

Captions & Multi-Audio — Reference Pack

Companion to article 5.10 · Manifest attributes, sample HLS/DASH, and bugs to grep for before launch

1. The six attributes that decide what plays

LANGUAGE	BCP 47 tag (en, fr-CA, pt-BR). Player matches to system locale. Ship a base fallback alongside region variants.
DEFAULT	Exactly one rendition per group is DEFAULT=YES. Roku models fail unpredictably without it.
AUTOSELECT	YES to be eligible for locale-driven selection. A DEFAULT=YES rendition MUST be AUTOSELECT=YES.
FORCED	Subtitles only. Marks a narrative-forced track shown regardless of the captions-on toggle (foreign signs, on-screen text).
CHANNELS	2 / 6 / 8 / 12/JOC. Player filters renditions it cannot render. Always pair a JOC Atmos rendition with a 5.1 or stereo fallback.
CHARACTERISTICS	Comma-separated a11y URIs: public.accessibility.transcribes-spoken-dialog, describes-music-and-sound, describes-video, easy-to-read.

2. Bugs discovered two weeks after launch

- French audio plays on iOS but French subs do not — AUTOSELECT=NO copy-pasted from a forced-subtitle template.
- 5.1 audio picked on a stereo Roku and downmixes badly — CHANNELS attribute missing, so the player cannot skip it.
- iOS settings menu shows 'English' instead of 'English CC' — missing transcribes-spoken-dialog + describes-music-and-sound.
- WebVTT cues drift after first manifest refresh on live — packager forgot to emit X-TIMESTAMP-MAP on per-segment files.
- Spanish dub plays in Mexico but not Argentina — only es-MX and es-AR labelled, no plain 'es' fallback exists.
- WebVTT renders on Chrome, blank on Safari — UTF-8 BOM at file start; strip it at the packager.
- Dolby Atmos plays as silence on a 2018 Roku Express — only 12/JOC declared in the group, no 5.1 or stereo fallback shipped.

3. Sample HLS manifest (3 langs + AD + forced)

HLS Multi-Variant Playlist (excerpt)

```
#EXTM3U
#EXT-X-VERSION:7

#EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="aac-main",NAME="English",
  LANGUAGE="en",DEFAULT=YES,AUTOSELECT=YES,CHANNELS="2",
  URI="audio/en/main.m3u8"
#EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="aac-main",NAME="Français",
  LANGUAGE="fr",DEFAULT=NO,AUTOSELECT=YES,CHANNELS="2",
  URI="audio/fr/main.m3u8"
#EXT-X-MEDIA:TYPE=AUDIO,GROUP-ID="aac-main",NAME="EN (AD)",
  LANGUAGE="en",DEFAULT=NO,AUTOSELECT=NO,CHANNELS="2",
  CHARACTERISTICS="public.accessibility.describes-video",
  URI="audio/en-ad/main.m3u8"

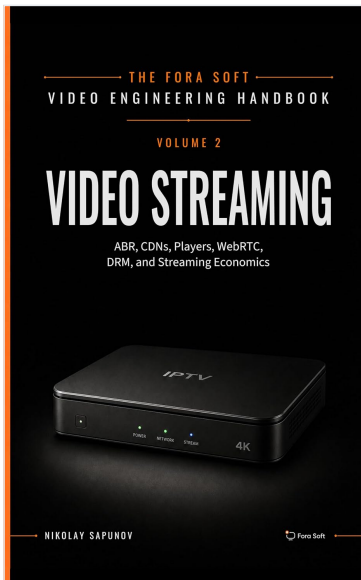
#EXT-X-MEDIA:TYPE=SUBTITLES,GROUP-ID="subs",NAME="English (CC)",
  LANGUAGE="en",DEFAULT=NO,AUTOSELECT=YES,FORCED=NO,
  CHARACTERISTICS="public.accessibility.transcribes-spoken-dialog,
  public.accessibility.describes-music-and-sound",
  URI="subs/en/main.m3u8"
#EXT-X-MEDIA:TYPE=SUBTITLES,GROUP-ID="subs",NAME="FR forcés",
  LANGUAGE="fr",DEFAULT=NO,AUTOSELECT=NO,FORCED=YES,
  URI="subs/fr-forced/main.m3u8"

#EXT-X-STREAM-INF:BANDWIDTH=5000000,RESOLUTION=1920x1080,
  CODECS="avc1.640028,mp4a.40.2",AUDIO="aac-main",
  SUBTITLES="subs",CLOSED-CAPTIONS=NONE
video/1080p/main.m3u8
```

4. Equivalent DASH MPD

DASH MPD (excerpt)

```
<MPD type="static" profiles="urn:mpeg:dash:profile:isoff-on-demand:2011">
  <Period>
    <AdaptationSet contentType="video" mimeType="video/mp4">
      <Representation id="v1" bandwidth="5000000" width="1920" height="1080"/>
    </AdaptationSet>
    <AdaptationSet contentType="audio" lang="en">
      <Role schemeIdUri="urn:mpeg:dash:role:2011" value="main"/>
      <Representation id="a-en" bandwidth="128000" codecs="mp4a.40.2"/>
    </AdaptationSet>
    <AdaptationSet contentType="audio" lang="en">
      <Accessibility schemeIdUri=
        "urn:tva:metadata:cs:AudioPurposeCS:2007" value="1"/>
      <Representation id="a-en-ad" bandwidth="128000"/>
    </AdaptationSet>
    <AdaptationSet contentType="text" lang="en" codecs="wvtt">
      <Role schemeIdUri="urn:mpeg:dash:role:2011" value="caption"/>
    </AdaptationSet>
    <AdaptationSet contentType="text" lang="fr">
      <Role schemeIdUri="urn:mpeg:dash:role:2011" value="forced-subtitle"/>
    </AdaptationSet>
    <AdaptationSet contentType="application" codecs="stpp">
      <!-- IMSC1 text profile, premium markets -->
    </AdaptationSet>
  </Period>
</MPD>
```



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This pack lists the manifest attributes that decide which caption and audio track plays, with sample HLS and DASH and the bugs that ship with them. Volume 3 covers the playback side: players and subtitles, ABR, DRM, trick play and QoE monitoring across devices.

WHAT YOU WILL FIND INSIDE

- Subtitles and caption tracks in players
- ABR with multiple audio renditions
- Player behaviour across devices
- QoE monitoring after launch

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