AV Over IP Trailblazer

Data Sheet

N60 4K HDMI Bi-Directional Converter

N60-2.30

Product Description

The Kiloview N60 is a next-generation, professional-grade bi-directional converter (I/O) powered by world-leading FPGA technology and advanced AVC/HEVC/NDI algorithms. It is designed to provide broadcast-quality, ultra-low latency IP video conversion for high-end broadcasting and medical imaging.

4K UHD Bi-directional Conversion

The N60 supports high-performance conversion between HDMI and NDI at resolutions up to 4K UHD (4096x2160@60Hz). Users can flexibly switch between Encoding Mode (HDMI to NDI) and Decoding Mode (NDI to HDMI) based on their specific workflow requirements.

Broadcast-Grade Color Quality

To meet the rigorous demands of professional broadcasting and medical imaging, the N60 supports YCbCr 4:2:2 color space and up to 10-bit color depth in both AVC (H.264) and HEVC (H.265) formats. It remains fully backward compatible with standard 8-bit YCbCr 4:2:0 formats, ensuring high-fidelity color reproduction and image integrity across all applications.

Professional Interfaces & Connectivity

The device features dual Gigabit Ethernet ports, with one port supporting PoE (IEEE 802.3at) for simplified cabling. It is equipped with dedicated 4K HDMI input and output interfaces.

In Encoding Mode: The HDMI output serves as a loop-through for the input signal.

In Decoding Mode: The decoded NDI video is output through the HDMI port.

Advanced Audio and Intercom

The integrated USB port supports USB audio expansion (e.g. USB headsets). This enables point-to-point voice communication between Kiloview devices or integration with the Kiloview Intercom System (KIS) for multi-party group talkback.

Versatile Recording Options

With the USB expansion port, users can record encoded NDI video directly to USB storage (U-disk). Additionally, the N60 supports NAS (Network Attached Storage) recording, providing a flexible, reliable, and convenient solution for high-capacity storage and multi-device file sharing.

Enhanced User Experience

The N60 introduces a built-in color LCD screen and a control scroll wheel on the front panel. Users can easily monitor device status, access configuration parameters, and perform quick actions such as starting/stopping recordings or configuring IP addresses. The LCD also functions as a large, high-visibility Tally display.

Compact and Robust Design

The N60 features a refined, compact aesthetic with an excellent thermal design. Its carefully engineered structure ensures reliability and ease of use across various professional environments.

By combining the advantages of NDI IP interconnectivity with a robust product ecosystem, the Kiloview N60 4K HDMI to NDI Converter provides a high-quality, future-proof solution for ultra-high-definition video workflows in broadcasting, medical imaging, and beyond.

Product Features

1. Decoding & Encoding Performance

- Supports 4K HDMI to NDI and vice versa, with resolutions up to 4K UHD (4096x2160@60Hz).

- Compatible with NDI High-bandwidth (HB), NDI HX2, and NDI HX3.

- Supports SpeedHQ, AVC (H.264), and HEVC (H.265).

- Supports YCbCr 4:2:2 color space and 10-bit color depth for broadcast-quality imagery.

2. Network & Transmission

- Multi-Protocol Support: Compatible with SRT, RTSP, RTMP, HLS, UDP, and RTP.
- Dual Gigabit Ethernet: Features 2×RJ45 ports; includes PoE (IEEE 802.3at) support.
- Ultra-Low Latency: Deeply optimized network transmission for an end-to-end delay of ≤80ms.

3. Interfaces & Expansion

- Supports loop-out monitoring during encoding or direct SDI output during decoding.

- USB port supports PTZ camera control via Visca, Visca over IP, and Pelco protocols (custom PTZ cables available).

- USB audio expansion supports group talkback via the Kiloview Intercom System (KIS).

4. Recording Capabilities

- Dual-Storage Recording: Supports direct NDI video recording to USB storage or NAS (Network Attached Storage).

5. Synchronization & Latency

- Achieves frame-level and audio-video synchronization through precision clocking and intelligent algorithms.
- Kiloview proprietary technology ensures an ultra-low 80ms end-to-end latency.

6. User Interface & Industrial Design

- Equipped with a color LCD screen and scroll wheel for real-time status monitoring and quick configuration.

- Features a large, high-visibility built-in Tally display.

- Compact design with superior thermal management.

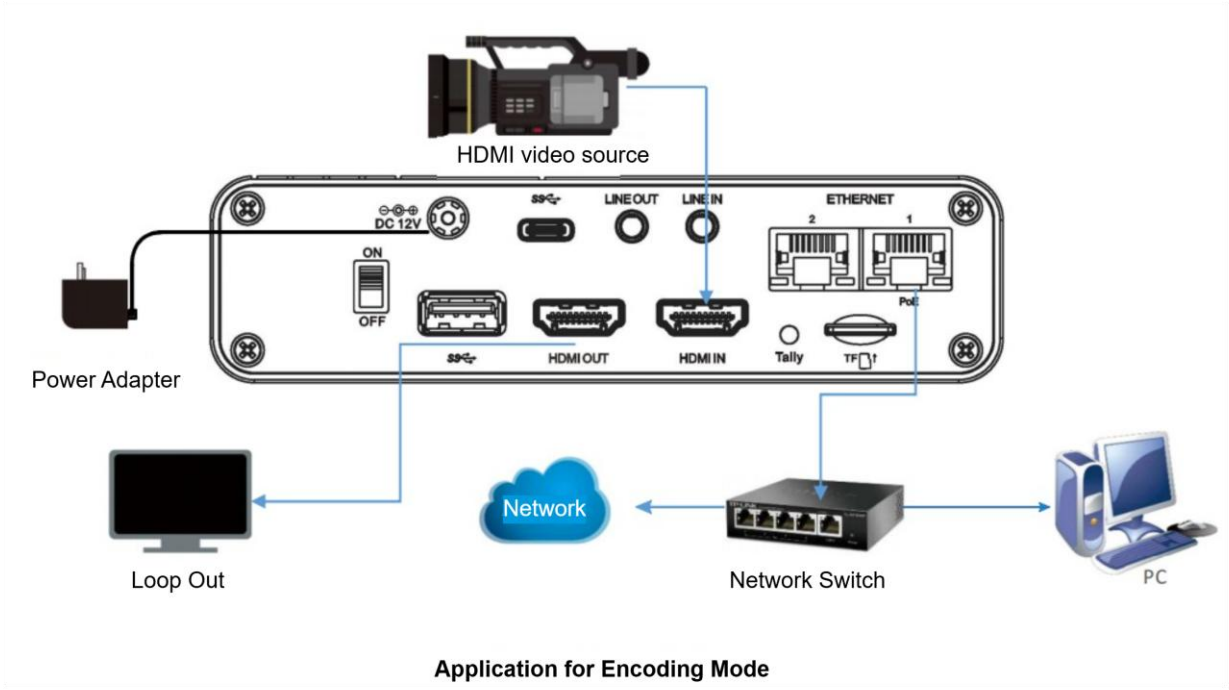
- Includes a standard cold-shoe mount for camera installation.

7. Power & Ecosystem Integration

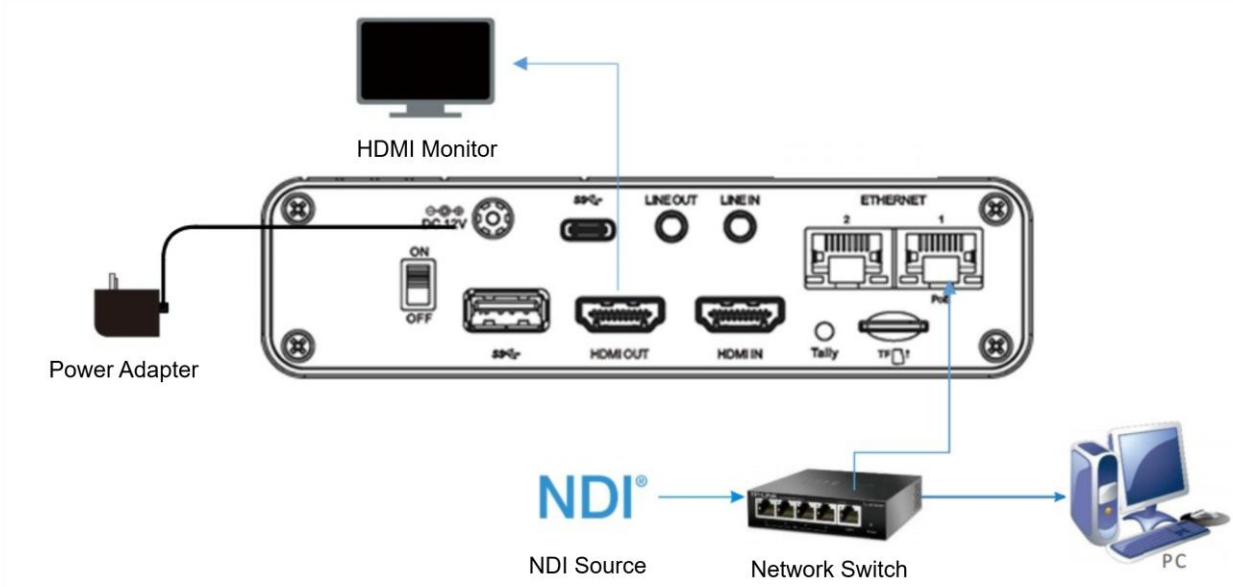
- Supports 12V-18V DC input or PoE power.

- Fully compatible with Kiloview Multiview Server, Recorder System, KiloLink Server, and NDI CORE.

Product Application



Application for Encoding Mode



Application for Decoding Mode

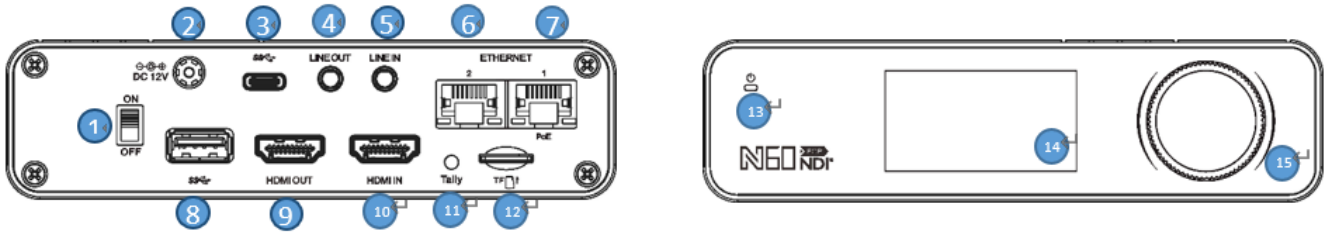
Product Specification

Model	N60
Functions & Performance	
Video Resolution Support	**Input :** ● 4096x2160：50/30/29.97/25/24/23.98fps ● 3840*2160p 60/59.94/50/30/29.97/25/24/23.98fps ● 1920*1080p 60/59.94/50/30/29.97/25/24/23.98fps ● 1920*1080i 60/59.94/50fps ● 1280*720p 60/59.94/50/30/29.97/25fps **Output :** ● 4096x2160：50/30/29.97/25/24/23.98fps ● 3840*2160p 60/59.94/50/30/29.97/25/24/23.98fps ● 1920*1080p 60/59.94/50/30/29.97/25/24/23.98fps ● 1920*1080i 60/59.94/50fps ● 1280*720p 60/59.94/50/30/29.97/25fps
Video Encoding & Decoding	● **SpeedHQ (NDI CODEC)**: SHQ0, SHQ2 ● **ISO MPEG-4 Part 10**: Advanced Video Coding (AVC)/ITU H.264 ■ **AVC (H.264)**: Baseline, Main, High, High10, High 4:2:2 up to 5.2 level ● **ISO MPEG-H Part 2**: High Efficiency Video Coding (HEVC)/ITU H.265 ■ **HEVC (H.265)**: Main, Main Intra, Main10, Main10 Intra, Main 4:2:2 10, Main 4:2:2 10 Intra up to 5.1 High Tier
Audio Encoding & Decoding	NDI Audio, AAC-LC, Opus, G.711 a-law/u-law; others expandable via software
Bit Rates	**SpeedHQ (NDI CODEC):** ● 2160p60: 250Mbps ● 1080p60: 132Mbps ● 1080p30/1080i60: 112Mbps ● 720p60: 105Mbps ● 480i60: 62.5Mbps **NDI HX3(H.264)：** ● 2160p60:110Mbps ● 1080p60:62Mbps **NDI HX3(HEVC)：**

	• 2160p60: 84Mbps • 1080p60:50Mbps **AVC(H.264):** • Adjustable from 1Mbps to 200Mbps • Recommended: 24Mbps+ for 4Kp60, 10Mbps+ for 1080p60 for optimal quality。 **HEVC(H.265):** • Adjustable from 1Mbps to 200Mbps • Recommended: 15Mbps+ for 4Kp60, 6Mbps+ for 1080p60 for optimal quality
Media Protocols	• NDI High Bandwidth/NDI HX2/NDI HX3 • SRT/RTMP/RTSP/HLS/UDP/RTP
Color Space	• YCbCr 4:2:0、4:2:2 • YUV 4:4:4 • RGB 4:4:4
Color Depth	• 8bit • 10bit
HDR	Supported (Firmware V2.03 and above)
Audio Channels	• Encoding：6 ch • Decoding：8 ch
NDI Features	• Built-in NDI 6.2 SDK (Firmware V2.40 and above) • Supports NDI Bridge (V2.03 及以上版本)
Recording	Supports local recording and NAS network recording. Formats: MP4 and MOV
Voice Intercom	Works with Kiloview Intercom System (KIS) for group talk. Requires external USB headset.
PTZ Control	External PTZ control via USB-to-RS232/RS485 or Network protocols (e.g., IP-VISCA)
General Parameters	
Video Input	1x HDMI
Video Output	1x HDMI
Audio Port	1x 3.5mm Line in 1x 3.5mm Line out
Network	2x 1000Mbps Ethernet (100M/1000M adaptive). Ethernet 1 supports PoE (IEEE 802.3AT, 24W Max)

USB	1x USB 3.0 Type-A 1x USB 3.0 Type-C
TF Expansion	1x TF (MicroSD) slot, SDXC (SD 3.0) standard. Max speed: 104MB/s, Max capacity: 2TB
Tally	Front panel LCD used as Tally; Rear panel Tally LED indicator. Supports external Tally light.
Display & Operation	1.91" LCD screen, Kiloview Magic Rotor (scroll wheel)
Mounting	Supports Cold Shoe adapter plate for device mounting
Power Supply	12V-18V DC input or PoE
Power Consumption	<= 16W
Operating Temp	-20°C ~ 45°C / -4°F ~ 113°F
Storage Temp	-20°C ~ 70°C / -4°F ~ 158°F
Management	Web UI; Remote management via Kiloview KiloLink Server
Dimensions	135*105.5*35mm
Weight	480g

Product Structure



1	Power Switch	2	Power Interface (DC Input)
3	Type-C Expansion Port	4	Line Out (Audio Output)
5	Line In (Audio Input)	6	1000M Ethernet Port
7	1000M Ethernet Port - PoE	8	USB Expansion Port
9	HDMI OUT	10	HDMI IN
11	Tally Status Light	12	Micro SD/TF Card Slot
13	Power Indicator	14	LCD Display
15	Scroll Wheel		