Data Sheet

N3-s 3G-SDI NDI Encoder/Decoder

N3-s v3.01

Product Description

NDI® is a globally leading IP-based video connectivity standard. The N3 Full NDI® HD Encoder/Decoder delivers ultra-low end-to-end latency of under 100 ms, supporting bi-directional conversion between 3G-SDI and NDI®—two functions in a single device.

Designed with a compact and lightweight form factor, the N3 is small enough to fit in a pocket while also supporting rack-mounted installation. It can encode 3G-SDI video into an NDI® stream, or decode NDI® streams back to 3G-SDI output, enabling flexible deployment across production workflows.

The device features a large built-in Tally indicator and supports multiple power options, including PoE, DC input, and D-Tap (camera battery) power, along with a standard camera cold shoe mount for on-camera use.

Additionally, a 3.5 mm headset interface is provided, enabling intercom communication (customized development required).

Key Features

1. Dual-Function, NDI® All in One Encoder & Decoder

- Plug-and-play: easily convert 3G-SDI to NDI®, or decode NDI® directly to a display.
- Equipped with both 3G-SDI input and output ports, enabling SDI loop-out monitoring during NDI® streaming, or SDI output in decoding mode.
- Supports up to 10 presets, including 9 decoding destinations and 1 blank preset (customizable background color). USB numeric keypad expansion is supported for fast preset switching.

2. High Image Quality with Low Latency

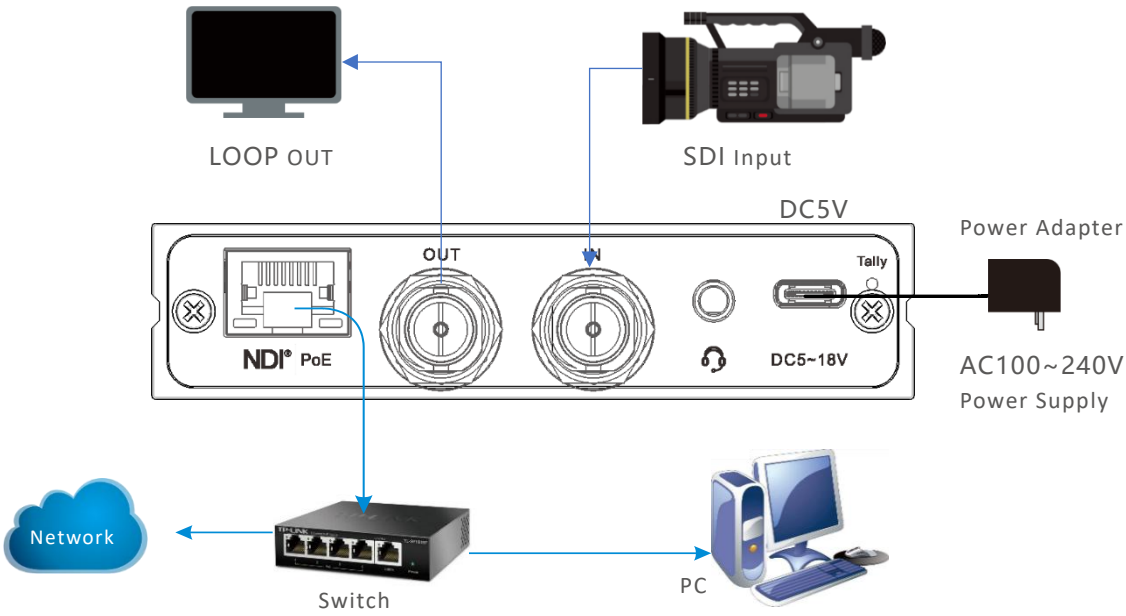
- Supports up to 1080p60 (HD) video for both encoding and decoding, with backward compatibility for SD/HD/VESA and other non-standard resolutions.
- End-to-end latency below 100 ms.
- Full NDI® high-quality encoding ensures excellent image fidelity, while lossless audio encoding delivers high-fidelity sound.
- Precise clock synchronization and intelligent algorithms guarantee frame accuracy and precise audio-video sync.

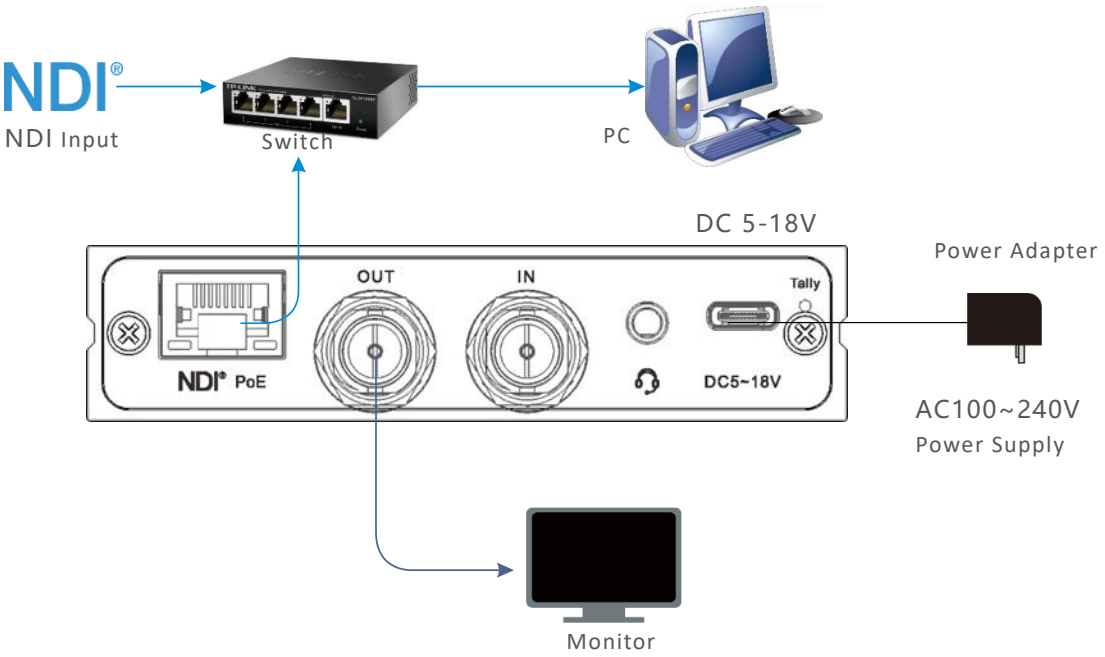
3. Advanced Features for Professional Control

- Built-in large Tally light clearly indicates PGM (Program) and PVW (Preview) status.
- Supports Power over Ethernet (PoE) and 5–18V DC input; can be powered via USB, power banks, or camera batteries.
- Equipped with a 3.5 mm headset interface for intercom communication.
- Includes a standard camera cold shoe mount for on-camera installation; rack-mount installation is also supported.

- Supports optional control cables for PTZ camera control via VISCA, VISCA over IP, and Pelco protocols (custom PTZ protocols available upon request).
- SDK and APIs are available for third-party system integration and secondary development.

Product Use Cases



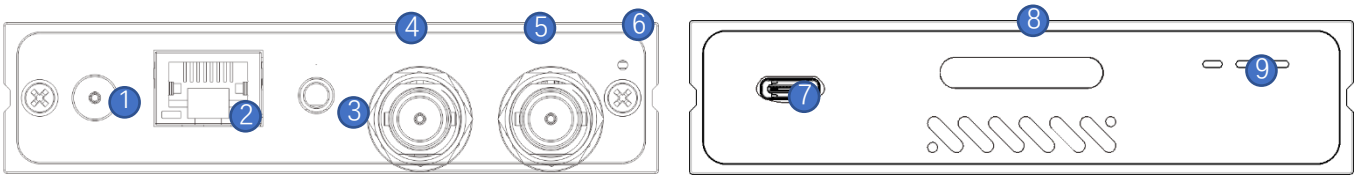

NDI®
NDI Input
Switch
PC
DC 5-18V
Power Adapter
OUT
IN
Tally
NDI® PoE
DC5~18V
AC100~240V
Power Supply
Monitor

Product Specifications

Model	N3-s
Functional & Performance Specifications	
Input & Output	1. Input & Output Capabilities 2048x1080 60fps 2. Supported formats include: (1) 2048×1080p 60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 / 23.98 (2) 1920×1080p 60 / 59.94 / 50 / 30 / 29.97 / 25 / 24 / 23.98 (3) 1920×1080i 60 / 59.94 / 50 (4) 1280×720p 60 / 59.94 / 50 (5) 720x576i 50 (6) 720x480i 59.94
Encode	1. Supports NDI® High Bandwidth encoding output 2. Maximum encoding resolution: 2048×1080 @ 60fps, YCbCr 4:2:2, 8-bit. 3. Output resolution can match the input signal. Typical outputs include: (7) 2048x1080p 60/59.94/50/30/29.97/25/24/23.98 (8) 1920x1080p 60/59.94/50/30/29.97/25/24/23.98 (9) 1920x1080i 60/59.94/50 (10) 1280x720p 60/59.94/50 (11) 720x576i 50 (12) 720x480i 59.94 4. Supports encoding output of up to 16 audio channels.
Decode	1. Supports NDI® High Bandwidth decoding. 2. Maximum decoding resolution: 2048x1080 60fps 4:2:2 8-bit 3. Output resolution can match the input signal. Typical outputs include (13) 2048x1080p 60/59.94/50/30/29.97/25/24/23.98 (14) 1920x1080p 60/59.94/50/30/29.97/25/24/23.98 (15) 1920x1080i 60/59.94/50 (16) 1280x720p 60/59.94/50 (17) 720x576i 50 (18) 720x480i 59.94 3. Supports decoding output of up to 8 audio channels.
Video Codec	**SpeedHQ (NDI CODEC)**: SHQ0, SHQ2
Audio Codec	NDI Audio(PCM); 其它可软件扩展
Typical Encoding Bitrates	**SpeedHQ (NDI CODEC):** ● 1080p60: 125Mbps

	• 1080p30: 112Mbps • 720p60: 105Mbps
NDI Features	Based on NDI 6.2 SDK (v3.01 or later), with continuous upgrades supported.
Intercom	Supports group intercom when used with Kiloview Intercom System (KIS), Requires an external USB headset.
PTZ Control	1. PTZ control via USB-to-serial expansion (RS-232 / RS-485). 2. Network-based PTZ control supported, including Sony VISCA, Pelco-D, and Pelco-P protocols.
Management	1. Web-based UI for configuration and management. 2. Supports centralized remote management via Kiloview KiloLink Server Pro. 3. Supports HTTP APIs for integration.
General Specifications	
Video Input	1x 3G-SDI
Video Output	1x 3G-SDI
Audio Port	1x 3.5mm Line in/Line out
Network	1 × Gigabit Ethernet (10/100/1000 Mbps adaptive) Supports **PoE (IEEE 802.3af)**
USB	1x USB 3.0 Type-C
Tally	1. Large front-panel Tally indicator 2. Rear-panel Tally LED indicator
Power	12–18 V DC input or PoE power supply
Power Consumption	<= 6W
Working Temperature	-20°C ~ 45°C / -4°F ~ 113°F
Storage Temperature	-20°C ~ 70°C / -4°F ~ 158°F
Accessories	1. Power adapter 2. Cold shoe
Dimensions	100mm*80mm*28mm
Weight	240g

Product Overview



1	DC Power Input	2	1GbE Ethernet Port with PoE Support
3	3.5mm line in/line out	4	SDI Input
5	SDI Output	6	Tally Indicator
7	Type-C	8	Tally Indicator
9	Status Indicator	10	Reset Button (Bottom of Device)