

Easy the IP-Based Video Transmission



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**KILOVIEW Electronics CO., LTD.**

+86 731-88315979    en.kiloview.com    sales@kiloview.com

188#, Middle Huanbao Rd, Yuhua District, Changsha, Hunan Province, China

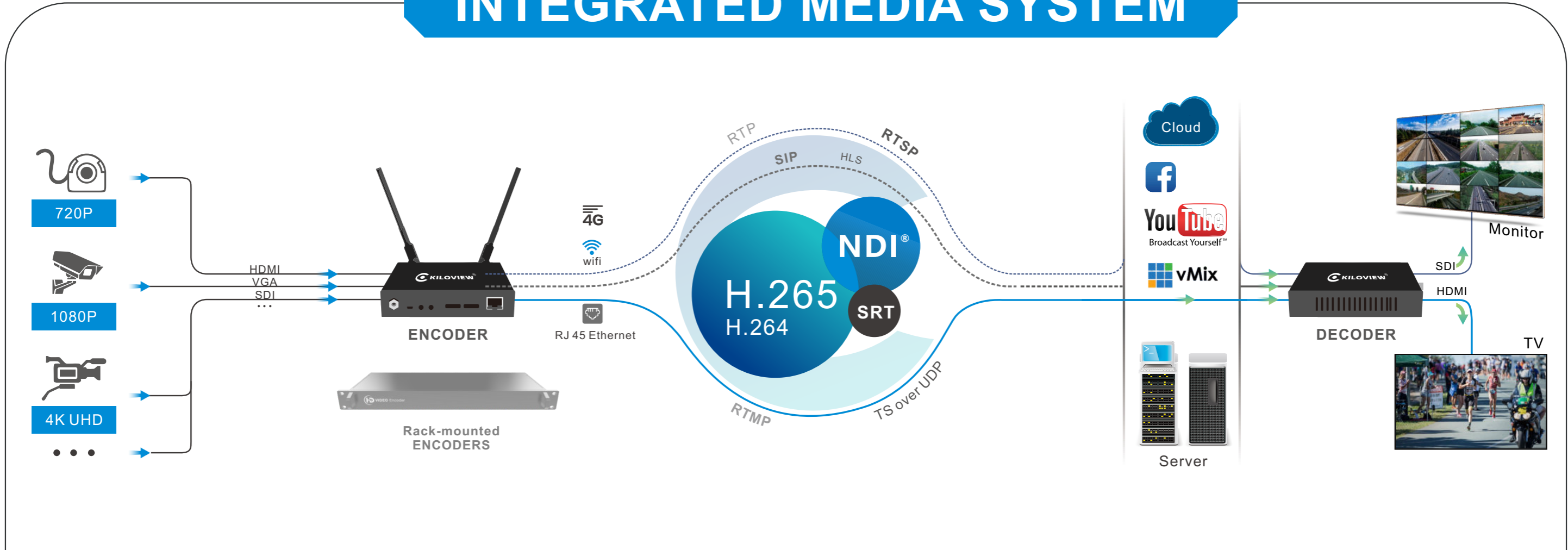
Leading Innovator and Solution Provider of IP-Based Video Transmission



Kiloview

The Most Versatile IP-Based Video Solution Provider in The World.

# INTEGRATED MEDIA SYSTEM



## About Kiloview

Founded in 2010, Kiloview is a professional hardware manufacturer as well as software developer & solution provider in the field of IP-Based video transmission and management, with products across the range of video encoding, decoding, conversion, IP-based video switching and streaming, including SDI/HDMI (HD or 4K UHD) to IP via H.264/H.265/NDI by Ethernet, WiFi or 4G-LTE/5G-LTE, etc..

With the philosophy of providing high quality and reliability video transmitting products, Kiloview continues to innovate in hardware and software, to help thousands of professional customers in Broadcast, Sports, Education, Medical, Security, Enterprise, etc..

Kiloview supports full protocols including NDI, NDI|HX, SRT as well as RTSP, RTMP, HLS, RTP, TS-UDP, ONVIF, SIP, with flexible types of rackmount multi-channels and functions such as PTZ control, recording, streaming services, it makes Kiloview capable to offer the most versatile AV-over-IP solution in the world.

## Advantages

15 Years+

Technical accumulation

6000+

Customers

200,000+

Units sold

100+

Exported countries

## Our Customers



# Support and Customization

**Lifelong technical support, customization available.**

All our products are independently developed and manufactured by Kiloview. We have a dedicated technical support team to answer all kinds of technical questions.

## After-sales Services

| Item                  | Description   |
|-----------------------|---|
| Hotline               | <b>7*24 hours available by telephone or email</b><br>Service Hotline: 0086 731 88315979<br>E-mail: support@kiloview.com; Skype: info@kiloview.com   |
| Warranty              | <b>12 Months from Delivery. Free software upgrade</b><br>Kiloview provides 1 year product warranty for all of our products (non-human damage only). After the warranty period, hardware replacement or maintenance will be charged. |
| Online knowledge base | <b>Please refer to website en.kiloview.com for details</b>  |

## Customization service (OEM, ODM)

With over 10 years' development, Kiloview can quickly respond to customized requirements.

**Services**



Hardware customization



Software customization



Appearance customization



Hardware interface customization



PCB board customization

( Product appearance and specifications are subject to changes without notice )

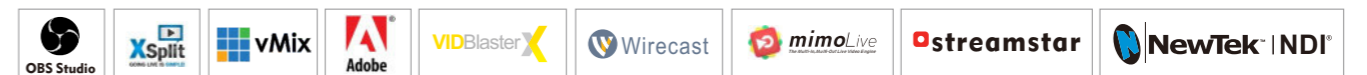
# 2 NDI Series Video Converter

NDI ( Network Device Interface ) is an IP-based video transmission technology developed by NewTek (VizRT).

Under the global trend of UHD video and IP application, NDI technology has become one of the best IP-based technical solutions. NDI technology enables the delivery of video in high quality and ultra-low latency manner, together with its other features of low-cost, mature upstream and downstream product ecological chain, low requirement on network environment. Therefore, NDI technology makes it the best balance between quality and cost.

As the official NDI service supplier and core technical partner of NewTek, Kiloview provides a full range of hardware/software service and technical customization service, including NDI encoding, decoding, switching(matrix/routing), storing, monitoring, etc.

Kiloview has supported NewTek Native NDI encoding and HEVC/H.264 encoding (NDI|HX).



Compatible with most NDI-enabled software and hardware

NDI® is the registered trademark of NewTek, Inc.

# FULL NDI

Encoder and Decoder, All-In-One

UHD, Ultra-Low-Latency  
One cable, all problems solved

12G-SDI 4K HDMI PoE



## Product series

### 4K UHD/FULL NDI Bi-Directional Converters

**N30:** 12G-SDI input/loop or decoding output ▶

**N40:** 4K P60 HDMI in put/loop or decoding output








### 1080P60 HD/FULL NDI Bi-Directional Converters

**N3:** 1080 P60 SDI input/loop or decoding output

**N4:** 1080 P60 HDMI input/loop or decoding output

## Functions in Common



-  **NDI®** FULL NDI, ultra-low end-to-end latency
-  Tally at both sides
-  USB expansion PTZ control/digital switching keyboard
-  Power over Ethernet(PoE)/ Gigabit network
-  5-18V wide range power supply
-  NDI self-discovery/ Multiple sources smooth and seamless switching
-  Camera mount solution/ rackmount solution

N3/N4/N40 Dimension: 100\*80\*24mm  
N30 Dimension: 110\*95\*23mm



N40 HDMI

N3 3G-SDI

N30 12G-SDI

Rackmount solution: Free combination for our Full NDI products

# FULL NDI

## Encoding

4KP60 input

Encoding quality adjustable (bitrates vary accordingly)

PTZ control function

NDI unicast/ multicast transport supported

## Decoding

Adding source by auto scanning or manually

10 output presets, including 9 decoding sources and 1 blank preset box (customization background color available)

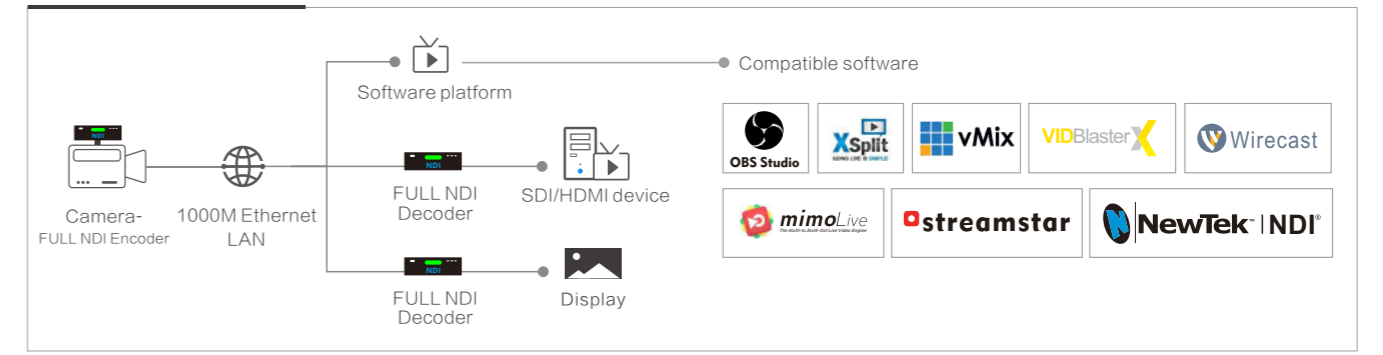
10 outputs switch smoothly (Set smooth switch time to ensure switch effect)

Support keypad for switching output by USB

Notes: FULL NDI bandwidth description

|                 |         |         |         |        |
|-----------------|---------|---------|---------|--------|
| Resolutions     | 4KP60   | 4KP30   | 1080P60 | 720P60 |
| Default bitrate | 250Mbps | 200Mbps | 125Mbps | 90Mbps |

## Applications



# NDI Customizable Series

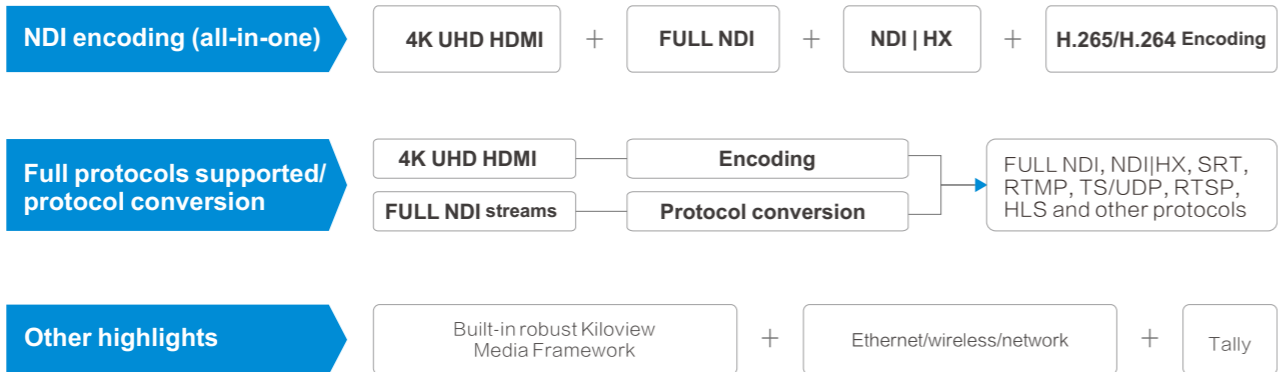
## NDI Full-Featured Encoder/NDI Gateway

### S2 Pro(Customized version)

S2 Pro supports both 4K UHD FULL NDI and NDI | HX. Besides, it converts FULL NDI into protocols that adapt to Wireless/Internet transmission such as NDI|HX, SRT, RTMP, TS, etc. Kiloview supports customization based on your requirements.



Special Functions



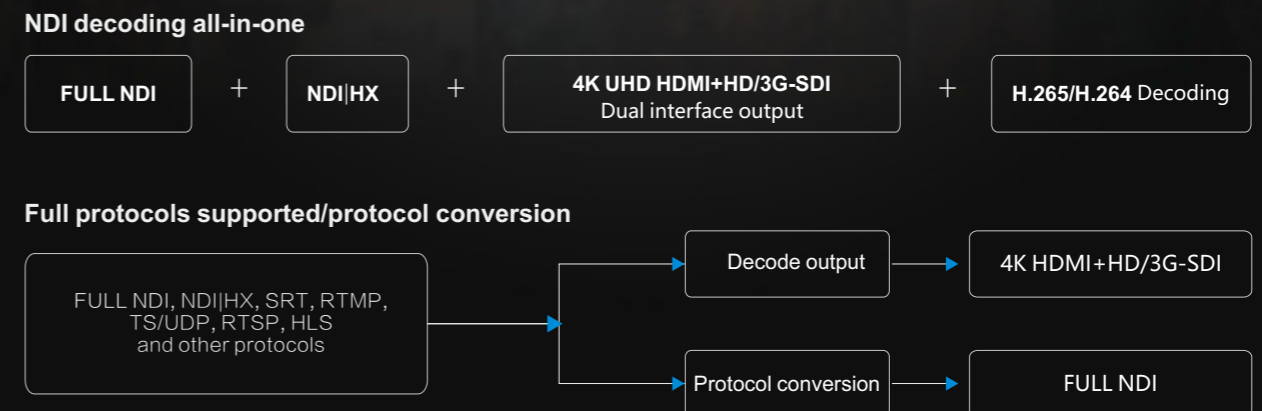
Please see PAGE 3 for the detailed information.

## NDI Full-Multi function Decoder

### D600 (Customized version)



Special Functions



# N1/N2 NDI|HX Encoder

Low bandwidth/ Wireless Transmission/  
Built-in Battery/Compact and Portable

End-to-end latency only 100+ms

Support NDI|HX, SRT/RTMP/RTSP/  
TS over UDP/HLS and other protocols

Say goodbye to  
complex connection

## Model

- N1** 1080 P60 SDI input
- N2** 1080 P60 HDMI input



Mobile shooting

Remote production

Live streaming

### Multi-channel HD video transmitting simultaneously

- Multi-NDI|HX other protocols connection
- Stream to 16 targets simultaneously



## Functions Highlights

- NDI|HX supported  
NDI updating to the latest NDI SDK Version
- Ethernet USB expansion for Tally/PTZ control
- Dual-stream output  
Multi NDI|HX and SRT/RTMP transmitting simultaneously
- Custom image/text overlay
- Video recording & storage
- 64Kbps ~ 40Mbps  
64Kbps ~ 40Mbps adjustable bitrate



USB expansion and antenna interface

115\*75\*35mm

## Functions Highlights

|                   |   |                                |                     |
|-------------------|---|--------------------------------|---------------------|
|                   |   |                                |                     |
| Wifi transmission | Built-in battery<br>(normal application 5-7H) | Threaded screw<br>camera mount | USB expansion Tally |

Compatible with vMix/OBS/TriCaster/Microsoft/Adobe/Sony/Skype/Panasonic, etc.

Available models: E1-NDI (3G-SDI), E2-NDI (1080P60 HDMI).





# NDI|HX Decoder

HD/3G-SDI+4K HDMI  
Dual Output Interface



## Features/Advantages

- HDMI and SDI dual output , supporting HDMI (up to 3840x2160@60Hz) and SDI(up to 1920x1080@60Hz) output in the same or different contents.
- HEVC(H.265)/AVC(H.264) decoding.
- Up to 9 self-defined image output, supporting background, LOGO and text overlay.
- Multi-channel audio mixed output.
- Adjustable output resolution.
- Self-defined output resolution with 3.5mm analog audio or embedded SDI/HDMI audio.
- Full protocols supported such as NDI|HX, SRT/RTMP/TS over UDP/RTP/RTSP and etc.

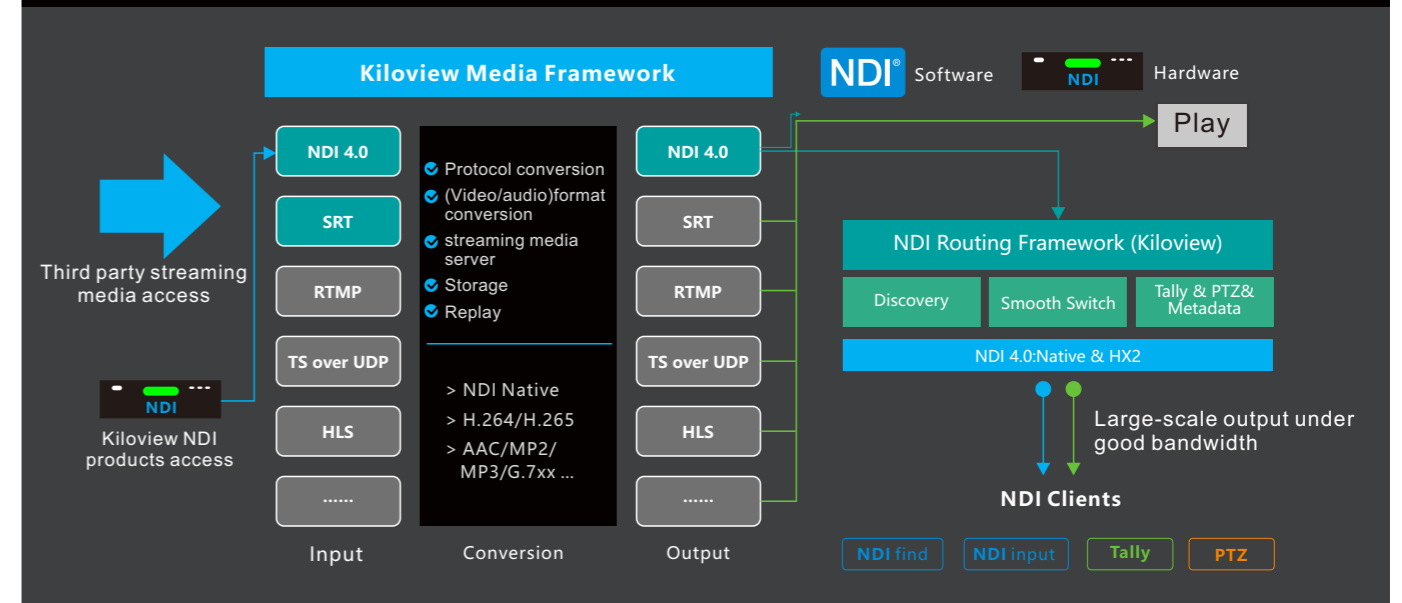


Up to 9 channel HD decoding, multiview and dynamic switching supported

# NDI Cluster Matrix Software System

KILOVIEW NDI Cluster matrix system is a large cluster-type NDI signal managing and switching system independently developed by Kiloview. NDI cluster is an elastic and clustered system, managing signal sources from dozens to thousands and building smooth and seamless switching channels for those signal sources. It is similar to traditional digital video matrix, but beyond that, NDI Cluster also provides a high IT management capacity with fully level-to-level managing, devices centralized controlling, media streaming service and protocol conversion for your IP videos.

## NDI Cluster(Matrix) Basic architecture and fundamentals



- ✓ **Device centralized management**  
Auto discovery of NDI devices in network, auto-adding management list.
- ✓ **Elastic expansion**  
100+ server cluster building, network load auto-balancing.
- ✓ **Disaster recovery and redundant backup**  
Dual redundant hot backup supported, recovery time <1S.
- ✓ **Smooth and seamless switching**  
No frame synchronization device required, switching without blank screen/stagnation/blurred.
- ✓ **Friendly human-computer interaction**  
Web operations, traditional matrix operation simulation, hierarchical authority management, custom signal grouping.
- ✓ **Compatibility**  
Full NDI and NDI|HX, 8K/4K/portrait signal supported, Tally/PTX/Metadata reverse direction pass-through.



Dashboard management

NDI signal cross-point switching mode

IO dashboard switching mode

### Parameter Comparison for NDI Products

| Model No.             | N30                       | N40                       | N3                        | N4                        | N1                         | N2                         | D300                      |
|-----------------------|---------------------------|---------------------------|---------------------------|---------------------------|----------------------------|----------------------------|---------------------------|
| NDI protocol          | FULL NDI                  | FULL NDI                  | FULL NDI                  | FULL NDI                  | NDI   HX                   | NDI   HX                   | NDI   HX                  |
| Encoding and decoding | YES                       | YES                       | YES                       | YES                       | Encoding Only              | Encoding Only              | Decoding Only             |
| Input                 | 12G-SDI                   | 4KP60 HDMI                | 3G-SDI                    | 1080P60 HDMI              | 3G-SDI                     | 1080P60 HDMI               | 1000MRJ45                 |
| Loop/decoding output  | 12G-SDI                   | 4KP60 HDMI                | 3G-SDI                    | 1080P60 HDMI              | /                          | /                          | 3G-SDI+4KP60HDMI          |
| Network               | 1000M RJ45                | 1000M RJ45                | 1000M RJ45                | 1000M RJ45                | WIFI/4G/USB expansion RJ45 | WIFI/4G/USB expansion RJ45 | 1000M RJ45                |
| PoE power             | Support                   | Support                   | Support                   | Support                   | /                          | /                          | /                         |
| Tally                 | Built-in                  | Built-in                  | Built-in                  | Built-in                  | USB expansion              | USB expansion              | /                         |
| PTZ control           | USB expansion             | USB expansion             | USB expansion             | USB expansion             | USB expansion              | USB expansion              | USB expansion             |
| DHCP                  | Support                   | Support                   | Support                   | Support                   | Support                    | Support                    | Support                   |
| Recording             | /                         | /                         | /                         | /                         | Support                    | Support                    | /                         |
| Management            | WEB/IMS remote management | WEB/IMS remote management | WEB/IMS remote management | WEB/IMS remote management | WEB/IMS remote management  | WEB/IMS remote management  | WEB/IMS remote management |
| Dimension (mm)        | 110*95*23                 | 100*80*24                 | 100*80*24                 | 100*80*24                 | 115*75*35                  | 115*75*35                  | 140*105*28                |
| Power consumption     | 6w                        | 6w                        | 6w                        | 6w                        | 6w                         | 6.5w                       | 6w                        |
| Operating temperature | -20°C~40°C                | -20°C~45°C                | -20°C~45°C                | -20°C~45°C                | -20°C~45°C                 | -20°C~45°C                 | -20°C~60°C                |

# 3

## H.265/264 Video Encoder Series



### Broadcast Level, Full Protocol Support.

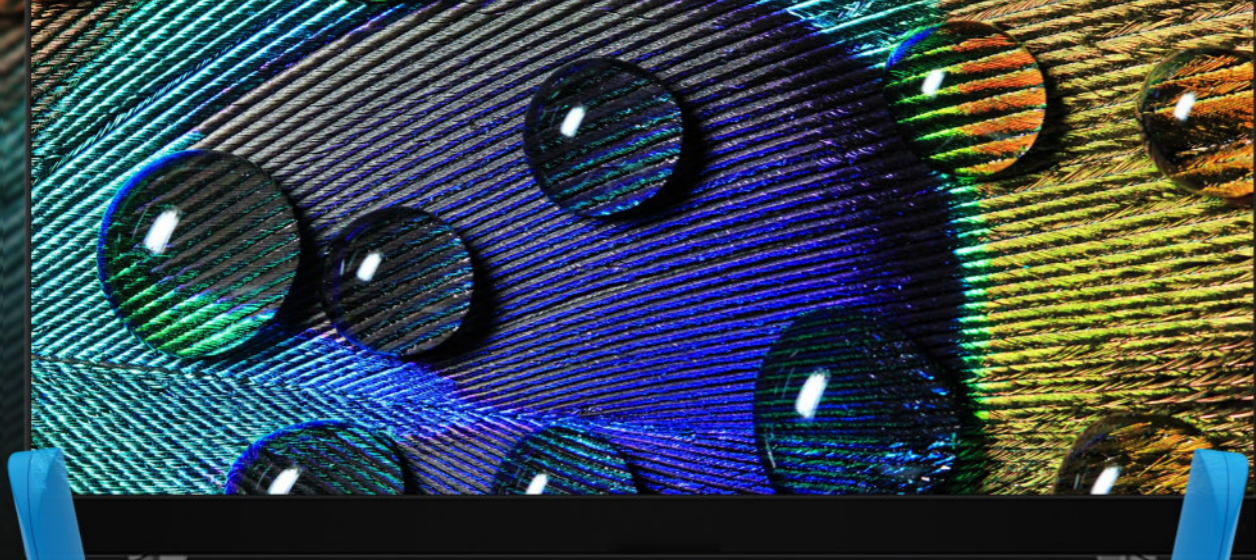
Kiloview optimizes the H.265/H.264 algorithm during video encoding together with self-developed streaming protocol, making its encoding quality at a broadcast level.

There are various optional models including 4K UHD/HD, Wireless/Wired 4G-LTE/5G-LTE, rackmount models, etc.

Built-in Kiloview Media Framework, our products support full main protocols and other special protocols such as SRT, NDI|HX, SIP.

## SRT

SRT (Secure Reliable Transport) is a transport protocol for enabling the delivery of high-quality, low-latency video across the public Internet. Kiloview is a member of the SRT Alliance. Full range of H.265/H.264 encoders and decoders can support SRT protocol to help your transmission more stable with low latency over internet (Internet transmission latency is able to be controlled under 200ms).



# S series H.265 4K Wireless Video Encoders



Dimensions: 135\*100\*22mm

### 4K UHD

4K UHD up to 3840x2160 p60Hz

### Ultra-low Bandwidth

H.265 bandwidth lowered 40%+ comparing with H.264

### 2.4/5G WiFi

4K video via WiFi transmission

### NDI®

FULL NDI and NDI|HX customization

### PoE

Power over Ethernet (PoE)

## Model No.

**S1**: 3G-SDI or 4K P30 HDMI input, 3G-SDI loop, H.265 encoding

**S2**: 4K P30 HDMI input/loop, H.265 encoding








**S2 Pro**: 4K P60 HDMI input/loop, H.265 encoding



Threaded screw camera mount



## Advantages

-  **HEVC** HEVC encoding and lower bandwidth occupation  
Compatible with H.264 encoding
-  **WiFi** Wireless/wired network transmission
-  **Tally** Built-in Tally used for PVW/PGM
-  **Protocols** Common protocols such as SRT/RTP/RTSP/RTMP/TS-UDP/HLS and customization for NDI, SIP, etc.
-  **PoE** Powered over Ethernet (PoE)
-  **USB** USB expansion storage and PTZ control
-  **Functions** More functions including text and image overlay, NAS storage

### S2 Pro Custom

Customize for FULL NDI encoding/decoding, NDI |HX encoding, and convert FULL NDI stream to H.265/H.264/NDI |HX stream.

# P series 4G Bonding Encoder

(5G version is coming soon)

P1 1080 P60 SDI input, H.265 encoding

P2 1080 P60 HDMI input, H.265 encoding

Up to 4 channels of 4G network bonding to ensure reliability and good bandwidth for outdoor live streaming.

Portable and compact, threaded screw camera mount



4 CH 4G-LTE bonding to ensure stable connection



H.265 encoding, lower bitrate, bandwidth saving



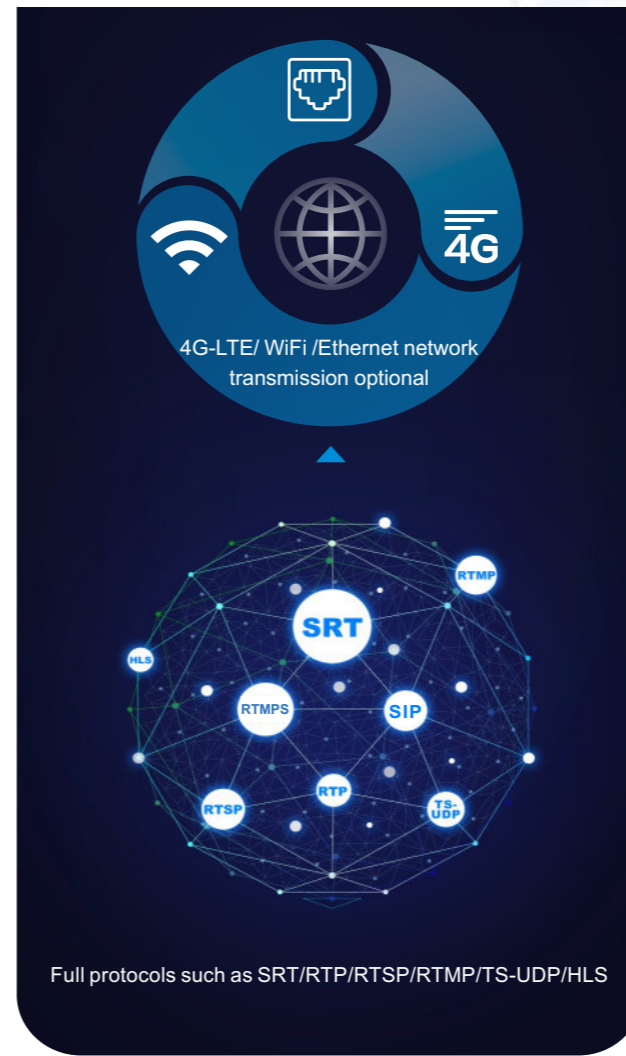
Built-in battery powered



Server software (Self-Deploy)

Kiloview P series 4G bonding encoders are compatible with Omnistream cloud-based bonding solutions, please visit [www.omnistream.live](http://www.omnistream.live) for more details.

## Advantages



115\*75\*35mm



- 4G<sup>x4</sup>** Built-in two or three 4G modems (customize for modems), USB expansion to 4-CH 4G modems
- |||** Self-developed bonding algorithm UDP+FEC with high-efficient transmission and error correction capability to ensure more reliable bonding bandwidth
- WiFi** Shared WiFi hotspot
- Dual-stream** Dual-stream output. Main and sub stream configured with different video formats, up to 16 streams output available
- 1080P** Up to 1080P60 input. Output resolution adjustable
- Image** Support pre-processing such as image cropping and rotation before encoding
- Text/Image** User-defined text and image overlay
- 64k-40M** Adjustable bitrate: 64kbps ~ 40Mbps
- SD/TF** Micro SD/TF card slot, USB expansion storage and NAS network storage

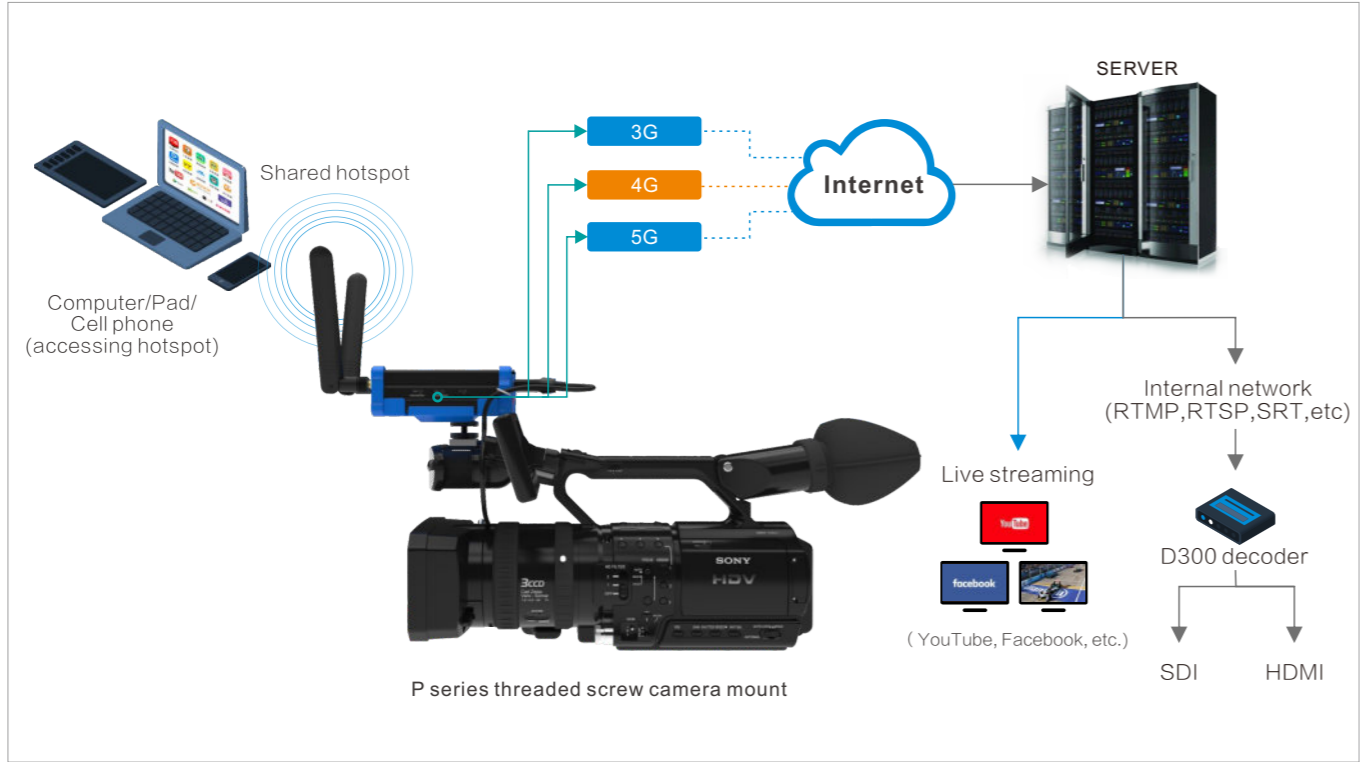
# About 4G Bonding Functions

## About 4G Bonding

4G wireless network is easily influenced by signal coverage, radio interference, user numbers and operator restrictions. Therefore, its transmission bandwidth is unreliable. By using multi (different operators) 4G links, we will crop and spread video data from different links for transmission, assisted with intelligent dynamic selection mechanism, redundant and error correction mechanism, it is able to improve transmission bandwidth, and avoiding (partial) signal coverage blind areas to ensure reliable transmission.

4G bonding transmission is required to work with server software to combine and spread data, and then provide video data transmission of the next link. The server is available to our clients.

## 4G Bonding Streaming Diagram



# About Updating From 4G to 5G

1. Due to the difference of 5G modem hardware, this hardware version can't update to 5G directly. If using 5G function, it's required to purchase 5G video encoders.
2. We accept customization of 5G private network.



# G/E/M series

G Series Wireless | E Series Wired | M2 Dual Interfaces

## HD Video Encoder



125\*89\*28mm

182\*122\*36mm

### • G series

WiFi/USB expansion 4G/Ethernet

G1: SDI input/loop  
G2: HDMI input/loop  
Up to 1080p 60Hz

### • E series

Ethernet transmission






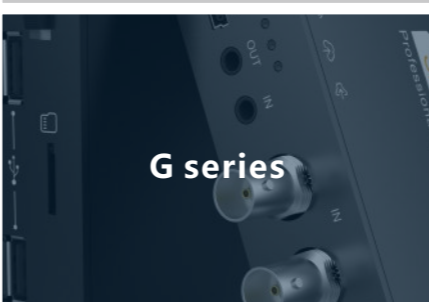


E1: SDI input/loop  
E2: HDMI input/loop  
Up to 1080p 60Hz

### • M2

HDMI+VGA Dual Input Ethernet

2 in1 (Note: No loop port)  
Up to 1080p 60Hz

## Functions in Common

|   |   |  |
|---|---|--|
| <p><b>H.264</b></p> <p>H.264 Encoding<br/>Support common protocols such as SRT/RTP/RTSP/RTMP/TS-UDP/HLS</p>                           | <p><b>NDI®</b></p> <p>Support customization for NDI/HX, SIP, etc.</p>   | <p></p> <p>Dual-stream output.<br/>Main and sub stream configured with different parameters and can both stream to 8 platforms simultaneously</p> |
| <p></p> <p>User-defined text and image overlay</p> | <p></p> <p>Pre-processing such as image cropping and rotation before encoding</p>  | <p><b>64k~40M</b></p> <p>Adjustable bitrates: 64Kbps ~ 40Mbps</p>  |
| <p><b>1080P</b></p> <p>Resolution up to 1080P60 and output resolution adjustable</p>  | <p></p> <p>With Micro SD/TF card slot, USB expansion storage and NAS network storage<br/>(Note: M2 without card slot, but can support USB expansion storage)</p> | <p></p> <p>Audio embedded encoding and intercom function customizable</p>   |
| <p><b>G series</b></p>                           | <p><b>E series</b></p>   | <p><b>M series</b></p>    |



# U Series Rackmount Video Encoder

## Single/Dual/Quad SDI or HDMI Video Encoding



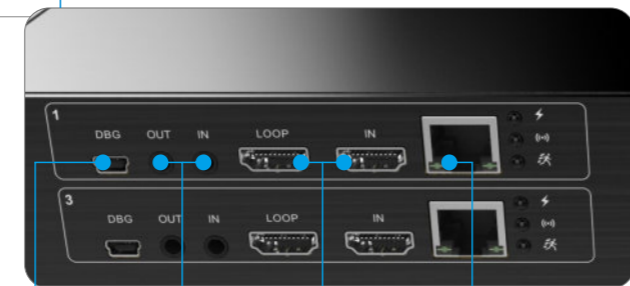
**Support customized 3U rackmount products:**  
8-channel and 16-channel encoding modules, and mixed SDI/HDMI modules



U1-1/2/4: Single/Dual/Quad SDI Video Encoding



U2-1/2/4: Single/Dual/Quad HDMI Video Encoding



USB expansion port 3.5mm audio HDMI/SDI video interface Ethernet port

## Features

### Embedded hardware, modular structure, more stable operation

- Modular structure, independent modules, high fault tolerance rate.
- Each module with single SDI (or HDMI) video input/loop and 1 \*3.5mm audio input.

### Other features

- H.264 encoding, support full protocols such as RTP/RTSP/RTMP/TS-UDP/HLS/SRT.
- Resolution up to 1080P60 and output resolution adjustable
- Adjustable 64kbit/s ~ 40Mbit/s bitrates.
- Dual-stream output. Main and sub stream configured with different parameters and can both stream to 8 platforms simultaneously (total up to 16 platforms).
- Text and image overlay.
- NAS network storage.

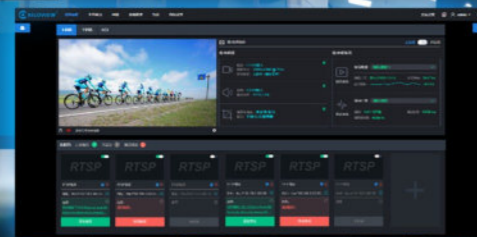
## Parameters

| Model No.           | U1-1/2/4  | U2-1/2/4                            |
|---------------------|---|-------------------------------------|
| Encoding modules    | 1/2/4 SDI encoding modules  | 1/2/4 HDMI encoding modules         |
| Video input         | 1/2/4 3G-SDI  | 1/2/4 HDMI                          |
| Video loop          | 1/2/4 3G-SDI  | 1/2/4 HDMI                          |
| Audio input         | SDI embedded or 3.5mm analog audio  | HDMI embedded or 3.5mm analog audio |
| Ethernet output     | 1/2/4 100M RJ 45 Ethernet port  | 1/2/4 100M RJ 45 Ethernet port      |
| Video resolution    | Up to 1080P60Hz   |                                     |
| Encoding            | Video H.264; Audio AAC/G.711 (custom for other audio formats available)                                     |                                     |
| Stream protocols    | SRT/RTP/RTSP/RTMP/TS-UDP/HLS  |                                     |
| Encoding latency    | <67ms   |                                     |
| Dual stream         | Main stream (1080P60) + Sub stream (720P60)<br>Both streams can't be the highest resolution simultaneously. |                                     |
| Streaming ability   | Main/sub stream streaming to 8 platforms  |                                     |
| Storage             | NAS network storage   |                                     |
| Management method   | Web/IMS remote management   |                                     |
| Power               | 220V  |                                     |
| Dimensions          | 483*175.25*44.5mm   |                                     |
| Working temperature | 20℃~60℃   |                                     |

# Application

A&V transmission/production/monitoring/live streaming/interactions/system integration etc.

SRT  
READY

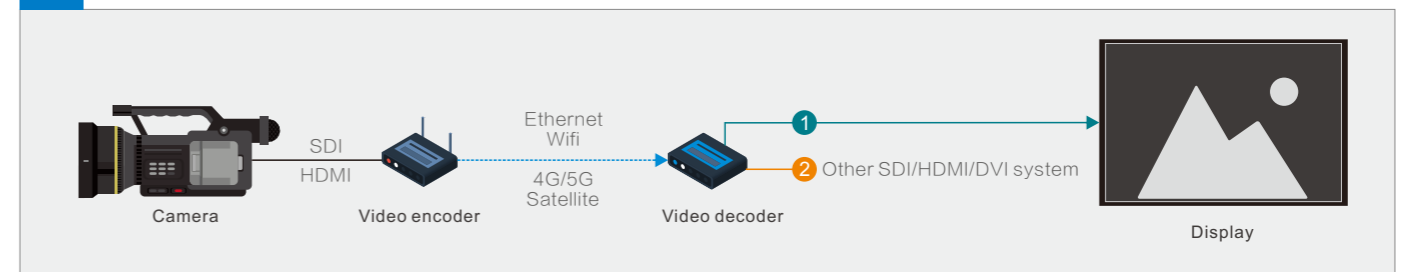


NDI

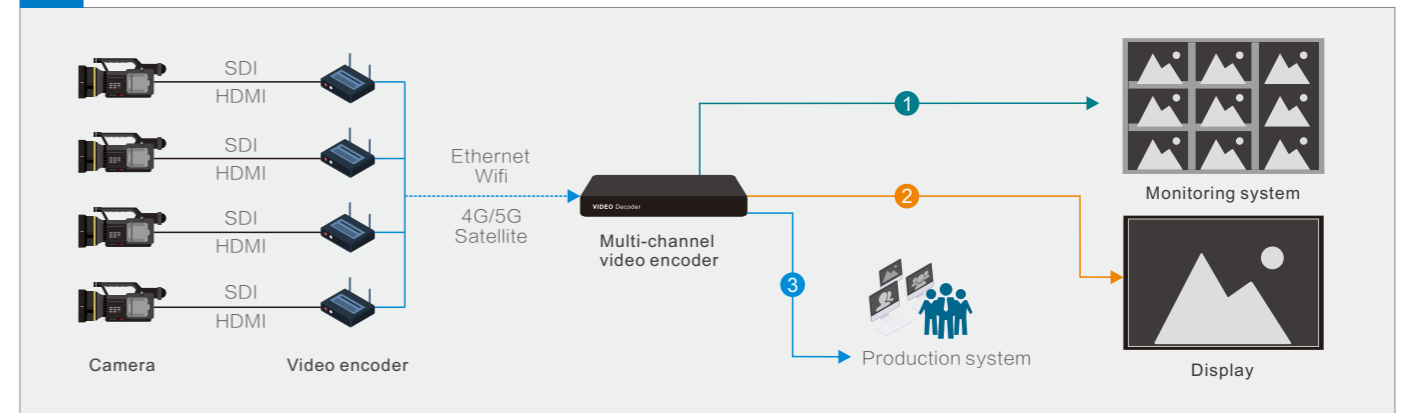
RTMP



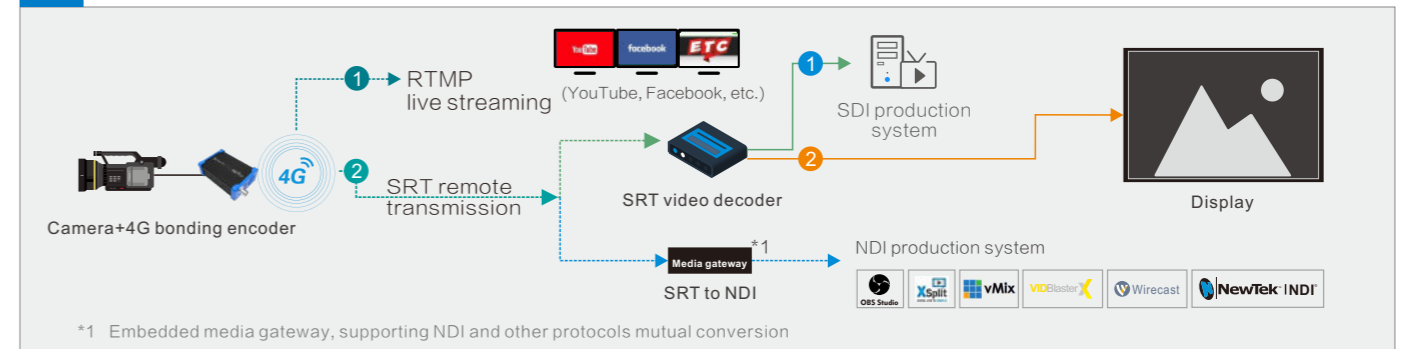
## 1 Network image transmission



## 2 Production and monitoring in studios



## 3 Outdoor live streaming and remote production



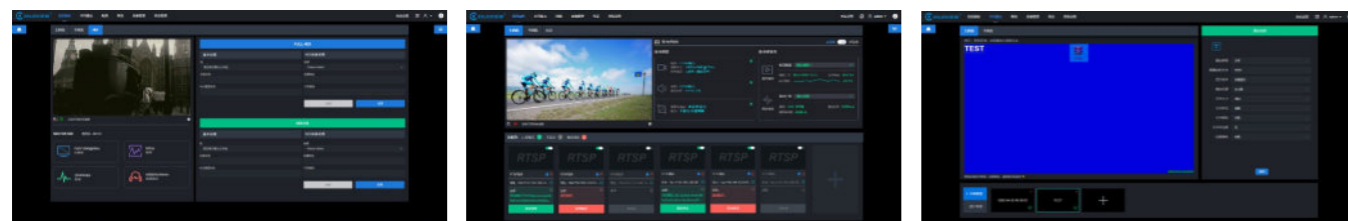
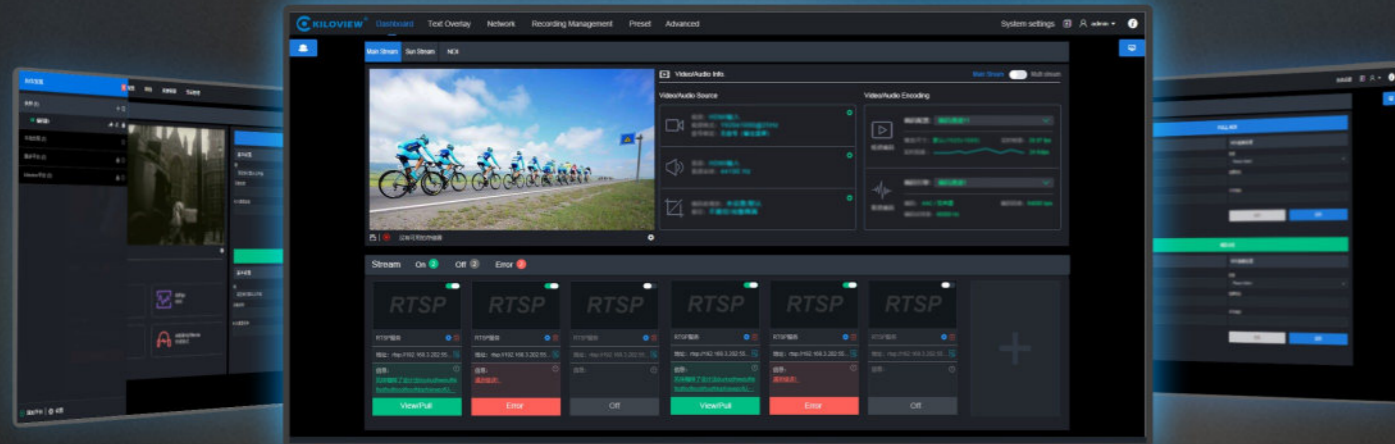
## 4 Integrated with your system





# Software and Secondary Development

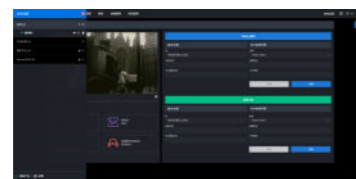
## Web Console (PC)



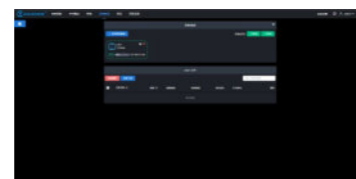
NDI

Streaming media management

Text overlay

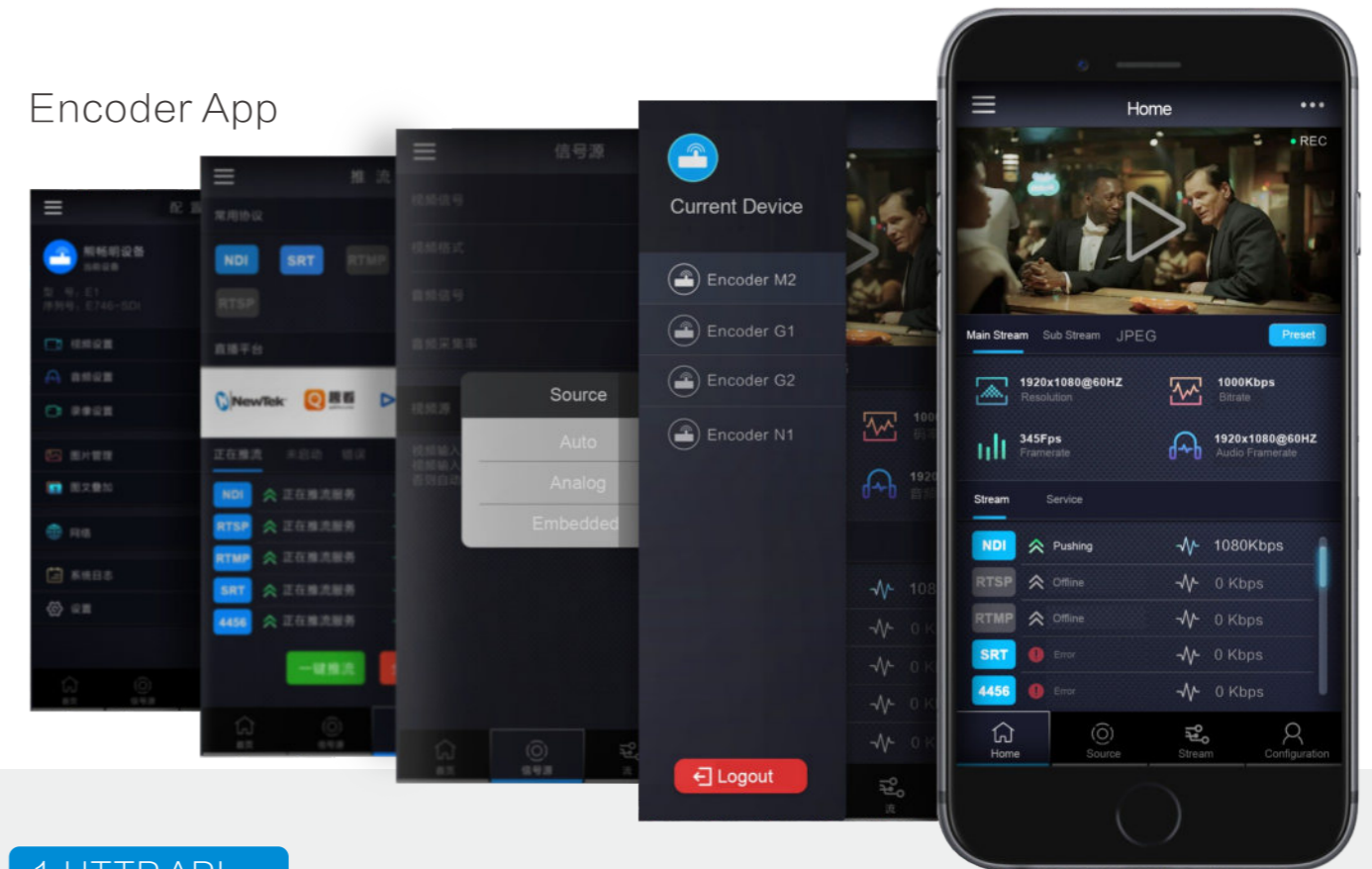


Partners



Recording management

## Encoder App



### 1.HTTP API

Kiloview's full range of products present HTTP API including all functions. When you need to control Kiloview products by yourself, you just need to use HTTP to call API interface. Almost all programming languages including C/C ++, Java, .Net, JavaScript, Python can support HTTP call programming.

### 2.Software SDK on PC

Kiloview provides a highly packaged software SDK, which uses C/C++.NET languages for second development based on Windows, Linux and Mac OS. SDK offers capabilities such as video stream capture, video ultra-low latency playback and recording. With the help of SDI, you will get our products integrated with your software system easily and quickly.

### 3.Open os for secondary development

After ten years' experience, our self-developed KILOVIEW Media Framework has grown into a standard video/stream media development framework. Through high integration and package, KILOVIEW Media Framework develops consistent streaming media software applications on cross-platforms (ARMLinux/x86 Linux/x64 Linux/Windows). The modular design allows users to implement flexible streaming services in a "building blocks" way.

This includes the flexible combination of streaming media transmission such as SRT/RTMP/TS/HLS /RTSP, video/audio switching, protocol conversion, and video storage. Under the premise of the license, KILOVIEW can provide Media Framework to our clients for secondary development. This is a complete set of development tools. Users can use C/C ++ /LUa or other programming languages to develop their own software that can run on the encoder and quickly deploy it to the device featuring personalization.

## H.265/H.264 Encoders Parameters

| Product name        | S2 PRO   | S2                             | S1                             | P series                       | G series                           | E series                       | M2                             |
|---------------------|--|--------------------------------|--------------------------------|--------------------------------|------------------------------------|--------------------------------|--------------------------------|
| Stream protocols    | SRT/RTP/RTSP/RTMP/TS-UDP/HLS and custom for SIP, NDI, etc. |                                |                                |                                |                                    |                                |                                |
| Max Resolution      | 4KP60  | 4KP30                          | SDI 1080P60<br>HDMI 4KP30      | 1080P60                        | 1080P60                            | 1080P60                        | 1080P60                        |
| Video Encoding      | H.265/264  | H.265/264                      | H.265/264                      | H.265/264                      | H.264                              | H.264                          | H.264                          |
| Video Input         | HDMI   | HDMI                           | 3G-SDI/<br>HDMI                | P1:SDI<br>P2:HDMI              | G1:SDI<br>G2:HDMI                  | E1:SDI<br>E2:HDMI              | HDMI+VGA                       |
| Loop                | Yes  | Yes                            | Yes                            | /                              | Yes                                | Yes                            | /                              |
| Network             | WiFi/<br>Ethernet  | WiFi/<br>Ethernet              | WiFi/<br>Ethernet              | 4G/WiFi/<br>Ethernet           | WiFi/Ethernet/<br>USB Expansion 4G | Ethernet                       | Ethernet                       |
| Analog Audio Input  | Yes  | Yes                            | Yes                            | USB Expansion                  | Yes                                | Yes                            | Yes                            |
| Audio Encoding      | AAC/G.711  | AAC/G.711                      | AAC/G.711                      | AAC/G.711                      | AAC/G.711                          | AAC/G.711                      | AAC/G.711                      |
| Dual Stream         | Yes  | Yes                            | Yes                            | Yes                            | Yes                                | Yes                            | Yes                            |
| Local Storage       | USB expansion  | USB expansion                  | USB expansion                  | SD card/USB expansion          | SD card/USB expansion              | SD card/USB expansion          | USB expansion                  |
| Network Storage     | Yes  | Yes                            | Yes                            | Yes                            | Yes                                | Yes                            | Yes                            |
| Tally               | Yes  | Yes                            | Yes                            | USB expansion                  | USB expansion                      | USB expansion                  | USB expansion                  |
| PTZ                 | USB expansion  | USB expansion                  | USB expansion                  | USB expansion                  | USB expansion                      | USB expansion                  | USB expansion /Rs485           |
| Dimension(mm)       | 135*100*22   | 135*100*22                     | 135*100*22                     | 115*75*35                      | 125*89*28                          | 125*89*28                      | 182*122*36                     |
| Power               | 12V1A  | 12V1A                          | 12V1A                          | 12V1A                          | 12V1A                              | 12V1A                          | 12V1A                          |
| Management          | WEB/APP/<br>IMS Remote control                             | WEB/APP/<br>IMS Remote control | WEB/APP/<br>IMS Remote control | WEB/APP/<br>IMS Remote control | WEB/APP/<br>IMS Remote control     | WEB/APP/<br>IMS Remote control | WEB/APP/<br>IMS Remote control |
| Working temperature | -20℃~60℃   | -20℃~60℃                       | -20℃~60℃                       | -20℃~45℃                       | -20℃~60℃                           | -20℃~60℃                       | -20℃~60℃                       |



## H.265/H.264 Series Video Decoder

### Professional Hardware Decoding Devices

The H.265/H.264 video decoders are professional hardware decoding devices, which independently decode various forms of IP streams (like IP-Camera stream, RTSP/RTMP/RTP unicast or multicast media streams etc.), to output with SDI signal, DVI-I signal (compatible with HDMI/VGA signals), or HDMI signal. It can decode multi-channel video streams simultaneously.

More options are available for HD/UHD 4K, portable/rackmount version.

# D300

## 4K Video Decoder

- ✓ 4K H.265(HEVC)/H.264 video decoding
- ✓ Multi-channel decoding, split screen display, dynamic switching
- ✓ Full protocols supported, especially NDI|HX & SRT



H.265

H.264/H.265

HEVC

Up to 4KP60



Low latency decoding



9 CH video split screen display



Full protocols supported



Multi-streaming switching

SDK

SDK available



7\*24h working mode

## Advantages

### Powerful decoding, 4K H.265 decoding and 9 CH video output simultaneously

- 4K H.265 (HEVC)/H.264 decoding, output resolution up to 4KP60.
- Multi-stream decoding simultaneously, split screen display, dynamic conversion(1080P60: 9 CH decoding; 4KP30: 4 CH decoding;self-defined split screen display 1/2/3/4/6/9).



### Full protocols supported, especially NDI|HX & SRT

- Support most protocols including RTMP/HLS/TS over UDP/ RTP/ RTSP/ NDI|HX & SRT  
SRT supported mode: Caller, Listener, Rendezvous.
- The decoding latency can be less than 200ms in the typical network environment, and it can be reset in accordance with the internet conditions.

### HDMI and SDI dual interface output

- Simultaneous output of HDMI and SDI dual interface, HDMI output up to 3840\*2160@60HZ, and SDI output up to 1920\*1080@60HZ with the same or different content output .
- Output resolution adjustable, supporting NTSC like 59.94/29.97.
- Analog audio and embedded SDI/HDMI audio output respectively.
- Image and text overlay, pic-in-pic support.

### Other Features

- Dual Gigabit Ethernet interface-flexibly adapt to the network environment.
- USB expandable storage, RS232/485 control or USB audio input/output.
- Customized with two-way voice intercom function with Kiloview encoder.



138\*105\*27mm

# DC230 | DC220 HD Video Decoder

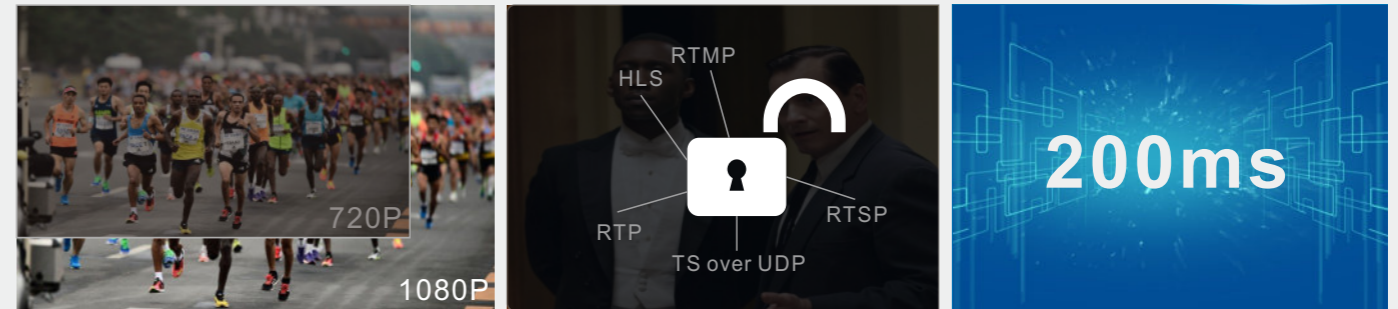


Hardware decoding IP to SDI/DVI  
(HDMI/VGA compatible)

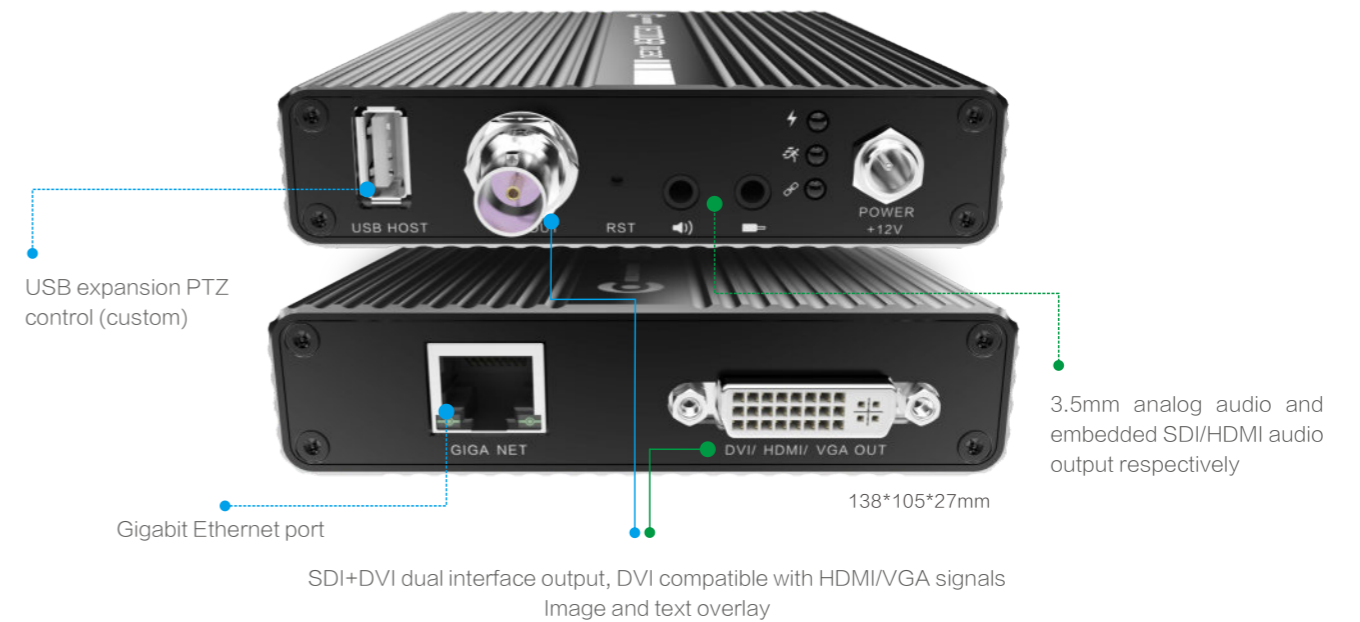
**DC230**-Up to 4 channels HD decoding (P29.97/59.94 supported), SDI+DVI (HDMI/VGA compatible) can output same or different contents.

**DC220**-Single channel HD H.264 decoding, SDI+DVI (HDMI/VGA compatible) output same content.

## Main Functions



- Support HD video up to 1080P60, and output resolution is adjustable.
- Support most protocols, including SRT/RTMP/HLS/TS over UDP/RTP/RTSP/.
- The decoding latency is less than 200ms in the typical network environment, and it can be reset in accordance with the internet conditions.



USB expansion PTZ control (custom)

Gigabit Ethernet port

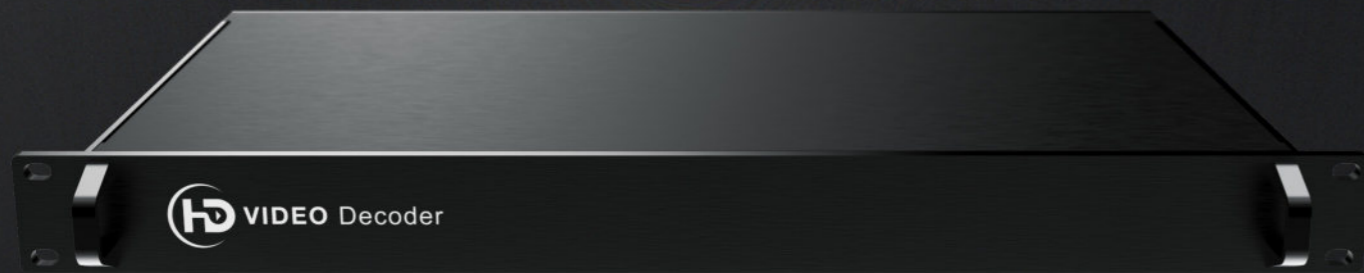
SDI+DVI dual interface output, DVI compatible with HDMI/VGA signals  
Image and text overlay

3.5mm analog audio and embedded SDI/HDMI audio output respectively

138\*105\*27mm

# UD-4

## Rackmount Multi Stream Decoders



Support 1/2/4 channel decoding modules

Each decoding module outputs 2-channel same SDI+HDMI video simultaneously



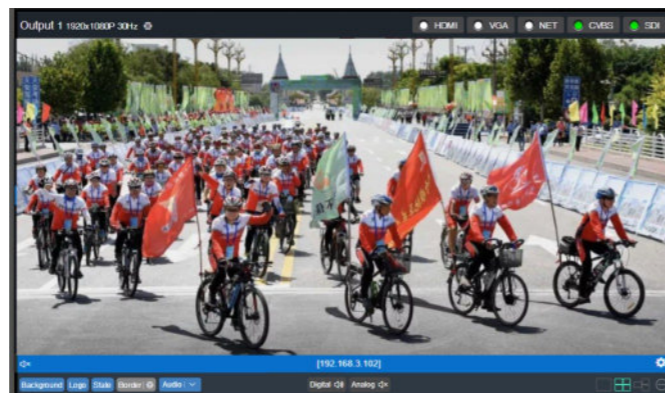
483\*175.25\*44.5mm 2.3KG

### Embedded hardware, modular structure, more stable operation

- Modular structure, independent modules and high fault tolerance rate.
- HDMI/SDI embedded audio and 3.5mm analog audio output.

### HD decoding, multiple video protocols supported, ultra-low latency

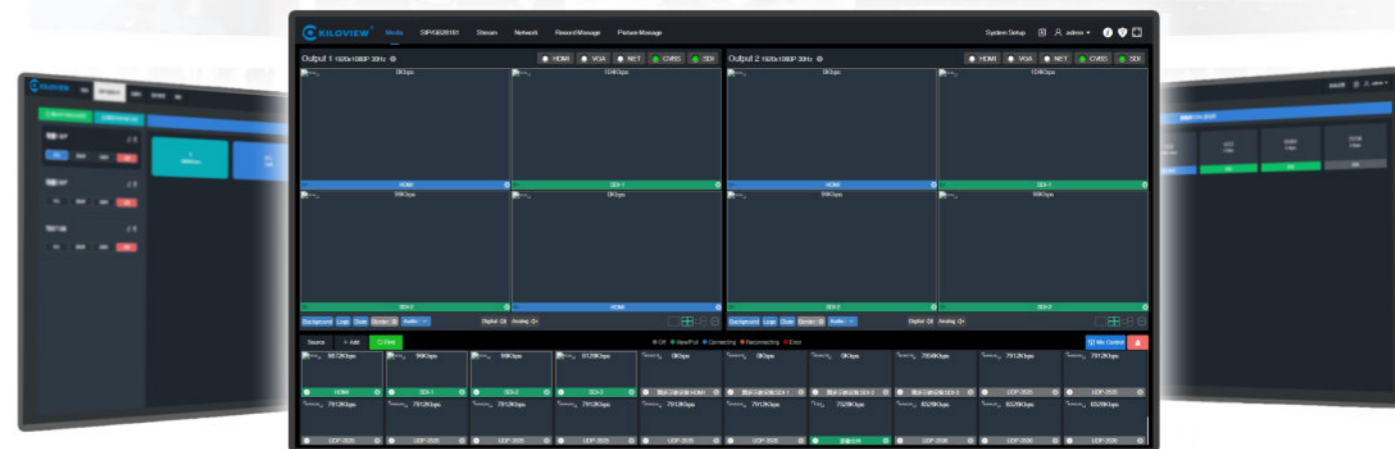
- H.264 decoding with resolution up to 1080P60 (H.265 decoding with resolution up to 4K P60 available for customization), and resolution is self-defined.
- Support the most main protocols, including RTMP/HLS /TS over UDP/SRT/RTP/RTSP (NDI|HX available for customization).
- The decoding latency is less than 200ms in the typical network environment, and it can be reset in accordance with the internet conditions.



### Model No.

- UD-1:1 decoding module with 1\*3G SDI+1\*HDMI output
- UD-2:2 decoding modules with 2\*3G SDI+2\*HDMI output
- UD-4:4 decoding modules with 4\*3G SDI+4\*HDMI output

## Software and secondary development



1.Simple Web Console

2.HTTP API

All series of Kiloview decoders are open to all functions of HTTP API. When you need to program and control Kiloview decoders, by yourself you only need to use HTTP to call the API interface. Almost all programming languages, including C/C++,Java,.Net, JavaScript and Python support HTTP's calling programming well.

3.Open os for Secondary Development

KILOVIEW Media Framework Development Environment-With nearly ten years' experience, KILOVIEW Media Framework independently developed by KILOVIEW has grown into a standardized video/streaming media development framework. KILOVIEW Media Framework is highly independent and develops consistent streaming media software applications on cross-platform (ARMLinux/x86 Linux/x64 Linux/Windows). The modular design allows users to implement flexible streaming services in a "stacked wood" way.

This includes the flexible combination of streaming media transmission such as SRT/RTMP/HLS/ RTSP, vide&audio switching, protocol conversion, and video storage. Under the premise of following the license, KILOVIEW can open a secondary development environment of Media Framework for cooperative users. This is a complete set of development tools. Users can use C/C ++ /LUa or other programming languages to develop their own software that can run on the decoder and quickly deploy it to the device featuring personalization.

## Video Decoder Series Parameters

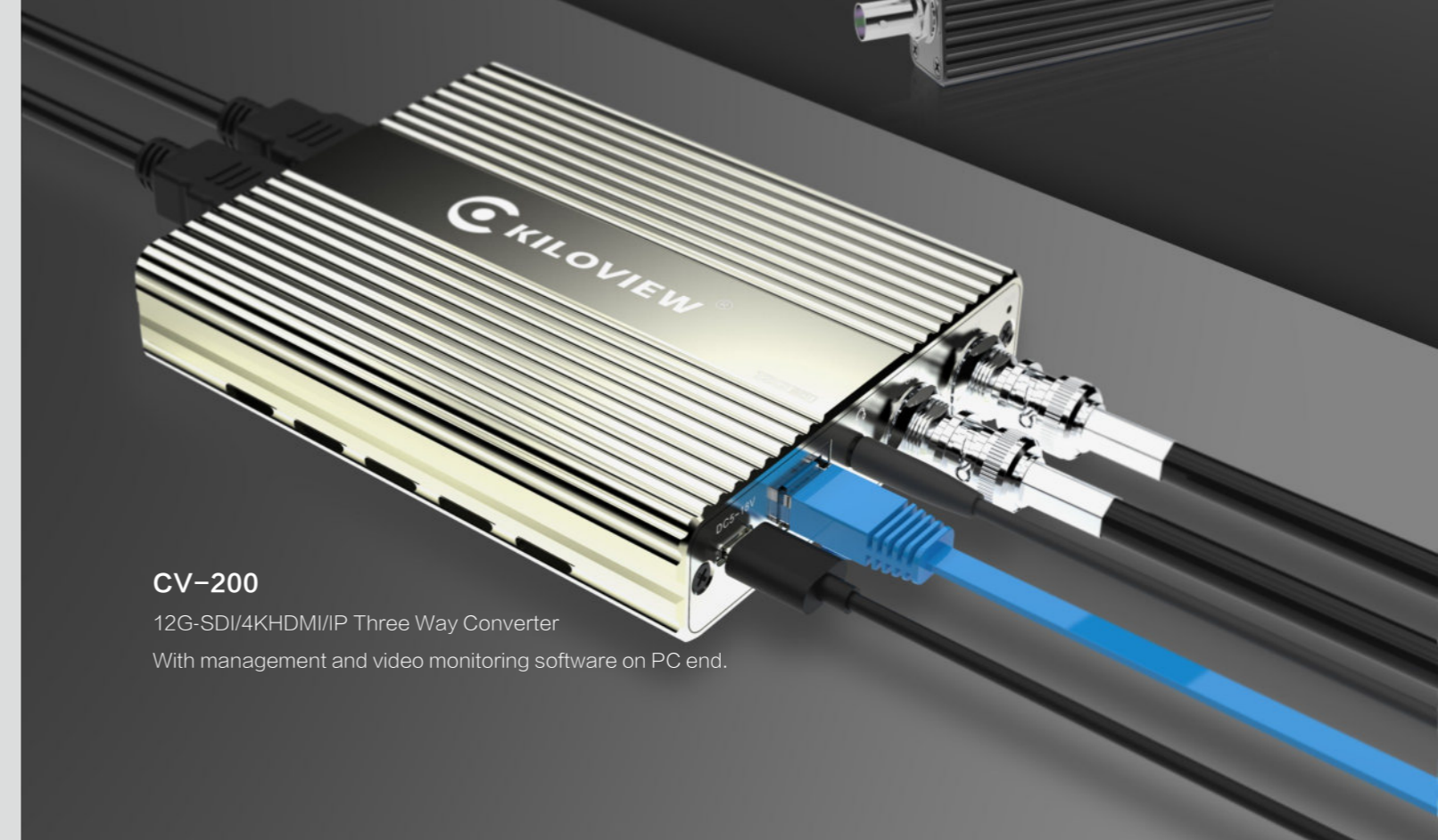
| Model No.             | D300   | DC230  | DC220  | UD-1/2/4   |
|-----------------------|--|--|--|--|
| Decoding module       | 1  | 1  | 1  | 1/2/4  |
| Network               | 2*1000M RJ 45 Ethernet                                   | 1*1000M RJ 45 Ethernet   | 1*1000M RJ 45 Ethernet   | 1*/2*/4*1000M RJ 45 Ethernet   |
| Video output          | 1*3G-SDI+1*HDMI  | 1*3G-SDI+1*DVI-I;<br>(compatible with HDMI1.4/<br>DVI 1.0/VGA) | 1*3G-SDI+1*DVI-I;<br>(compatible with HDMI1.4/<br>DVI 1.0/VGA) | 1/2/4*3G-SDI+<br>1/2/4*HDMI  |
| Audio output          | Embedded SDI/HDMI audio, 3.5mm analog audio              |  |  |  |
| Input media protocols | SRT/NDI HX/<br>TS over UDP/<br>RTMP/HLS/<br>RTP/RTSP etc | SRT/TS over/ UDP/<br>RTMP/HLS/RTP/<br>RTSP etc.                | SRT/TS over/ UDP/<br>RTMP/HLS/RTP/<br>RTSP etc.                | SRT/TS over/ UDP/<br>RTMP/HLS/RTP/<br>RTSP etc.<br>(NDI HX customizable) |
| Video decoding        | H.265/H.264  | H.264  | H.264  | H.264<br>(Customizable H.265)  |
| Audio decoding        | AAC/G.711  | AAC/G.711  | AAC/G.711  | AAC/G.711  |
| Decoding latency      | <200ms(adjustable)                                       | <200ms(adjustable)   | <200ms(adjustable)   | <200ms(adjustable)   |
| Decoding ability      | Up to 9CH (1080P60:<br>8CH; 4KP30:4CH                    | 4CH 1080p60  | 1CH 1080p60  | 1 CH 1080 P60<br>(Multi-channel<br>customizable)                         |
| Split screen output   | Self-definied splitting<br>within 9 images               | Self-definied splitting<br>within 4 images                     | /  | Not support<br>(Customizable)  |
| Management            | Web/IMS remote management                                |  |  |  |
| Operation temperature | -20℃~60℃   | -20℃~60℃   | -20℃~60℃   | -20℃~60℃   |
| Power                 | 12V, 1A  | 12V, 1A  | 12V, 1A  | 220V   |
| Dimensions            | 138*105*27mm   | 138*105*27mm   | 138*105*27mm   | 440*270*50mm   |

# 5 SDI Converters

Broadcast Grade Image Quality, Frequency Conversion Supported

## Ingenuity Quality, 7\*24h Stable Operation

SDI and SDI/HDMI/VGA/CVBS (NDI customizable) mutual conversion to meet multi-scenario applications.



### CV-200

12G-SDI/4KHDMI/IP Three Way Converter

With management and video monitoring software on PC end.



120\*100\*26mm



New products, coming soon. Stay tuned for the latest developments of Kiloview.

Please subject to the actual product!

## KILOVIEW Blockbuster Products!

# CV200

12G SDI/4K HDMI/IP Integrated Converter

- ✓ 12G-SDI/4K HDMI/IP streams (NDI customizable) 3-way conversion, providing robust 4K UHD+IP-based signal conversion solutions.
- ✓ Up/down change, frame rate conversion, De-interlace professional image conversion.
- ✓ PC management software and video monitoring software.

Application 1: convert SDI to HDMI + NDI



Application 2: convert HDMI to SDI + NDI



Application 3: NDI to 12G-SDI+HDMI (customizable)



120\*100\*26mm

## HD SDI Converters

- ✓ Convert between SDI and SDI/HDMI/VGA/CVBS
- ✓ Frame rate conversion, supporting professional processing such as up-down conversion and de-interlacing
- ✓ Support 1 input and 2 output modes



46\*96\*23mm

**CV180:** Convert SDI to SDI/HDMI/VGA/CVBS, supporting frequency conversion

**CV190:** Convert HDMI/VGA/CVBS to SDI, supporting frequency conversion

**C1 MINI:** Convert SDI to HDMI

## Other Advantages of CV180/CV190



- YUV4:2:2 10Bit conversion without color distortion.
- Professional color adjustment, 3D noise reduction, interlace/progressive video conversion, video scaling up/down and framerate conversion etc., which can guarantee the professional image conversion quality.
- Cv180 supports analog audio output independently, CV190 supports analog audio embedded input to SDI signal.
- Support blue screen warning of signal loss.

# 6

## Multi-Party Video Collaboration System

This system is consisted of two or more embedded terminals. Through simple installation and network building (auto discovery between terminals), it can realize such business functions as multi-party audio and video collaboration, recording, watermark overlay and live streaming without a Micro Control Unit (MCU) in the multi-screen split mode. It is widely applied to medical teaching, telemedical, remote learning, video conference, interactive program production and other multi-party audio and video collaboration scenarios.



255\*250\*54mm Appearance is subject to the actual product.

### Converters Parameters

| Model No.                 | CV200                                  | CV180                                | CV190                                  | C1 mini    |
|---------------------------|--|--------------------------------------|--|------------|
| Input                     | 12G SDI/4K P60<br>HDMI/NDI(costomize)  | 3G-SDI                               | HDMI/VGA/AV(CVBS)                      | 3G-SDI     |
| Output                    | 4K P60 HDMI/12G SDI/<br>NDI(costomize) | 2-CH of HDMI/VGA/<br>AV(CVBS)        | 3G-SDI, Max 2<br>channels at a time    | HDMI       |
| Loop                      | 12G-SDI                                | 3G-SDI                               | /                                      | /          |
| Network                   | 1000M Ethernet                         | /                                    | /                                      | /          |
| Analog audio input/output | USB extendable                         | Analog audio output<br>independently | Analog audio embedded<br>to SDI signal | /          |
| Max Resolution            | 4K P60                                 | 1080 P60                             | 1080 P60                               | 1080 P60   |
| Resolution conversion     | Support                                | Support                              | Support                                | /          |
| Operating temperature     | -20℃~60℃                               | -20℃~60℃                             | -20℃~60℃                               | -20℃~60℃   |
| Power                     | 12V, 1A                                | 12V, 1A                              | 12V, 1A                                | 5~16V      |
| Dimension                 | 120*100*26mm                           | 120*100*26mm                         | 120*100*26mm                           | 46*96*23mm |

There are two types of terminal devices: MS2 and MS4. MS2 supports 2CH physical audio& video inputs and outputs; MS4 supports 4CH physical audio& video inputs and 2CH physical audio and video outputs (interface customization available).

| Model No. | SDI Input/ Loop | SDI Output <sup>1</sup> | DVI Input/Output<br>(HDMI/VGA Compatible) | RCA Audio<br>Input/ Output <sup>2</sup> | Ethernet port         |
|-----------|-----------------|-------------------------|---|---|-----------------------|
| MS2       | 1/1             | 1                       | 1/1                                       | 1/1                                     | 2*1000M Ethernet port |
| MS4       | 3/3             | 1                       | 1/1                                       | 1/1                                     | 2*1000M Ethernet port |

**Feature 1** SDI and DVI interface output the same or different contents.

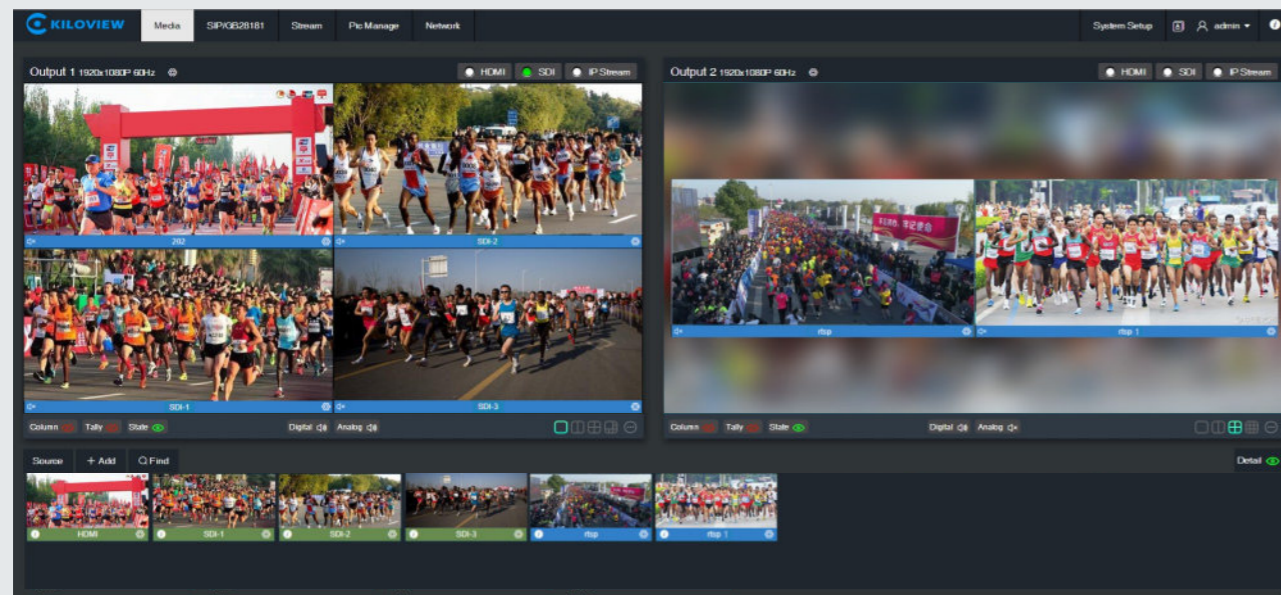
**Feature 2** RCA audio is freely selected and embedded into any physical input interface.



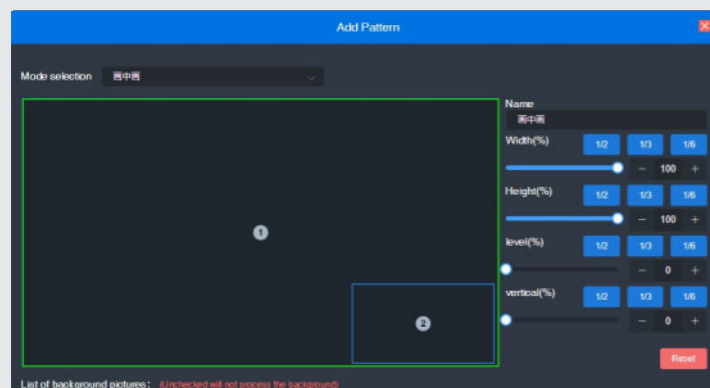
# Functions Introduction

## 1) Multi-party audio and video collaboration

All terminals support local audio and video (auto access<sup>3</sup>), remote terminal audio and video (auto discovery<sup>4</sup>), and other IP streams access such as UDP/RTMP/RTSP/RTP/HLS/HTTP (manual adding). It supports up to 32CH video streams. 9CH videos of them are switched and displayed arbitrarily<sup>5</sup>, and all audios enable self-defined usage including on/off/mixed, to realize audio and video interaction among different terminals.



Multi-party conversation diagram



Self-defined windows diagram

### Feature 3

Cropping, rotating(portrait), color adjustment and Image noise reduction for local video.

### Feature 4

Auto discovery among local network terminals while under Internet it is performed through KiloView integrated management platform.

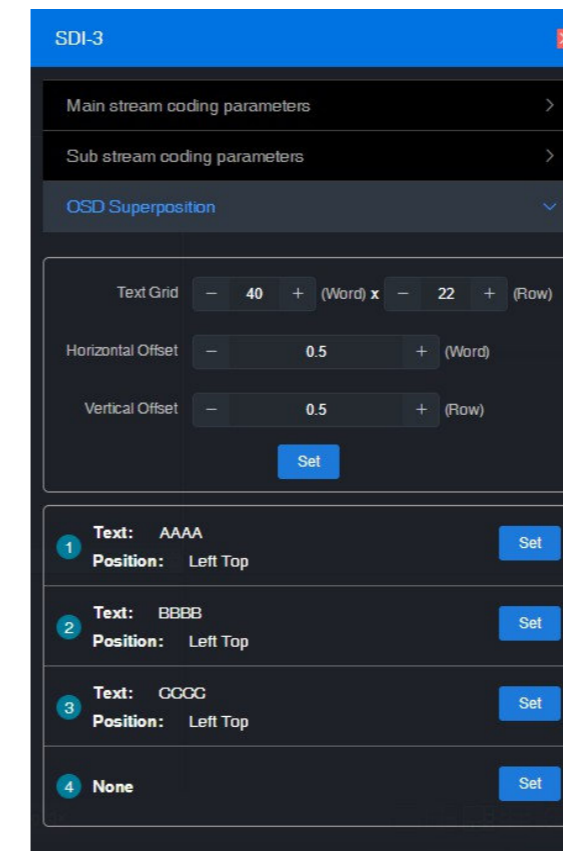
### Feature 5

User-defined display with window numbers, position and size within 9 screens. Pop-up play supported in full screen mode.

## 2) Live streaming and other streaming service

Multi-screen session video with the mixed audio can be displayed on the screen, and RTSP/RTMP streaming services also available<sup>6</sup>.

Session image can overlay Logo/background/image/text and custom window border display available.



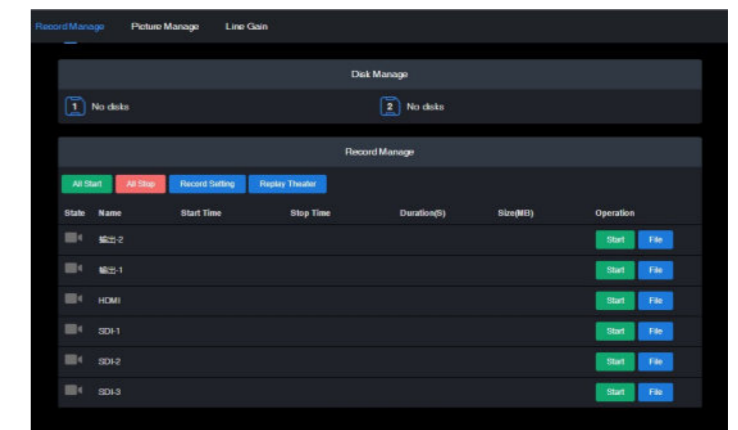
Overlay diagram

### Feature 6

IP input or output streams from all terminals can be customized in special protocols including SIP/NDI|HX.

## 3) Recording

USB expansion disk, recording of local input video and two physical output videos<sup>7</sup>, online playback and download of recording files. Built-in dual 2.5 inch SATA hot-plug disk port, disk replacing during recording. NAS storage available for customization.



Recording function diagram

### Feature 7

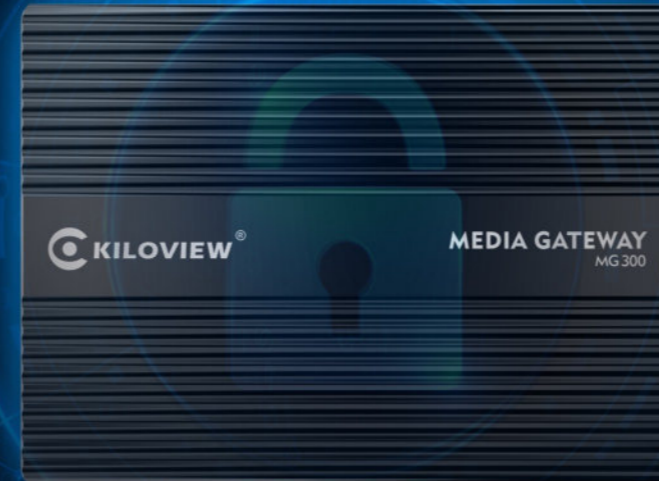
Custom for video recording of any participant or third-party access.

## Advantages

- Cost-effective**  
 It can be realized without MCU, which is convenient for deployment. Multi-party audio and video interaction without MCU and convenient deployment.
- Powerful functions**  
 Numbers of video accesses with various function of session live streaming. Full network protocols supported and many extensible functions.
- Stable and reliable**  
 Consist of multi-embedded hardware, ensuring long-time stable working.
- Easy operation**  
 Auto-discovery among all terminals, easy-to-use interface, equipped with OLED display. Web page remotely operated on PC/iPad/Android Pad.

## Main Features

|                     | Model No.                           | MS2   | MS4                                 |
|---------------------|-------------------------------------|---|-------------------------------------|
| Interfaces          | Video Input                         | 1 CH SDI, 1 CH DVI (HDMI) input   | 3 CH SDI, 1 CH DVI (HDMI) Input     |
|                     | Video Loop                          | 1 CH SDI loop   | 3 CH SDI loop                       |
|                     | Video output                        | 1 CH SDI, 1 CH DVI (HDMI)   |                                     |
|                     | Audio input                         | 1 CH Stereo RCA Input/USB expansion   |                                     |
|                     | Audio output                        | 1 CH Stereo RCA Output/USB expansion  |                                     |
|                     | Ethernet                            | 2x 1000Mbps   |                                     |
|                     | USB                                 | 1 x USB 2.0 TYPE-A  |                                     |
|                     | Disk recording slot                 | 2x 2.5 inch disk(custom)  |                                     |
|                     | HMI<br>(Human Machine Interaction ) | WEB UI or customized OLED display   |                                     |
|                     | Power supply                        | DC 12V 3A ( with power switch )   |                                     |
|                     | SDI                                 | SDI signal  | HD-SDI(1.485Gbps); 3G-SDI(2.97Gbps) |
| Video formats       |                                     | 1080p50/59.94/60. 1080p23.98/24/25/29.97/30. 1080i50/59.94/60<br>720p23.98/24/25/29.97/30. 720p50/59.94/60                    |                                     |
| HDMI/DVI            | Standard                            | HDMI 1.4/DVI 1.0  |                                     |
|                     | Video formats                       | 1080p23.98/24/25/29.97/30, 1080p50/59.94/60, 1080i50/59.94/60<br>720p/30/50/59.94/60 and other resolutions not over 1920x1200 |                                     |
| Encoding            | Video encoding                      | H.264/AVC High profile(Up to level 5.1), Main profile and baseline compatible   |                                     |
|                     | Audio encoding                      | AAC, G.711  |                                     |
|                     | Video encoding bitrate              | 256Kbps ~ 25Mbps adjustable   |                                     |
|                     | Audio encoding bitrate              | AAC: 32Kbps ~ 512Kbps G.711: 64Kbps   |                                     |
|                     | IP stream input                     | SRT/UDP/RTMP/RTSP/RTP/HLS/HTTP  |                                     |
|                     | IP stream output                    | SRT/RTSP/RTMP,custom for NDI HX and SIP/HLS/HTTP/TS over UDP  |                                     |
|                     | Multi-image splitting               | Self-defined splitting within 9 images and supports image-in-image  |                                     |
| Working Environment | Power supply                        | 12V DC  |                                     |
|                     | Temperature                         | -20℃ ~ 50℃  |                                     |
|                     | Humidity                            | 20 ~90%RH   |                                     |
|                     | Power consumption                   | 30W Max   |                                     |



Media Gateway &  
Integrated Media Management System

### Media Gateway

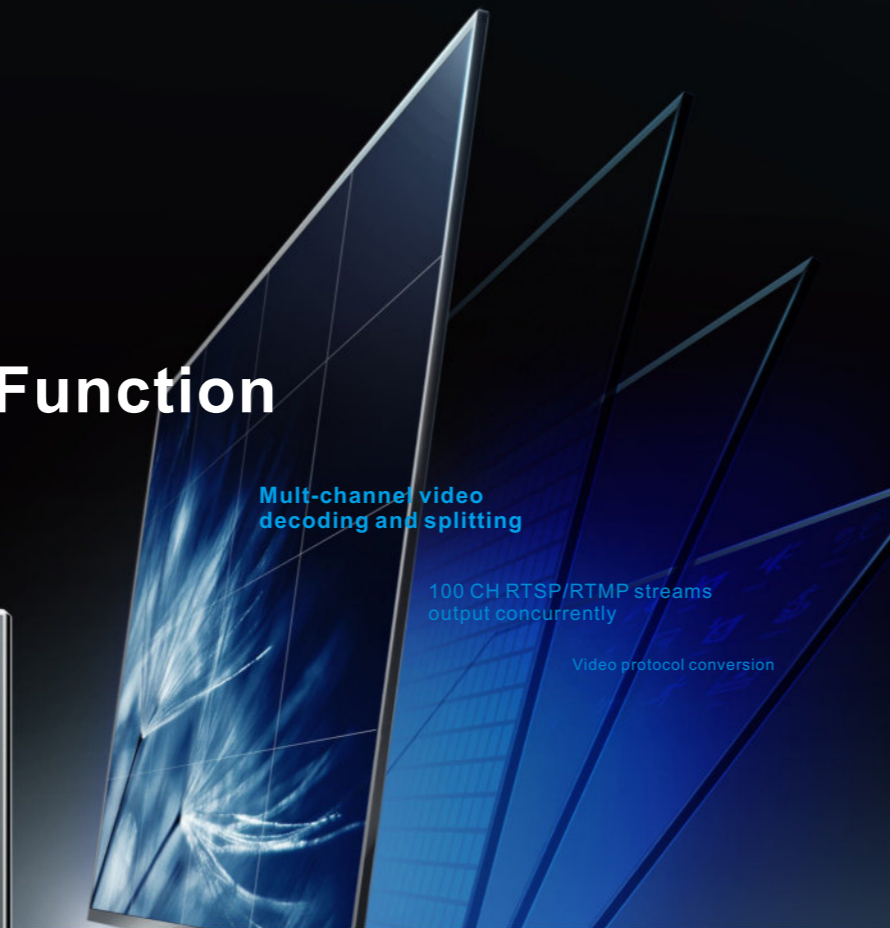
Embedded media gateway devices integrate powerful functions including stream media protocol conversion, up to 100CH RTSP/RTMP stream media distribution service, multi-channels video decoding. It can be applied to video format conversion, protocol intercommunication, decoding and split screen display from different systems, manufacturers, types and encoding contents. It also works as the stream media server with the capacity for 100 concurrent access.

### IMS (Integrated Media Management System)

Kiloview IMS realizes basic functions such as device remote management (remote configuration/monitoring/upgrading), and advanced functions such as stream media distribution, stream protocols conversion, centralized stream scheduling, centralized stream recording, and voice intercom.

IMS

# Embedded Multi-Function Media Gateway



## Applications

- Live streaming video from LAN RTSP/Onvif monitoring or other IP-Cameras.
- Converting general protocols such as SRT/UDP/RTSP/RTMP to customized protocols like NDI/HX/SIP.
- 1CH RTSP video streams concurrently to 100 classrooms in campus network.
- One single RTSP/RTMP video stream accessed concurrently by 100 visitors.



Scenic spot live streaming



Campus monitoring to the public security network

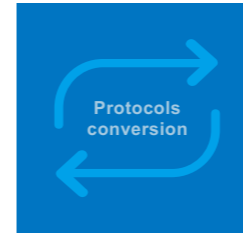


Restaurants monitoring live streaming



Streaming after video splitting

## Main Functions



### Protocols conversion

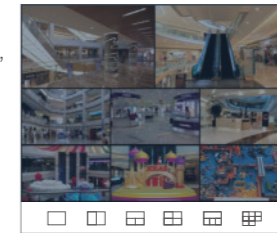
- Mutual conversion of RTP/RTSP, TS over UDP, SRT, RTMP, HLS(m3u8), SIP(custom), Onvif and other software-based extensible protocols.
- Up to 9 CH streams for protocol conversion, and each stream can be converted into 4 different (or the same) target output.



### 100-channel streams concurrency

- Supporting 100-channel concurrent RTSP/RTMP streams, and used as distributed live streaming server, suitable for courseware/conference /program/digital sign and other live streaming occasions.

(Note: The actual number of concurrency depends on the specific network bandwidth, video format, etc.)



### Multiple channel decoding and split screen display

- 9-CH 1080P60 video decoding, split display, and dynamic switching simultaneously.
- H.264/H.265 UHD (4K)/HD video decoding.



### Video recording and storage

- USB expansion SATA storage.
- NAS network storage.

## Parameters

|                                   |  |
|-----------------------------------|--|
| Model No.                         | MG300  |
| Streaming input/output            | 2*100M/1000M RJ 45 Ethernet  |
| Decoding output                   | 1* SD/HD/3G-SDI, up to 1080P 60Hz; 1* HDMI 2.0 up to 3840x2160@60Hz  |
| Analog audio output/input         | 1*3.5mm line out; 1*3.5mm line in  |
| USB                               | 1*USB 3.0 Type-A   |
| Access protocols                  | SRT/RTSP/UDP/RTMP/HLS  |
| Output protocols                  | SRT/RTSP/RTMP and custom for SIP   |
| Protocol conversion capability    | 9 CH 1080P video conversion simultaneously   |
| Streaming distribution capability | Unicast up to 100CH RTSP/TS/RTMP/HLS streams (up to 600Mbps)   |
| Live streaming capability         | 9 CH x 4CH 1080P   |
| Channels of decoding              | 4K 30Hz H.264/H.265: up to 4 channels simultaneously<br>1080P 50Hz/60Hz H.264/H.265: up to 9 CH simultaneously                           |
| Video decoding                    | H.264/H.265  |
| SDI output formats                | 1080P60/59.94/50, 1080P30/29.97/25/24/23.98 1080i60/59.94/50 720P60/59.94/50 570i/50 480i/60   |
| HDMI output formats               | 4K 3840x2160@60/30, 1080p60/50, 1080p24/25/30, 1080i60/50, 720p60/50 and compatible with VESA standard format                            |
| Video bitrate                     | 128Kbps ~ 40Mbps   |
| Audio decoding                    | AAC/G.711 (aLaw/uLaw)  |
| Audio bitrate                     | AAC: 8Kbps ~ 320Kbps G.711: 64Kbps   |
| Decoding latency                  | ≤200ms   |
| Split display style               | 1/2/4/6/9 splitting; Re-encoding and streaming of 1-channel multi-screen split video and the image supports up to 1080P60 H.264 encoding |
| Management interface              | Web-based user interface for configuration and upgrading   |
| Power/power consumption           | 12V/1A ≤6W   |
| Dimension/Weight                  | 138*105*25mm / 380g  |
| Operating temperature             | -20 °C ~ 60°C  |

# IMS (Integrated Media Management System)

Kiloview IMS comes with some basic functions such as auto discovery, device status centralized monitoring, remote configuration and firmware updating, and customized for advanced functions such as centralized switching of streams, centralized recording (remote network storage), protocol conversion, streams distribution, and voice intercom.

## Main Functions

- Auto discovery**  
Auto discover for all terminals in LAN or Internet, and connect automatically.
- Status monitoring**  
Centrally monitoring the status of all devices, such as online/offline, pushing or not and related parameters.
- Parameters setting**  
Remotely configuration for all terminals, no need on-site management.
- Firmware upgrading**  
All devices upgrade on a large scale, no need on-site processing one by one.
- Video stream switching**  
Remotely switching the sources from all the devices, similar to the function of IP matrix.
- Centralized recording**  
Remotely recording of all encoding device streams. (such as centralized recording to local or remote servers)
- Protocol conversion/distribution**  
It supports all video streams to be output after protocol conversion, and conversion between various protocols such as RTSP/RTMP/SRT/NDI/UDP/HTTP/HLS. One single stream can also be distributed in multiple ways through this system.
- Voice intercom**  
The system manages call configuration between all devices, such as call grouping, mode change of speaking and listening of each terminal, etc.

