



**ATSC**

ADVANCED TELEVISION  
SYSTEMS COMMITTEE

**ATSC Standard:  
A/341:2022-03 Amendment No. 1,  
“Chroma Location / AFD and Bar Data”**

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Doc. A/341:2022-03 Amend. No. 1  
7 September 2022

**Advanced Television Systems Committee**  
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### Revision History

Version	Date
Amendment approved	7 September 2022

# ATSC Standard: A/341:2022-03 Amendment No. 1, “Chroma Location / AFD and Bar Data”

## 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 corrects and clarifies two issues identified with A/341. The first clarifies the location of Chroma samples relative to Luma samples in a 4:2:0 video representation. These samples are positioned differently for legacy vs “UHD” video. The second clarifies spec language regarding the use of Active Format Description (AFD) and Bar Data.

### 1.3 Rationale for Changes

The changes described in this document are being proposed to explicitly align the A/341 specification text with industry understanding and implementation.

### 1.4 Compatibility Considerations

The changes described in this document are backward-compatible relative to the currently published version of the standard to which this Amendment pertains and any previously approved Amendments for that standard. While earlier versions of A/341 were not clearly incorrect, some found the specification language imprecise enough to warrant these proposed revisions.

## 2. LIST OF CHANGES

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.

### 2.1 Normative References

[Enter changes to the Normative Reference section, if any.]

### 2.2 Informative References

*Add the following reference.*

[x] ISO/IEC: “Information technology - Coding-independent code points - Part 4: Usage of video signal type code points”, Doc. TR 23091-4:2021.

### 2.3 Acronyms and Abbreviations

[Enter changes to the Acronyms and Abbreviations section, if any.]

## 2.4 Terms

[Enter changes to the Terms section, if any.]

## 2.5 Change Instructions

### 2.5.1 Chroma Location

*Add the following bullet at the end of Section 6.2.1*

- If the `chroma_loc_info_present_flag` is set equal to '1', then both `chroma_sample_loc_type_top_field` and `chroma_sample_loc_type_bottom_field` shall be set equal to '0'. If `chroma_loc_info_present_flag` is set equal to '0', `chroma_sample_loc_type_top_field` and `chroma_sample_loc_type_bottom_field` shall be inferred to be equal to '0'.

*Add the following bullet at the end of Section 6.2.2*

- If the `chroma_loc_info_present_flag` is set equal to '1', then both `chroma_sample_loc_type_top_field` and `chroma_sample_loc_type_bottom_field` shall be set equal to '0'. If `chroma_loc_info_present_flag` is set equal to '0', `chroma_sample_loc_type_top_field` and `chroma_sample_loc_type_bottom_field` shall be inferred to be equal to '0'.

### 2.5.2 AFD and Bar Data

*Revise Section 5, first paragraph as shown:*

## 5. ACTIVE FORMAT DESCRIPTION

When the active image area of the emitted video signal does not fill the entire encoded video frame (e.g., when the video is letterboxed or pillarboxed), Active Format Description (AFD) ~~and or~~ Bar Data information, ~~or both (as appropriate) should be present in the original source video signal in accordance with SMPTE ST 2016-1 [6] and~~ should be present in the emitted video signal. AFD information and Bar Data are used by receivers to optimize the display of images that do not fill the coded frame. Bar Data values, when used, shall reflect the resolution, line and pixel counts of the original source pictures in the emitted video.

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