



ATSC

ADVANCED TELEVISION
SYSTEMS COMMITTEE

ATSC Standard: A/343:2018 Amendment No. 1, Safe Area

Doc. A/343:2018 Amend. No. 1
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Advanced Television Systems Committee
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Revision History

Version	Date
Amendment approved	8 February 2018

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1. OVERVIEW

1.1 Definition

An Amendment is generated to document an enhancement, an addition or a deletion of functionality to previously agreed technical provisions in an existing ATSC document. Amendments shall be published as attachments to the original ATSC document. Distribution by ATSC of existing documents shall include any approved Amendments.

1.2 Scope

This document adds provisions for the handling of “safe area”.

1.3 Rationale for Changes

The current A/343 text is silent about safe area. For proper interoperability, it must be decided which of the encoder or decoder is responsible. SMPTE IMF, EBU and DVB put this responsibility on the encoder. Also, compatibility with ingested IMF content requires adoption of the same model. This proposes similar provisions. Safe area may be a government regulatory issue (as it is in the U.S.).

1.4 Compatibility Considerations

The changes described in this amendment are backwards compatible on a technical level since current encoder practice roughly follows the proposed guidance in most cases. However, the topic has no coverage today and equipment behavior may vary. Failing to conform to these new provisions may impact regulatory compliance.

2. CHANGE INSTRUCTIONS

Change instructions are given below in *italics*. Unless otherwise noted, inserted text, tables, and drawings are shown in **blue**; deletions of existing text are shown in **red-strikeout**. The text “[ref]” indicates that a cross reference to a cited referenced document should be inserted.

Update the following normative references (unrelated to this contribution):

- [3] W3C: “Timed Text Markup Language 2 (TTML2)”, ~~28 June 2018~~ **November 2018 Candidate Recommendation**, W3C, <https://www.w3.org/TR/2018/REC-ttml2-20181108/>. ~~<https://www.w3.org/TR/2018/CR-ttml2-20180628/>~~.
- [4] ATSC: ATSC Standard: “Signaling, Delivery, Synchronization, and Error Protection,” Doc. A331:20**17**~~21~~, Advanced Television Systems Committee, Washington, D.C., ~~6-December 2017~~**19 January 2021**.

All text below is new. It is not colored blue for better readability.

Add normative references:

[ref1] SMPTE: “ST 2046-1:2009 - SMPTE Standard - Specifications for Safe Action and Safe Title Areas for Television,” Society of Motion Picture and Television Engineers, White Plains, NY, <https://doi.org/10.5594/SMPTE.ST2046-1.2009>.

[ref2] SMPTE: “ST 2067-2:2020 - SMPTE Standard – Interoperable Master Format – Core Constraints,” Society of Motion Picture and Television Engineers, White Plains, NY, <https://doi.org/10.5594/SMPTE.ST2067-2.2016>.

Add Section 5.3 as follows:

5.3 Safe Title Area

IMSC1 content shall comply with the safe title area provisions of SMPTE ST 2046-1 [ref1]. SMPTE ST 2046-1 describes the safe title area as the middle 90% of the display (both horizontally and vertically). Thus, IMSC1 content is prohibited from containing content displayed outside of the area with `tt:origin` at (5% 5%) and `tt:extent` of (90% 90%).

Since the default values of `ittp:activeArea` conflict with those defined here, IMSC1 content shall include the IMSC1 metadata attribute, `ittp:activeArea`, on the `tt` element indicating the actual area protected. The active area may be smaller than the values defined in SMPTE ST 2046-1 but shall not exceed them.

Receivers are expected to conform to SMPTE ST 2067-2 Sec. 5.4.7 [ref2]. In order to enable Receivers to conform, IMSC1 content shall not use `ittp:aspectRatio`. Signaling of the authoring aspect ratio is done according to section 7.1 and A/331 [4].

Nothing in this section is intended to preclude conformance to government regulatory provisions related to safe area.

– End of Document –