

EBU Technical Recommendation R90-2000

The subjective evaluation of the quality of sound programme material

<i>EBU Committee</i>	<i>First Issued</i>	<i>Revised</i>	<i>Re-issued</i>
<i>PMC</i>	<i>1998</i>	<i>2000</i>	

Keywords: Subjective assessment, audio, multichannel audio

The amount of sound programme material that is exchanged between EBU Members continues to increase, and an increasing amount of programme material is now supplied to EBU Members by outside production organisations. This makes it more important than ever to be able to monitor and maintain the quality of sound programme material. The only available method of evaluating the technical, acoustic and production quality of sound programme material remains by subjective assessment, which means, in practice, listening to the material in controlled conditions using standardised methods.

In EBU document Tech. 3286 [1], the EBU specifies methods for assessment of the quality of sound programme material designed for monophonic and two-channel stereophonic sound. Supplement 1 to Tech 3286 specifies additional requirements for the assessment of multichannel audio [2].

The methods described in these documents were developed for the assessment of the quality of “classical music” programmes. (This includes symphonic music, orchestral music, choral music, opera, chamber music and solo performances.) The procedures and many of the parameters may also be applied to the assessment of other types of music where the source consists essentially of a live acoustical performance taking place in a real space. However, they do not fully apply to music sources that are mainly electronic in origin or to speech or drama productions.

The documents also cover the special procedures to be used at national and international listening evaluation meetings organised under the auspices of the EBU.

The following auxiliary material is available for use with the assessment method described in Tech 3286:

- EBU CD Tech 3287, a digital recording of test material, illustrating the quality parameters used in the method and intended for training listeners in the method. [3]. (In the future, the EBU expects to develop an additional recording of multichannel audio material.)
- an application of the Microsoft EXCEL spread sheet* to record and analyse the test scores, as described in EBU Tech 3286. (The EBU expects to develop this application to cover assessments of multichannel audio.)

The listening conditions recommended for the method are recommended in EBU Recommendation R22 [4], and are specified in EBU document Tech. 3276 [5] for monophonic and two-channel stereo and in its supplement for multi-channel audio [6].

The EBU recommends that Members who wish:

- to assess the operational, acoustic and technical performance of monophonic and two-channel sound programme material should use the methods described in EBU document Tech 3286.
- to assess the operational, acoustic and technical performance of multi-channel sound programme material should use the methods described in Supplement 1 to EBU document Tech 3286.

For international listening tests carried out under the auspices of the EBU, it is important that the procedure specified in Tech 3286 or its supplement as appropriate, should always be used.

* Available from the EBU Technical Department. Fax: +41 22 747 47 25

Bibliography

- [1] EBU document Tech. 3286 (1997): **Assessment methods for the subjective evaluation of the quality of sound programme material – music**
 - [2] EBU document Tech. 3286, Supplement 1 (2000): **Assessment methods for the subjective evaluation of the quality of sound programme material – multichannel**
 - [3] EBU document Tech. 3287 (1997): **CD: Parameters for the subjective evaluation of the quality of sound programme material – music**
 - [4] EBU Recommendation R22-1997: **Listening conditions for the assessment of sound programme material**
 - [5] EBU document Tech. 3276 (2nd edition - 1997): **Listening conditions for the assessment of sound programme material**
 - [6] EBU document Tech. 3276, Supplement 1 (1997): **Listening conditions for the assessment of sound programme material: multichannel sound**
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