



Studio Edge G Technical Datasheet

Function Summary

Studio Edge G is a powerful and stable rackmount Genlock codec that integrates bi-directional 4K FULL NDI encoding/decoding, up/down/cross-conversion, and optical transceivers into a single unit. It is available in three models—2-channel, 4-channel, and 6-channel configurations. Taking the 6-channel Studio Edge G as an example, it is equivalent to six independent NDI 4K codecs, six 12G-SDI/HDMI 4K60 converters, and six optical transceivers—all in one chassis.

Each channel on the Studio Edge G features dedicated power switches and control dials for individual management. The unit also incorporates silent internal fans to provide efficient system-wide cooling, ensuring reliable and continuous operation. With a wide input voltage range of 100V – 240V, the Studio Edge G offers excellent global compatibility.

Studio Edge G supports three models: 2-channel, 4-channel, and 6-channel. Below are the interface information for each channel, SDI video formats, HDMI video formats, audio, encoding, decoding, format conversion, optical transmission, OLED screen specifications, as well as the control method for each channel.

Interface for Each Channel

SDI Video Input:

1*1.5G/3G/6G/12G-SDI

HDMI Video Input:

1*HDMI2.0 Interface

SDI Video Output:

1*1.5G/3G/6G/12G-SDI

HDMI Video Output:

1*HDMI2.0 Interface

Optical Transmission Interface:

12G-SDI / HDMI 2.0 SMPTE SFP Transceiver

Line In Embedding:

1*3.5mm jack

Network Interface:

1*RJ45 gigabit ethernet port

Audio Output:

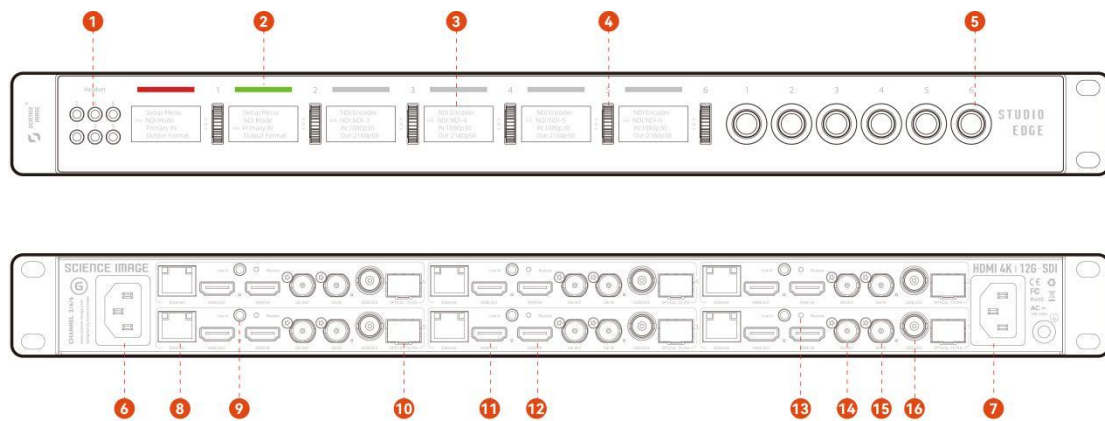
1*3.5mm jack

Genlock Input:

reference input tri-sync

Power Supply:

AC 100~240V



- | | | | | |
|-------------|------------|---------------|-------------|-------------------------|
| 1 Headset | 2 TALLY | 3 OLED Screen | 4 Jog Wheel | 5 Independent DC Switch |
| 6 AC IN 1 | 7 AC IN 2 | 8 Ethernet | 9 Line In | 10 OPTICAL TX/RX |
| 11 HDMI OUT | 12 HDMI IN | 13 Restore | 14 SDI OUT | 15 SDI IN |
| | | | | 16 GENLOCK |

SDI Audio Format

SDI Standards:

SMPTE 292M、SMPTE 296M、SMPTE 372M、SMPTE 424M、SMPTE 425M、SMPTE 2081-1、SMPTE 2081-10、SMPTE 2082-1、SMPTE 2082-10

HD Video Formats:

720p25、720p29.97、720p30、720p50、720p59.94、720p60、1080i50、10880i59.94、1080i60、1080p23.98、1080p24、1080p25、1080p29.97、1080p30、1080p50、1080p59.94、1080p60

2K Video Formats:

2Kp23.98 DCI、2Kp24 DCI、2Kp25DCI、2Kp29.97 DCI、2Kp30 DCI、2Kp50DCI、2Kp59.94 DCI、2Kp60 DCI

UHD Video Formats:

2160p23.98、2160p24、2160p25、2160p29.97、2160p30、2160p50、2160p59.94、2160p60

4K Video Formats:

4Kp23.98 DCI、4Kp24 DCI、4Kp25DCI、4Kp29.97 DCI、4Kp30 DCI、4Kp50 DCI、4Kp59.94 DCI、4Kp60 DCI

SDI Video Sampling:

YUV 4:2:2

SDI Color Space:

REC 709,REC 2020

SDI 3G Type:

Supports Level A input/output and Level B-DL input

HDMI Audio Format

HD Video Formats:

720p25、720p29.97、720p30、720p50、720p59.94、720p60、1080i50、10880i59.94、1080i60、1080p23.98、1080p24、1080p25、1080p29.97、1080p30、1080p50、1080p59.94、1080p60

2K Video Formats:

2Kp23.98 DCI、2Kp24 DCI、2Kp25DCI、2Kp29.97 DCI、2Kp30 DCI、2Kp50DCI、2Kp59.94 DCI、2Kp60 DCI

UHD Video Formats:

2160p23.98、2160p24、2160p25、2160p29.97、2160p30、2160p50、2160p59.94、2160p60

4K Video Formats:

4Kp23.98 DCI、4Kp24 DCI、4Kp25DCI、4Kp29.97 DCI、4Kp30 DCI

HDMI Video Sampling:

RGB 4:4:4

HDMI Color Space:

REC 709

Audio

SDI Audio:

16 channels, TV standard sampling rate of 48kHz, 24-bit sampling depth

HDMI Audio:

2 channels, TV standard sampling rate of 48kHz, 24-bit sampling depth

3.5mm Audio Line In:

2 channels、24-bit、48kHz

Audio Embedding/Mixing:

- Supports embedding analog audio via Line IN interface and outputting to SDI OUT, HDMI OUT, NDI, and Headset.
- Supports audio mixing between SDI/HDMI input and Line IN embedded audio, and outputs to SDI OUT, HDMI OUT, NDI, and Headset.
- Supports 16-channel SDI audio input, with HDMI OUT , NDI and Headset supporting designated audio channel output.

Encoding Specifications:

- Supports encoding of 1 channel of NDI® High Bandwidth.
- Supported resolutions and frame rates for encoding:
3840 × 2160p at 23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60 fps
1920 × 1080p at 23.98 / 24 / 25 / 29.97 / 30 / 50 / 59.94 / 60 fps
1280 × 720p at 25 / 29.97 / 30 / 50 / 59.94 / 60 fps
1920 × 1080i at 50 / 59.94 / 60 fps
- Supports 2-channel AAC audio encoding.
- Typical encoding bitrates: 2160p60: 250 Mbps, 1080p60: 132 Mbps, 1080p30 / 1080i60: 112 Mbps
- Frame rate can either match the input signal or be set to 1/2, 1/3, or 1/4 of the input frame rate.
- Supports custom NDI source name configuration.
- Supports output in the original aspect ratio of the source, or user-defined aspect ratios including 4:3, 16:9, 16:10, and square.
- Adjustable encoding bitrate.
- Compatible with NDI® version 6.2.
- Supports NDI TALLY.

- Supports primary/backup input source selection: Users can set priority between SDI and HDMI inputs. If both SDI and HDMI signals are present simultaneously and the higher-priority source is lost, the device automatically switches to encode the lower-priority (backup) input source to NDI.

Decoding Specifications:

- Supports decoding of 1 channel of NDI® High Bandwidth.
- Supported resolutions and frame rates for encoding:
3840 x 2160p at 23.98/24/25/29.97/30/50/59.94/60 fps
1920 x 1080p at 23.98/24/25/29.97/30/50/59.94/60 fps
1280 x 720p at 50/59.94/60 fps
1920 x 1080i at 50/59.94/60 fps

Format Conversion:

- In encoding mode, supports format conversion between SDI and HDMI.
- In encoding mode, allows adjustment of the output resolution format for NDI, SDI OUT, HDMI OUT, and optical output. The following resolutions are available for selection, with "Auto" indicating that the output resolution matches the input resolution:

2160p60	2160p59.94	2160p50	2160p30	2160p29.97	2160p25	2160p24	2160p23.98
1080p60	1080p59.94	1080p50	1080p30	1080p29.97	1080p25	1080p24	1080p23.98
1080i60	1080i59.94	1080i50	720p60	720p59.94	720p50	Auto	720p30
720p29.97	720p25						

Optical Transmission Features

- Compatible SMPTE Standard: SMPTE 292M、SMPTE296M、SMPTE 372M、SMPTE424M、SMPTE 425M、SMPTE 2081-1、SMPTE2081-10、SMPTE 2082-1、SMPTE 2082-10
- Capable of converting SDI/HDMI input signals to optical transmission.
- This feature is compatible with all Science Image products supporting optical transceivers. (For interoperability with other brands' optical transceiver products, technical consultation is required.)
- LC-LC optical transmission interface
- Transmission distance up to 20KM
- Transmission rate: 12Gb/s

OLED Display

- Real-time display of encoding/ decoding status
- Active NDI source name (encoding/decoding)
- Real-time display of input/ output resolution and format
- SDI/HDMI primary/backup priority indicator
- SDI/HDMI input source detection
- Display controllable menu parameter for jog wheel

Control

Scroll Wheel Control

- Switch between encoding/decoding modes
- Toggle SDI/HDMI primary/backup priority
- Set output resolution & format
- Toggle optical TX/RX mode

WebUI Control

- Switch between encoding/decoding modes
- View device basic information
- Set network parameters: IP configuration, Network transmission mode etc.
- Configure encoding, resolution convention, Optical TX/RX mode, decoding, audio
- System settings: password configuration, firmware upgrade, reboot device, restore default parameters

Software Control via Dyna Hub

- Supports centralized management
- Batch firmware upgrade
- View basic information and parameter configuration

API

- Provides API integration for third-party management systems

Software

Additional Software

- Dyna Hub centralized management software (Trial Version)
- Dyna View Multi-View Monitoring Software (Trial Version)
- Dyna Router NDI Matrix (Trial Version)

Download address: <https://www.science-image.com/support/download>

Other supported applications:

TriCaster / vMix / OBS Studio / Wirecast / Streamstar/LiveStream /Skype / Zoom /XSplitWebex / Watchout / GoToMeeting and other domestic and international live production and streaming software platforms

Power Supply

- Two AC power interfaces (one serving as a backup power supply), each supporting 100V~240V wide voltage input.
- Independent power switch for each channel

Dimensions

- 1U rack mount

- 482mm x 188mm x 44.5mm

Models

- Available in 2-channel, 4-channel, and 6-channel models



Net Weight

Studio Edge 2CH: 4.50 KG

Studio Edge 4CH: 5.00 KG

Studio Edge 6CH: 5.60 KG

Package Contents

- 1* Studio Edge G
- 1* Quick Start

Operating Environment

- Operating temperature: 0 to 40°C
- Storage temperature: -20 to 40°C
- Relative humidity: 5% to 90% (non-condensing)

