# Dolby DP580 Professional Reference Decoder

**The Dolby DP580 Professional Reference Decoder is a key element of Dolby's industry leading object-based audio authoring toolkit that assists broadcasters, live audio mixers and engineers in the adoption and deployment of immersive audio for live events.**

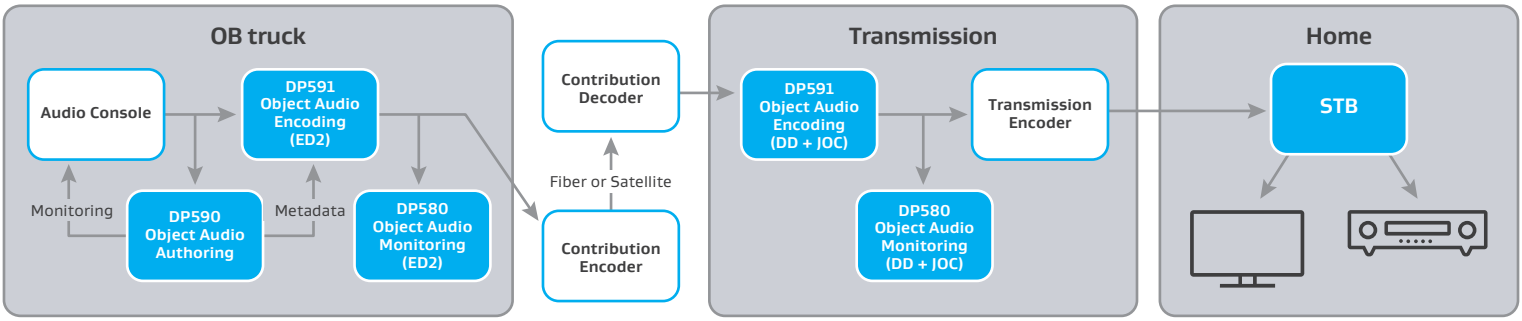
Dolby's object-based audio (OBA) authoring toolkit for broadcast applications consists of the DP590 Broadcast Audio Object Authoring tool (DP590); the DP591 Audio Encoder (DP591) and the DP580 Professional Reference Decoder (DP580). This toolkit provides the ability to do immersive audio authoring, encoding, and monitoring.

As part of this toolkit, the DP580, which supports all Dolby Audio codecs, provides real-time decoding and assists broadcasters and manufacturers in the adoption and deployment of the family of Dolby audio codecs including Dolby Digital Plus™, Dolby Digital Plus with Dolby Atmos, Dolby E, and Dolby ED2. It is designed to help broadcasters monitor streams along multiple points of the broadcast chain. The DP580 provides a detailed analysis of Dolby Atmos immersive audio streams for professionals, making it ideal for broadcast trials and manufacturers' test environments.

Enhanced features of Dolby Digital Plus, such as secondary audio bitstream mixing and 5.1-channel decoding, can easily be monitored using the DP580. All of these features enable consumer and professional device manufacturers to use the DP580 to test the integration of Dolby technologies in their products.

The DP580 is a real time audio decoder that allows broadcasters to monitor the contribution and transmission of Dolby Atmos content at any point in the workflow, as shown in the following diagram. In the outside broadcast truck, the DP580 can ingest PCM and ED2 content over SDI and render the audio and video over its outputs for monitoring purposes and in the head-end, the DP580 will allow monitoring of PCM, DD, DD+ and DD+ Atmos content over its IP, SDI, AES and HDMI input.

## Simplified Live Production Workflow



# Dolby DP580 Professional Reference Decoder

## TECHNICAL BENEFITS

- Allows monitoring, display and logging of all audio-related metadata
- Enables measurement of program loudness, using Dialogue Intelligence™, ITU BS.1770-4, or EBU mode loudness estimation to ensure regulatory compliance
- Provides support for HDMI inputs to provide emulation of Dolby Atmos consumer devices like TVs, A/V receivers and soundbars
- Provides a front-panel interface for basic setup and monitoring including a headphone output for confidence monitoring
- Supports error detection and information logging (pause burst, IEC 61937 data types, and Consumer Electronics Control [CEC] message) to aid in troubleshooting streams
- Supports a consumer emulation mode for Dolby Digital Plus with Dolby Atmos decoders to be used by manufacturers of consumer AVRs and soundbars
- Supports a web-based user interface for easy selection and monitoring of the unique downmixing capabilities, listening modes, and compression modes of Dolby technologies

## BUSINESS BENEFITS

- Delivers proven monitoring capabilities for all Dolby audio technologies, allows for consistent monitoring of both legacy channel based audio as well as new immersive audio capabilities.
- Provides support for OB truck and head-end operations to allow for a single system and process for monitoring across the entire delivery chain
- Supports easy emulation of consumer playback devices for legacy stereo and 5.1 surround sound as well as for immersive audio to ensure a quality consumer experience regardless of how the consumer experiences the content.
- Provides a web services API to enable automated test operations to simplify end-to-end monitoring and QC for live immersive audio

## DP580 SPECIFICATIONS

### Front Panel


### Rear panel

### Input/Output

**Front Panel Multifunction LED Display**

For status indication and setup operations, LEDs display errors and presence of audio and video

**Front Panel Volume Controls**

Master and headphone levels

**SDI Input**

- Two autodetecting BNC female connectors, 75Ω, unbalanced
- Supports SD-SDI (SMPTE 259M-1998), 1.5 GB/s HD-SDI (SMPTE 292M-1998), 3.0 GB/s HD-SDI (SMPTE 424M-2008)

**AES Input**

One BNC female connector, unbalanced, 75Ω, that supports AES: signal levels per AES-3id-1995 (SMPTE 276M)

**HDMI Input**

HDMI 1.4b input with support for uncompressed video, multichannel PCM audio and compressed audio

**SDI Out**

- Two autodetecting BNC female connectors, 75Ω, unbalanced
- Supports SD-SDI (SMPTE 259M-1998), 1.5 GB/s HD-SDI (SMPTE 292M-1998), 3.0 GB/s HD-SDI (SMPTE 424M-2008)

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**AES Outputs**
Four BNC female connectors, unbalanced, 75Ω, signal levels per AES-3id-1995 (SMPTE 276M)

**HDMI Output**
HDMI 1.4b output with support for uncompressed video, multichannel PCM audio and compressed audio

**Headphone Output**
6.35 mm (1/4-inch) standard stereo headphone jack for confidence monitoring

**Media Ethernet Port**
RJ45 connector for 1000Base-T Ethernet; not used

**Control Ethernet Port**
RJ45 connector for 1000Base-T Ethernet; provides status and control through a web-based user interface

## Audio processing

**Input:**

- Dolby E or Dolby ED2 over SDI
- PCM at 48 kHz, Dolby Digital, Dolby Digital Plus, and Dolby Digital Plus with Atmos over IP, SDI, AES and HDMI inputs

**Output:**
PCM at 48 kHz, Dolby Digital Plus, or Dolby Digital Plus with Atmos compressed audio over SDI, HDMI and AES

## Video processing

Support for H.264 and MPEG2 video decoding over IP input

## System management:

SNMP 1.2 support

## Power Specifications

| | |
|---|---|
| • Power supply | Dual, hot-swappable from rear |
| • Input voltage range | 100–240 VAC |
| • Input frequency range | 50–60 Hz, autosensing |
| • Power consumption | 350 W |

## Physical

| | |
|---|---|
| • Dimensions | 1-U rackmount: 44 × 483 × 394 mm (1.75 × 19 × 15.50 inches) |
| • Weight | Net: 6.5 kg (14.5 lb.) |

## Environmental

| | |
|---|---|
| • Cooling | Front to rear airflow<br>Temperature-controlled fans |
| • Operating Temperature | 0°C–40°C (32°F–104°F), |
| • Storage Temperature | 0°C–40°C (32°F–104°F), |
| • Operating Humidity | 20%–80% relative humidity (noncondensing) |

## Regulatory Notices

**North America:**
UL, FCC, and CE compliant

**Europe:**
Complies with the European Union Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHs), as amended by Commission Decisions 2005/618/EC, 2005/717/ EC, 2005/747/EC (RoHs Directive), and WEEE

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