



OPERATING EUROVISION AND EURORADIO

## **TECH 3388**

# **ADM RENDERER FOR USE IN NEXT GENERATION AUDIO BROADCASTING**

**SOURCE: BTF RENDERER GROUP**

**Status: Version 2 (final)**

**Geneva  
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## ADM Renderer for use in next generation audio broadcasting

<i>EBU Committee</i>	<i>First Issued</i>	<i>Revised</i>	<i>Re-issued</i>
TC	2018		Nov. 2019

**Keywords:** ADM, Audio Definition Model, Metadata, Renderer, NGA, Next Generation Audio.

### 1. Development in the EBU

This specification was published by the EBU in March 2018. The EBU ADM Renderer (EAR) - an audio renderer providing a complete interpretation of the Audio Definition Model (ADM) metadata, specified in [BS.2076] was capable of rendering audio signals to all reproduction systems specified in [BS.2051] (“Advanced sound system for programme production”).

The initial release of the renderer provided specifications and implementations for all three NGA technologies (object-based, scene-based and channel-based). Its intended use cases were production and archival of NGA programmes, verification of ADM metadata, subjective evaluations and conversion of metadata from different (vendor-specific) NGA systems to ADM metadata.

### 2. Development in the ITU

The EBU submitted Tech 3388 to Working Party 6B of the ITU in July 2018. It largely formed the basis for the subsequent work that has resulted in Recommendation ITU-R BS.2127 (Audio Definition Model renderer for advanced sound systems) being published in June 2019.

The scope of ITU-R BS.2127 states it to be the reference renderer for use, including for programme exchange, with the advanced sound systems specified in Recommendation ITU-R BS.2051 and the audio-related metadata specified by the Audio Definition Model (ADM) in Recommendation ITU-R BS.2076. It will be updated from time-to-time and associated recommendations and usage guidelines are certain to follow.

To avoid any confusion and duplication of standardisation effort that will arise from there being two separate specifications of the Audio Definition Model Renderer, the EBU has decided that **Recommendation ITU-R BS.2127** should exclusively be used.

At time of writing this is available for free download from the ITU at:

[https://www.itu.int/dms\\_pubrec/itu-r/rec/bs/R-REC-BS.2127-0-201906-!!!PDF-E.pdf](https://www.itu.int/dms_pubrec/itu-r/rec/bs/R-REC-BS.2127-0-201906-!!!PDF-E.pdf)

This specification is accompanied by an open source reference implementation, written in Python for file-based ADM processing, available at:

[https://www.itu.int/dms\\_pub/itu-r/oth/0a/07/R0A0700003E0001ZIPE.zip](https://www.itu.int/dms_pub/itu-r/oth/0a/07/R0A0700003E0001ZIPE.zip)

Guidelines for broadcasters’ use of the renderer may be published by the EBU in future.

The previous version of EBU Tech 3388 is available [HERE](#) for information only.