procedures mentioned above may be used to transfer film programmes in Dolby Stereo or Dolby SR to DVB systems employing MPEG-1 (two-channel) audio coding.

Special requirements are needed if film programmes in Dolby Stereo or Dolby SR are to be transferring to DVB systems employing MPEG-2 (multichannel) audio coding. These encoding processes are under consideration by the EBU.

Television programmes

The Dolby Surround format was launched to allow the multichannel sound accompaniment from the cinema environment to be used at home. This commercial system has spread widely and today is available in many households. This has inspired a number of television companies to produce television programmes with Dolby Surround sound accompaniment.

To achieve the best possible results when making programmes with Dolby Surround sound, the EBU recommends the following practices:

- During programme mixing, check the resulting sound image by monitoring the signal after it has undergone the encoding/decoding process;
 - During mixing, continuously check the stereo and mono compatibility of the resulting signal;
 - For monitoring, use a Dolby Pro Logic* active decoder or equivalent;
 - Programme material produced in this way should be clearly marked with the “Dolby Surround” logo, especially when it is intended for programme exchange. However, it is necessary for a production company to reach agreement with Dolby Laboratories on the use of their trademark;*
 - To preserve the primary source used before the matrix encoding material as a multitrack recording (8 to 48 tracks) if available. This will allow a discrete 5-channel down-mix to be produced for use with a future multichannel sound broadcasting system.
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* More information can be found on-line from Dolby Laboratories at URL: <http://www.dolby.com>