EBU Tech Doc 3344

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Three parts of Tech Doc 3344

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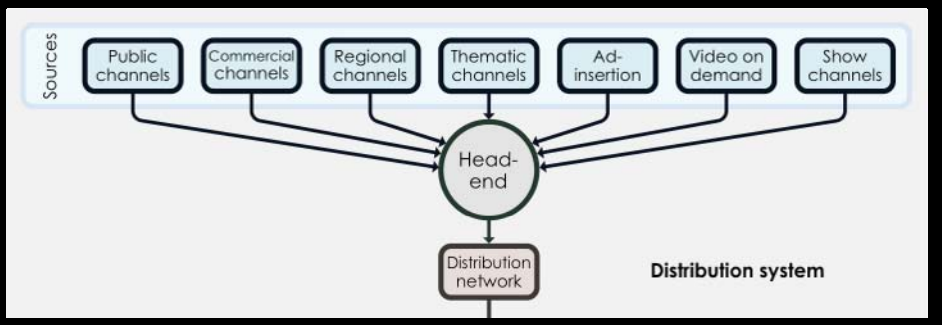
Three parts of Tech Doc 3344

- Distribution systems (service aggregators)



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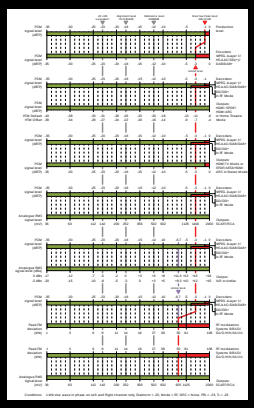
- Distribution systems (service aggregators)
- Alignment in analogue and digital transmission systems



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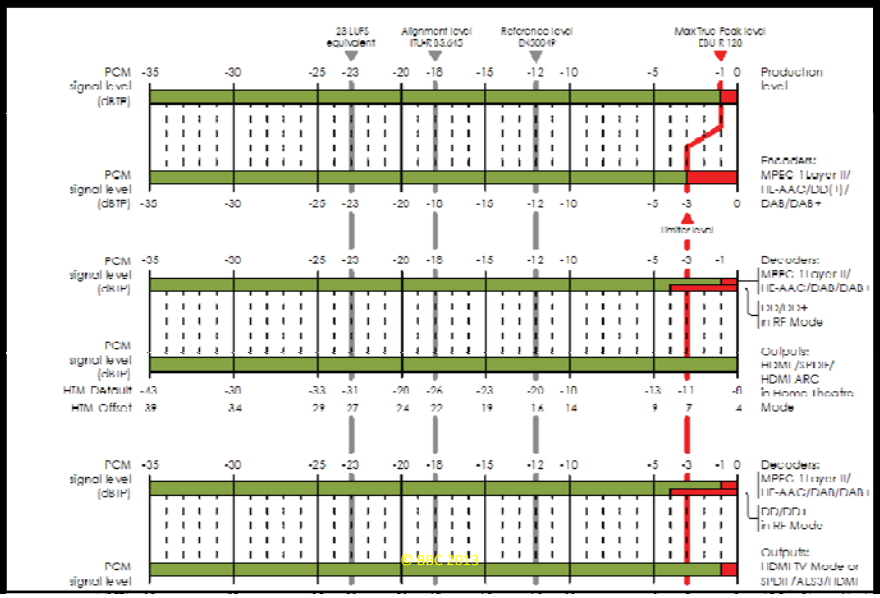

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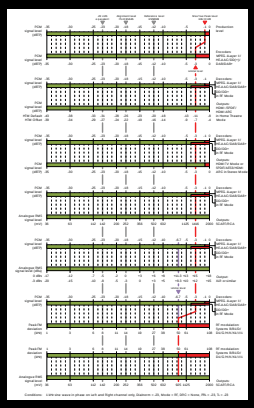

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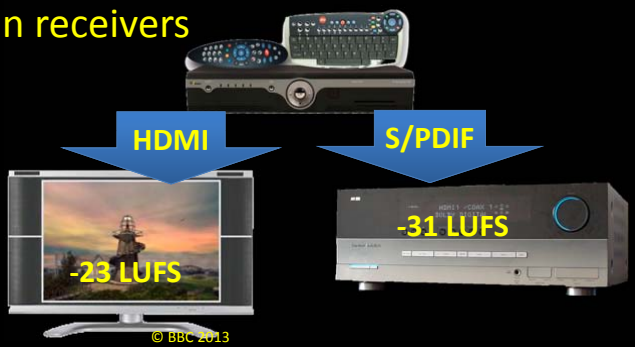
- Distribution systems (service aggregators)
- Alignment in analogue and digital transmission systems
- Alignment in receivers



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Alignment in receivers

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Alignment in receivers

- Three classes of devices

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Alignment in receivers

- Three classes of devices
  1. STB, IRD

     set-top box, integrated receiver decoder

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Alignment in receivers

- Three classes of devices
  1. STB, IRD
     set-top box, integrated receiver decoder
  2. IDTV
     integrated digital TV set

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Alignment in receivers

- Three classes of devices
  1. STB, IRD
     set-top box, integrated receiver decoder
  2. IDTV
     integrated digital TV set
  3. AVR
     Home theatre device, A/V receiver

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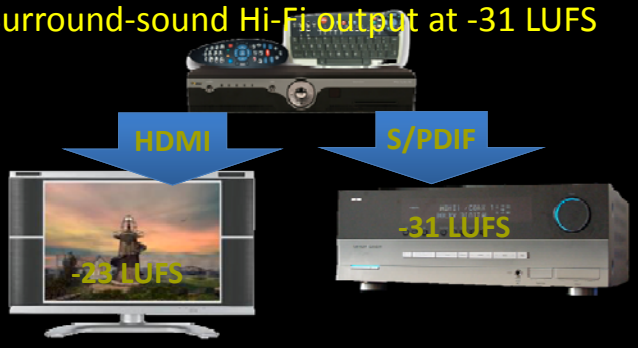
Alignment in receivers

- General principles:
  - Stereo TV output at -23 LUFS
  - Surround-sound Hi-Fi output at -31 LUFS



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Alignment in receivers

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Combinations of decoder

MPEG audio Layer II with either

- Dolby Digital (AC-3), or
- MPEG 4 AAC

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Combinations of decoder

MPEG audio Layer II

- No change → -23 LUFS
- 8dB attenuation → -31 LUFS

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Combinations of decoder

MPEG audio Layer II with Dolby Digital (AC-3)

- "RF mode" and -3dB → -23 LUFS
- "Line mode" → -31 LUFS

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Combinations of decoder

MPEG audio Layer II with MPEG 4 AAC

ISO/IEC 14496-3

"target_level" = -23 → -23 LUFS

"target_level" = -31 → -31 LUFS

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Dynamic range control

Dolby Digital

- use “Line mode” (for -31 LUFS outputs)
- use “RF mode” (for stereo)

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Dynamic range control

Dolby Digital

- use “Line mode” (for -31 LUFS outputs)
- use “RF mode” (for stereo)

AAC

“*Presentation mode*” in ETSI TS 101 154 →

- *dynamic_range_info()* ISO/IEC 14496-3, or
- *compression_value* ETSI TS 101 154

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Analogue signals

EBU Tech 3344 also describes

- SCART and RCA (phono) outputs
- FM for TV
- FM for radio

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Complexity

- For all the information, please study EBU Tech Doc 3344

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Complexity

- For all the information, please study EBU Tech Doc 3344
- Look out for revisions in the near future

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