

8K High-Speed DP ⇄ HDMI Bi-directional Converter with Audio Extraction

Model: PANIO CDH01_W

1. Product Overview

The CDH01_W is a high-performance converter integrating dual DisplayPort and HDMI interfaces with independent audio extraction capabilities. Both input and output ports feature intelligent dual-interface auto-recognition, offering flexible configurations for various display environments. The product supports ultra-high resolutions up to 8K@30Hz and 4K@120Hz for DP signals, fully complying with HDCP 2.3 and DisplayPort 1.4 ALT Mode standards. It features advanced built-in EDID management (TV / 2.0CH / 5.1CH modes) easily adjustable via front-panel switches. With support for high dynamic range formats including HDR, HDR10, HDR10+, Dolby Vision, and HLG, along with CEC pass-through and a compact metal chassis, the CDH01_W is the ideal solution for home theaters, professional studios, and multimedia conference rooms.

2. Key Features

- **Dual-Interface Auto-Recognition:** Integrated DisplayPort/HDMI ports with automatic detection for four conversion modes: DP→DP, DP→HDMI, HDMI→DP, and HDMI→HDMI.
- **Ultra-High Resolution & Bandwidth:** Supports DP bandwidth up to 32.4Gbps (8K@30Hz input) and HDMI bandwidth (18Gbps Input / 48Gbps Output), enabling up to 4K@60Hz for HDMI sources.
- **Advanced EDID Management:** Built-in TV, 2.0CH, and 5.1CH EDID modes ensure seamless audio-visual synchronization and compatibility across different devices.
- **Multi-Format Audio Extraction:** Extracts audio from HDMI/DP sources to Optical (S/PDIF) or Analog L/R (3.5mm) outputs. Supports premium formats like LPCM 7.1CH, Dolby TrueHD, and DTS-X.
- **Comprehensive HDR Support:** Compatible with HDR, HDR10, HDR10+, Dolby Vision, and HLG pass-through, restoring authentic colors and dynamic details.
- **Robust & Stable Design:** Professional metal chassis for high-efficiency heat dissipation and protection. Features built-in IEC 61000-4-2 ESD protection with a low power consumption of max 2.4W.
- **Compact & Easy Installation:** Measuring only 90mm × 72mm × 20mm and weighing 166g, it is designed for space-saving and portable installation.

3. Technical Specifications

Item	Specification Details
Compliance Standards	HDMI 2.0b (Input) / HDMI 2.1b (Output), DisplayPort 1.4 ALT

	Mode, HDCP 2.3 / 2.2 / 1.x
Video Bandwidth	HDMI Input: 18Gbps; HDMI Output: 48Gbps; DisplayPort: 32.4Gbps
Video Specifications	DP Input → DP/HDMI Output: Up to 7680x4320p @ 24/25/30Hz (8K@30Hz) or 4K@120Hz HDMI Input → DP/HDMI Output: Up to 4096x2160p @ 24/25/30/50/60Hz
Color Space & Depth	RGB, YCbCr 4:4:4 / 4:2:2; 8/10/12-bit depth
Audio Specifications	DP/HDMI: LPCM 7.1CH, Dolby TrueHD, DTS-X, ATMOS, DTS-HD Master Audio Optical: LPCM 2.0, Dolby Digital 2/5.1CH, DTS 2/5.1CH Analog: LPCM 2.0 (192kHz sampling rate)
HDR Support	HDR, HDR10, HDR10+, Dolby Vision, HLG
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Port Configuration	Input: 1×DP/HDMI IN (Dual-interface integrated) Output: 1×DP/HDMI OUT, 1×Optical (S/PDIF), 1×3.5mm L/R Audio Control: 1×SERVICE (USB-C for Firmware updates)
Physical Specs	Material: Metal Chassis; Dimensions: 90(W)×72(D)×20(H) mm; Weight: 166g
Power Requirements	Input: DC 5V/1A; Max Consumption: 2.4W

4. Important Installation Notes

- **Surge Protection:** This device contains sensitive electronic components. It is highly recommended to use surge protection equipment to prevent damage from voltage spikes or static electricity.
- **Cable Recommendation:** For stable 8K/4K transmission, use certified high-quality

DP/HDMI cables. HDMI cables should support at least 18Gbps bandwidth.

- **No Hot-Swapping:** Turn off all devices before connecting or disconnecting cables to avoid circuit damage caused by static surges.
- **Power Operation:** Only use the original DC 5V/1A power adapter provided. Ensure the environment is well-ventilated and avoid humid or high-temperature areas.
- **EDID Settings:** Select the mode matching your audio equipment: "Bitstream" for 5.1CH, "2CH" for stereo, or "TV" for basic display synchronization.

5. Connection Modes



Conversion Modes:

1. **DP → DP:** Up to 8K@30Hz
2. **DP → HDMI:** Up to 8K@30Hz
3. **HDMI → HDMI:** Up to 4K@60Hz
4. **HDMI → DP:** Up to 4K@60Hz

Note: When using ports for HDMI, ensure the cable is inserted into the HDMI-side of the integrated port as marked on the device.

6. Package Contents

CDH01_W Dual-Interface Converter	1 unit
5V/1A Power Adapter	1 piece
User Manual	