



# KILOVIEW NDI Core IP-Based Video Transmission User Manual

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## Core IP-Based Video Transmission User Manual

### NDI Core

KILOVIEW NDI Core is a large cluster-type NDI signal managing and switching system. It can manage signal sources from dozens to thousands and building smooth and seamless switching channels for those signal sources. NDI Core supports various formats of NDI stream input switching, NDI signal copy and enlarge output, custom play list, user management, log management and more functions, designed for broadcast and television post-production, multiple NDI Copyright © KILOVIEW Electronics CO., LTD. All rights reserved. projection and multi-channel NDI conferences.

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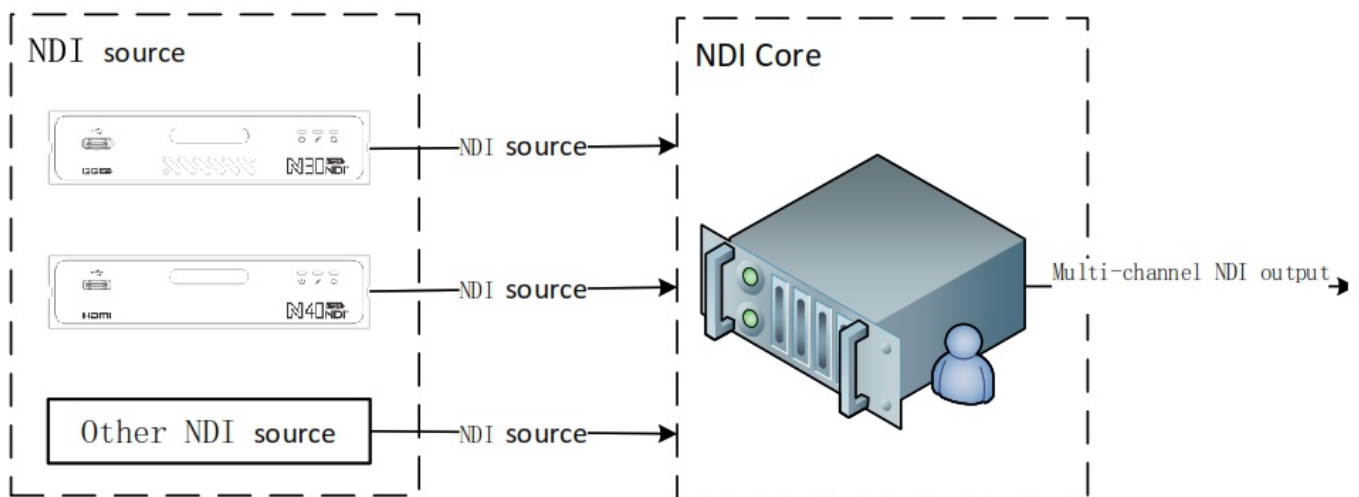
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## NDI Core Introduction

Website for more information about NDI Core



<https://www.kiloview.com/en/ndi/ndi-Core/>



### Introduction

NDI Core mainly solves the issue that the NDI encoder cannot be pulled by multiple back-ends at the same time. NDI Core virtualizes the video source into multiple NDI channels for output, and integrates more functions such as video source switching and video play.

By creating a playlist, users can freely set the program source, dynamically adjust the playback sequence, and playback time to achieve the sequence, loop, and switch playback of video sources.

- NDI video sources support FULL NDI and NDI|HX input compatible with any other software/hardware output NDI to the NDI Core system.
- When the Core receives NDI|HX, the virtual output is also NDI|HX. If the video source is FULL NDI, the output is also FULL NDI.
- It is recommended to use a 10 Gigabit port at least for the NDI Cluster. If you need more NDI streams, you can choose a higher network port or multiple network cards.

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## Login to NDI Core

Enter `http://server IP: 81/` in the browser and log in to the NDI Core system. The user name and the password both are an admin by default.



**Note:**

- To ensure information security, please change your password immediately after logging in for the first time!
- NDI Core login port is 81 by default.

**More information about NDI Core system deployment**



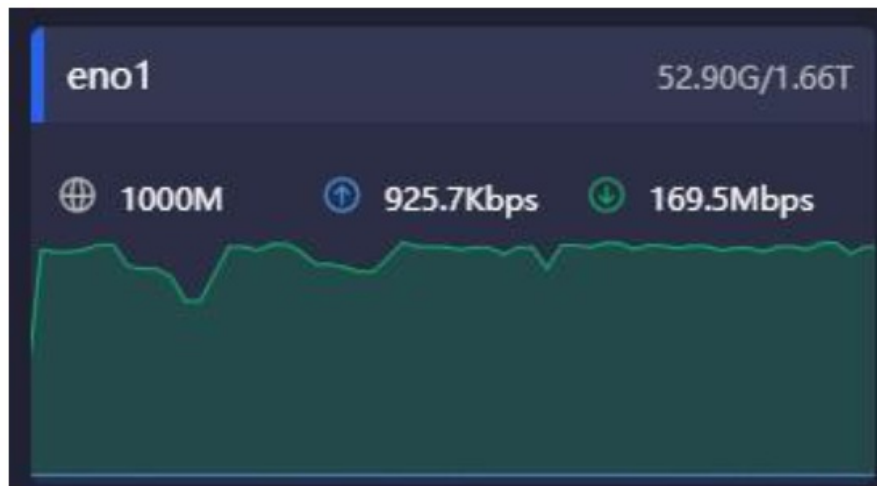
<https://www.kiloview.com/en/support/docs/kiloview-ndi-core-server-deployment-guide/kiloview-ndi-core-server-deployment-guide/>




**Dashboard**

Click “Dashboard” on the WEB page to check the system information includes network status, system status, resources and logs.

**3.1 Network status**

Shows all network device information and traffic statistics on the NDI server.



- eno1 Core The name of the network card on the Core server.
- 49.12G/1.37T Total upstream traffic/downstream traffic of the current
-  The maximum bandwidth of the current device
-  Real-time traffic output of the current device
-  Real-time traffic input of the current device

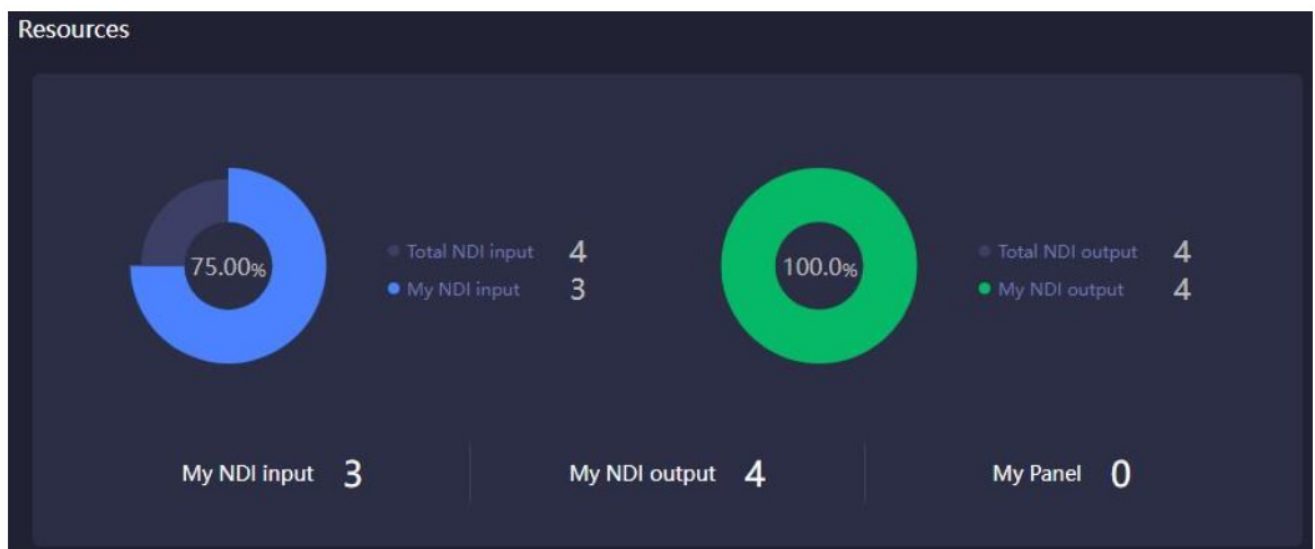
### 3.2 System status



When the system memory and CPU are too high, please confirm whether the performance of the NDI Core device is insufficient due to a large number of transmissions. You may need to update your hardware system. The timeline below shows the memory and CPU usage in the past time, and the current time is 0s.

- Memory Usage Current memory usage
- CPU Load Current CPU Load
- Operation Time: Total running time of NDI Core system
- Start Time NDI Core start time

### 3.3 Resources



Shows the number of inputs and outputs of NDI Core.

- Total NDI input All NDI video sources added by users are counted, but those that have not been added are not included
- My NDI input NDI video sources added under the user
- Total Nare DI output All NDI output sources created by users.
- My NDI output NDI output sources created under the current user.
- My Panel The control panels created under the current user.

### 3.4 Log

Statistics of all operations on the NDI Core system include the time and the account of the operation, which is conducive to troubleshooting.

The 'Add NDI Source' dialog box contains a search bar and a table of available NDI sources. The table has columns for 'NDI Source', 'NDI Group', and 'Device IP'. The sources listed include CAM1 (SDI), E1\_NDI-%N (Chan 1), E1\_NDI-210111246 (Chan 1), E2\_NDI-210220503 (Chan 1), N3-2 (Channel-1), N3-20072110107 (Channel-1), N3-20072620127 (Channel-1), N3-20072620197 (Channel-1), N30-20162530001 (Decoding Channel), N30-20162550029 (Channel-1), N30-21162510258 (Channel-1), and N30-21162520033 (Channel-1). All sources are in the 'public' group.

| NDI Source                         | NDI Group | Device IP      |
|------------------------------------|-----------|----------------|
| CAM1 (SDI)                         | public    | 192.168.28.14  |
| E1_NDI-%N (Chan 1)                 | public    | 192.168.28.17  |
| E1_NDI-210111246 (Chan 1)          | public    | 192.168.28.89  |
| E2_NDI-210220503 (Chan 1)          | public    | 192.168.28.26  |
| N3-2 (Channel-1)                   | public    | 192.168.28.11  |
| N3-20072110107 (Channel-1)         | public    | 192.168.28.21  |
| N3-20072620127 (Channel-1)         | public    | 192.168.28.92  |
| N3-20072620197 (Channel-1)         | public    | 192.168.28.12  |
| N30-20162530001 (Decoding Channel) | public    | 192.168.28.118 |
| N30-20162550029 (Channel-1)        | public    | 192.168.28.93  |
| N30-21162510258 (Channel-1)        | public    | 192.168.28.22  |
| N30-21162520033 (Channel-1)        | public    | 192.168.28.15  |

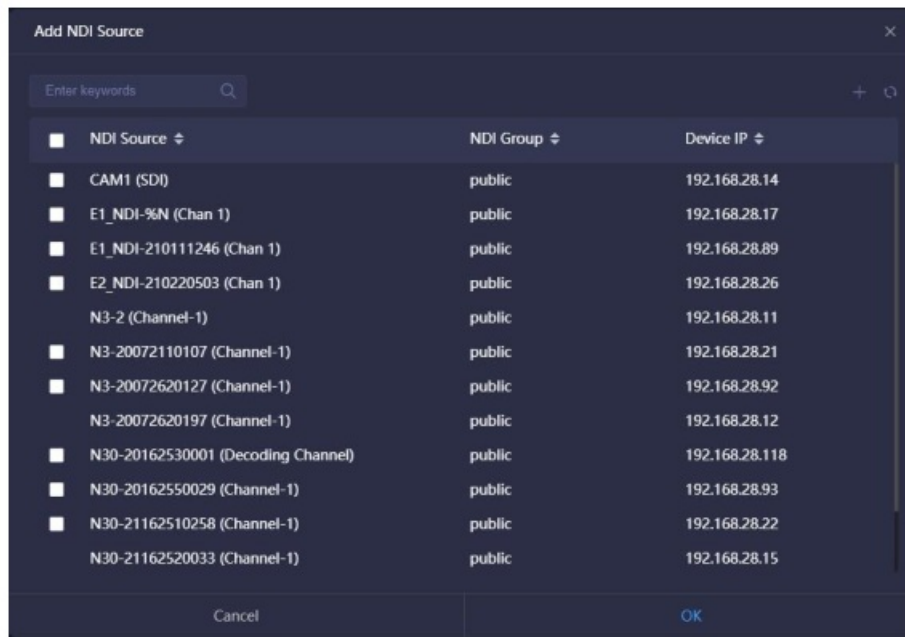
## Source Management

Click "Source Management" to enter to the NDI input or output to add and manage video sources.

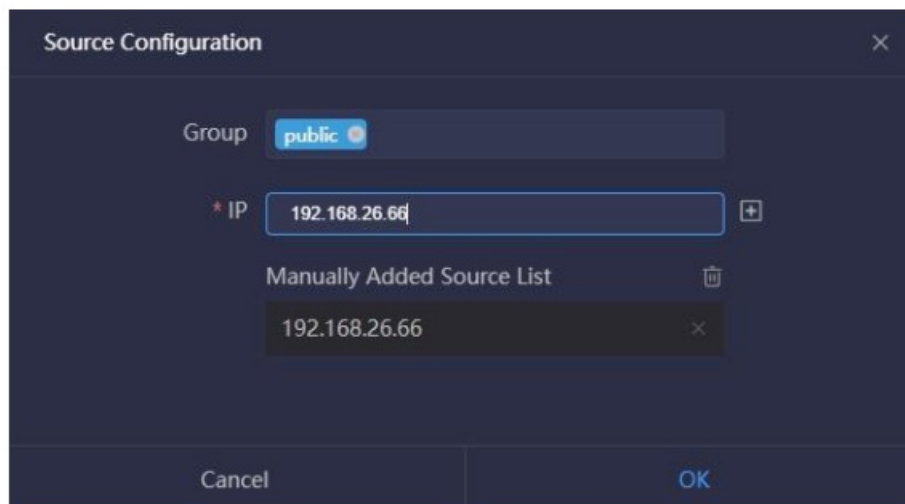
## 4.1 NDI Input

Click “NDI Input” to enter the NDI input source management page. Click “Add Source”, all NDI sources under the same network segment will be automatically discovered and displayed. Select the NDI video source that needs to be added and saved.

Not all discoverable NDI sources are transmitted by the NDI Core system. Only the video sources added to the NDI Core can be switched and copied.



The sources automatically discovered by the above method are the sources under the same subnet in the LAN, and the sources are in the public group. If the sources are not in the same subnet or not in the public group, please add it to the list manually. Click to add it manually.

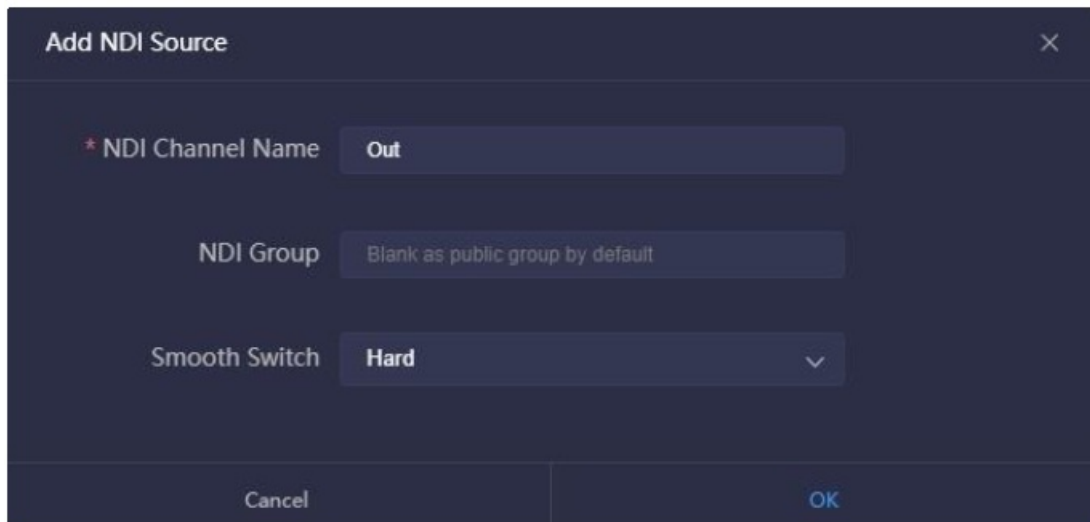


- Group: The group name of the NDI video source is public group by default.
- IP Fill in the IP address of the NDI source, click to add the IP address to the address list.
- Manually Added Source List: The IP address added to the address list will be displayed in the NDI source deleted by click the icon
- Delete all IP addresses in the list.

## 4.2 NDI Output

Create NDI virtual output, realize NDI output by controlling input NDI source or play list, and support single NDI source input and output with multiple NDI channels.

Click “NDI Output” to enter the NDI output management page. Click “Add Source” to create an NDI output channel.



The screenshot shows a dark-themed dialog box titled "Add NDI Source". It has a close button (X) in the top right corner. The dialog contains three input fields: "NDI Channel Name" with the value "Out", "NDI Group" with the value "Blank as public group by default", and "Smooth Switch" with a dropdown menu showing "Hard". At the bottom are "Cancel" and "OK" buttons.

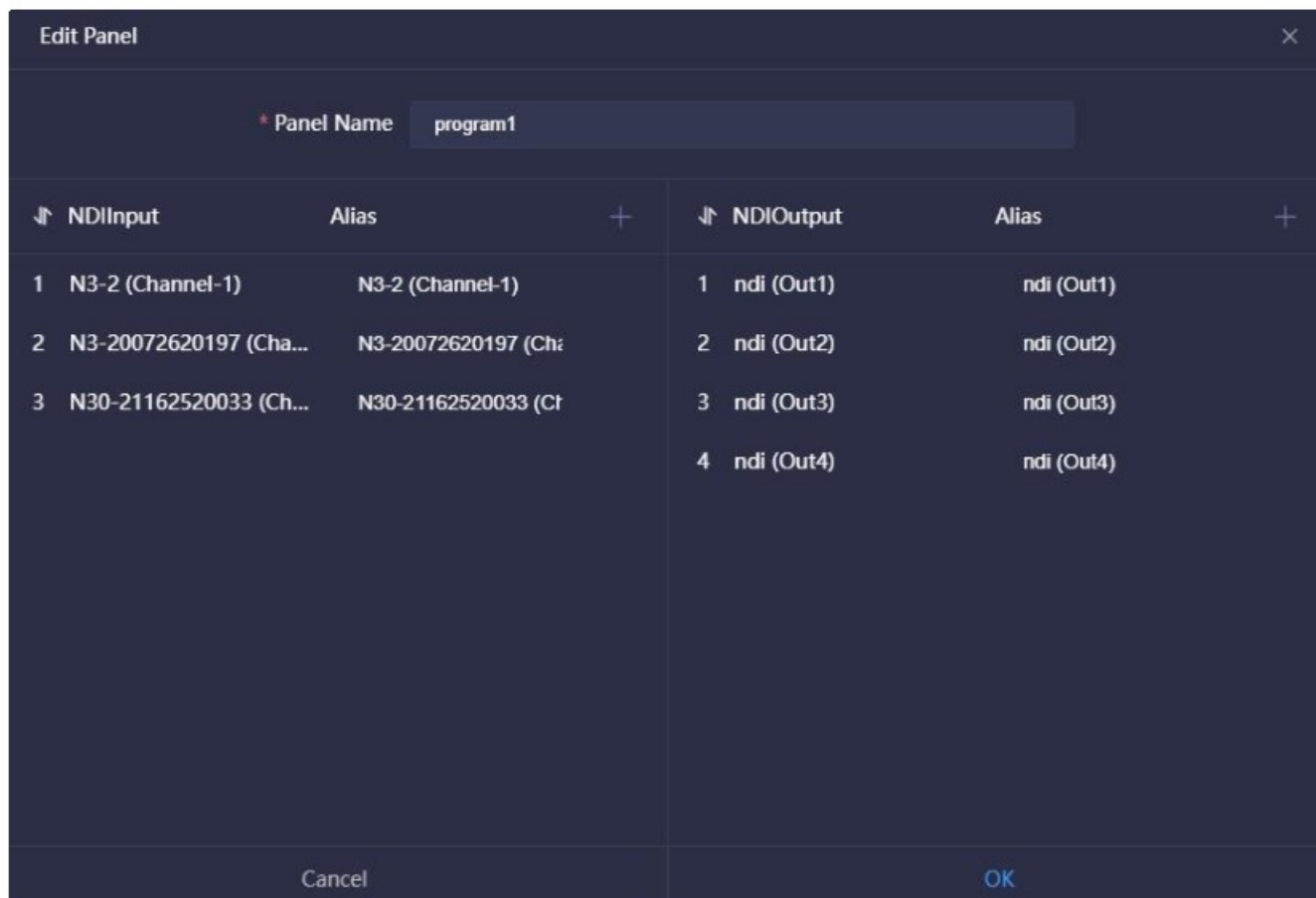
- NDI Channel Name: Output NDI channel name. Please use different names to create multiple NDI outputs. The combination of text, numbers and symbols are supported.
- NDI Group Assign the group of the NDI stream. The public group is the one by default. The group name can be a combination of English letters, numbers, and special symbols. Supports sending to multiple groups, please use commas to separate groups
- Smooth Switch When switching between different sources, to ensure a smoother stream output, it is recommended to set a switching delay. If the resolution and frame rate of the switched NDI video sources remain the same, the switching output can be smoother as welland .

## Panel Control

Click “Panel Control” to create a control panel, configure the NDI input and output, provide cross and IO panel switching options, support single play and loop play. configurations.

### 5.1 Add Panel

Click “Add Panel” under the “Panel Control” to create a switch configuration panel associated with NDI input and output.

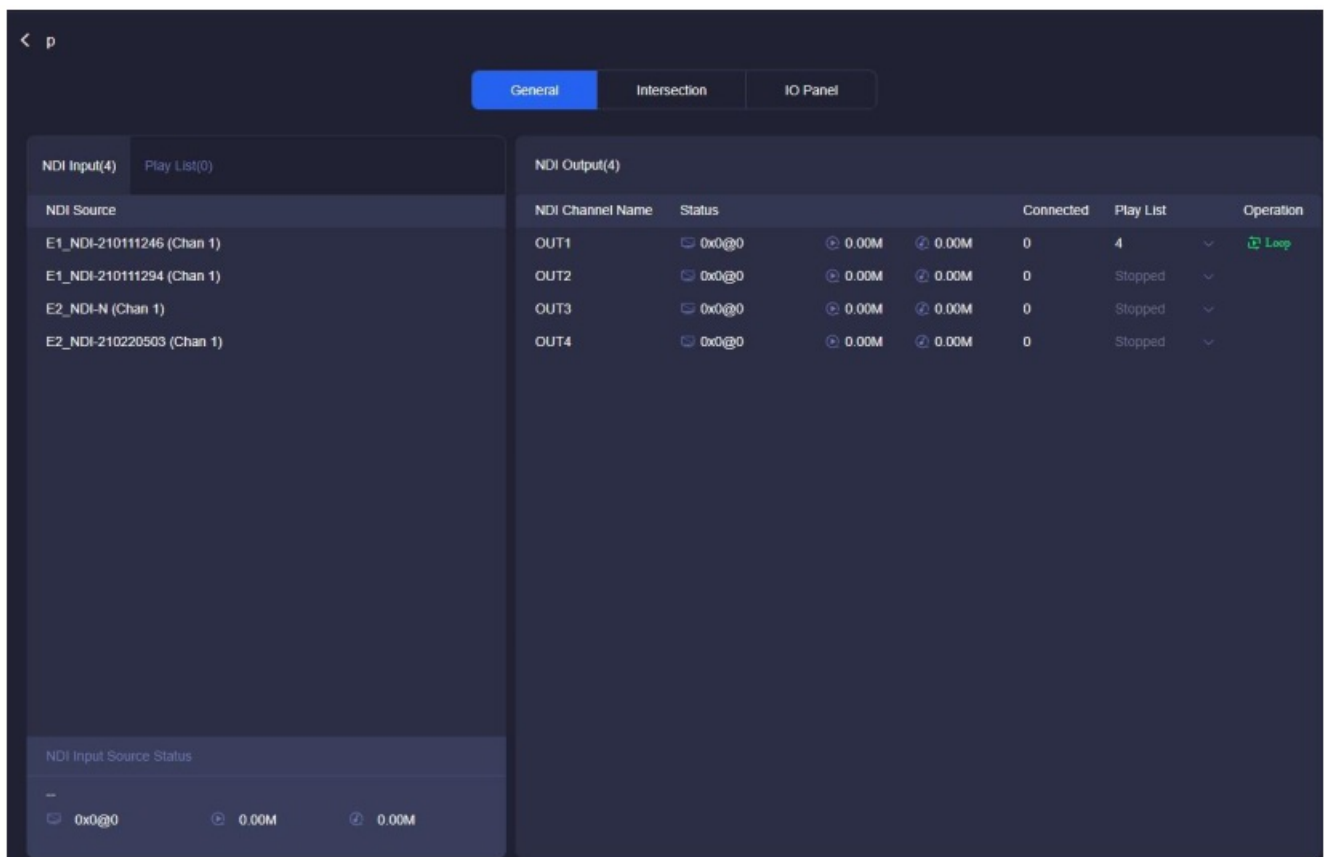


- NDI Input Click to select the input video sources that added to the source list in Chapter 3.1.
- NDI output Click to select the output video sources that were added to the source list in Chapter 3.2.
- Alias: The Alias of the video source can be changed

## 5.2 Panel Management

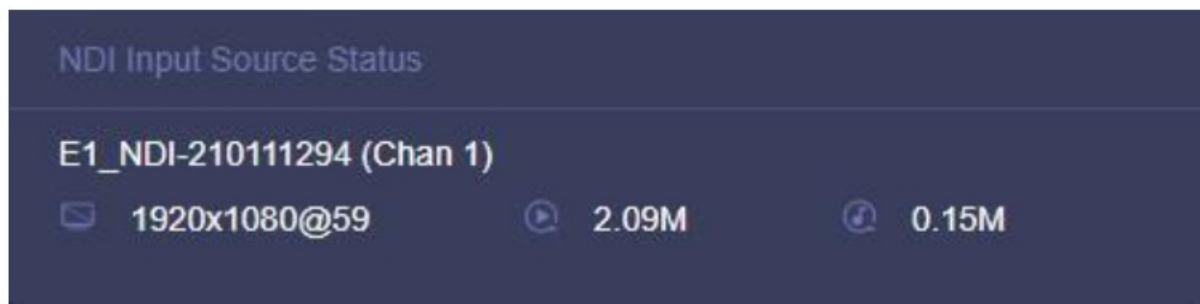
Enter the panel created, click two different styles of operation panel with same function, you can choose the one you like. You can configure and switch the NDI input and utput, and configure the playlist of the NDI output.








### NDI Input Source Status

Select the video source and the information status of the source will be displayed at the bottom.



-  The resolution and frame rate of the source.
-  The real-time bit rate of the video encoding.
-  The real-time bit rate of the audio encoding.

### NDI Output

The NDI output channel is created when the panel is added, if there is a device at the back end to pull a certain output, the output status will display the decoded resolution, frame rate, video and audio bitrate.

| NDI Output(4)    |              |       |       |           |  |           |
|------------------|--------------|-------|-------|-----------|--|-----------|
| NDI Channel Name | Status       |       |       | Connected | Play List  | Operation |
| Out1             | 1920x1080@30 | 5.58M | 6.00M | 0         | 轮播2  | Loop      |
| Out2             | 0x0@0        | 0.00M | 0.00M | 0         | <div>轮播</div> <div>✓ 轮播2</div> <div>⊖ Stop</div> |           |
| Out3             | 0x0@0        | 0.00M | 0.00M | 0         |  |           |
| Out4             | 0x0@0        | 0.00M | 0.00M | 0         |  |           |

- **Connected** The number of the back-end streams have been decoded by the NDI output channel.
- **Playlist** Click the down button to select the play list. When you want to change, please stop the current one first.
- Please refer to the “Play List” chapter for more details.
- **Operation** Set the mode of the play list to “Loop” or “Single” play. After the end of a single play list, the loop playback will continue to play the last NDI source by default; after the loop is played to the end of the last NDI source, it will return to the first NDI source to continue the loop play.

#### Play List (Only available with NDI Core Pro version)

When the NDI output channel selects “Loop”, all the NDI input video sources in the list will be displayed. A ncircle of time progress status will appear on the right side of the video source.

| NDI Input(4) |                             | Play List(4) |
|--------------|-----------------------------|--------------|
| Order        | NDI Source                  |              |
| 1            | N3-2 (Channel-1)            |              |
| 2            | N3-20072620197 (Channel-1)  |              |
| 3            | N30-21162520033 (Channel-1) |              |
| 4            | N30 (Channel-1)             |              |

- The playlist is used to establish an automatic switching relationship between input and output. According to the set time, the output channel automatically switches to different NDI sources.
- The playlist consists of multiple NDI sources and playing time
- NDI sources can be added repeatedly, and the playback time is as low as seconds.

#### Intersection Crosspoint and IO Panel

Configure the NDI input and output by the intersection. The green square indicates that the NDI input sources will output from the NDI output channels.



One NDI input source can be copied to multiple NDI channel outputs.

- Select and stop the playlist
- Under the unlocked state, the NDI video source of multiple outputs can be switched. When in the locked state, the NDI output channel cannot be manually switched. When the output channel is used by multiple control panels, the NDI output can be switched on any panel. To prevent misoperation, you can use the locked state.
- The playlist selected by the NDI output channel, and the NDI video sources played will show the current playing time.
- The functions of the IO panel are the same as the intersection.

### Download Kiloview Multiview for free

Visit the website <https://www.kiloview.com/en/ndi/multiview>, click “Get it now” to download Multiview, and install the software step by step. Hillview Multiview is a free NDI video discovery, management, and multi-screen monitoring software.

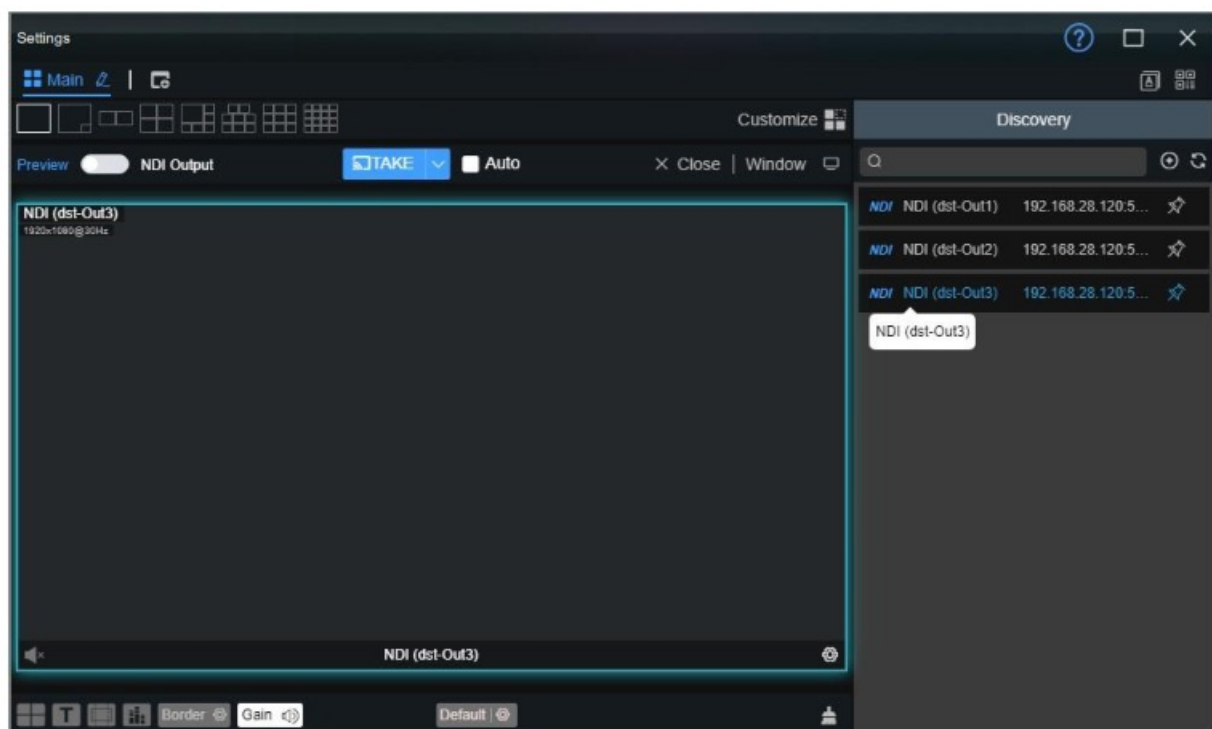


<https://www.kiloview.com/en/ndi/multiview/>

**Step 1** Enter the management page of Kiloview Multiview Player



**Step 2** Find the NDI channel output by the NDI Core in the “Discovery”



The rules for the name of the output NDI streaming from NDI Core NDI dst-channel name the channel name was created in chapter 4.2

### Play List (Only available with NDI Core Pro version)

According to actual needs, the input videos are played under Loop mode. You can configure the playback time and sequence of each video source. Click “Play List”+”Add Play List” to create a playlist. Click to add the NDI source that needs to be played to the playlist.

Edit Play List

Play List Name

4

| NDI Source                  | Already Select              | Play Duration                  |
|-----------------------------|-----------------------------|--------------------------------|
| 1 E1_NDI-210111246 (Chan 1) | ⋮ E2_NDI-N (Chan 1)         | ⌚ 00 Day 00 Hour 00 Min 05 Sec |
| 2 E1_NDI-210111294 (Chan 1) | ⋮ E1_NDI-210111246 (Chan 1) | 02 ec                          |
| 3 E2_NDI-N (Chan 1)         | ⋮ E1_NDI-210111294 (Chan 1) | 03 ec                          |
| 4 E2_NDI-210220503 (Chan 1) | ⋮ E2_NDI-210220503 (Chan 1) | 04 ec                          |
|                             |                             | 00 00 00 05                    |
|                             |                             | 01 01 01 06                    |
|                             |                             | 02 02 02 07                    |
|                             |                             | Day Hour Min Sec               |
|                             |                             | OK                             |

Cancel

OK

The NDI video source can be added to the playlist many times, click before the NDI source under the “Already Select” to sort the NDI sources.

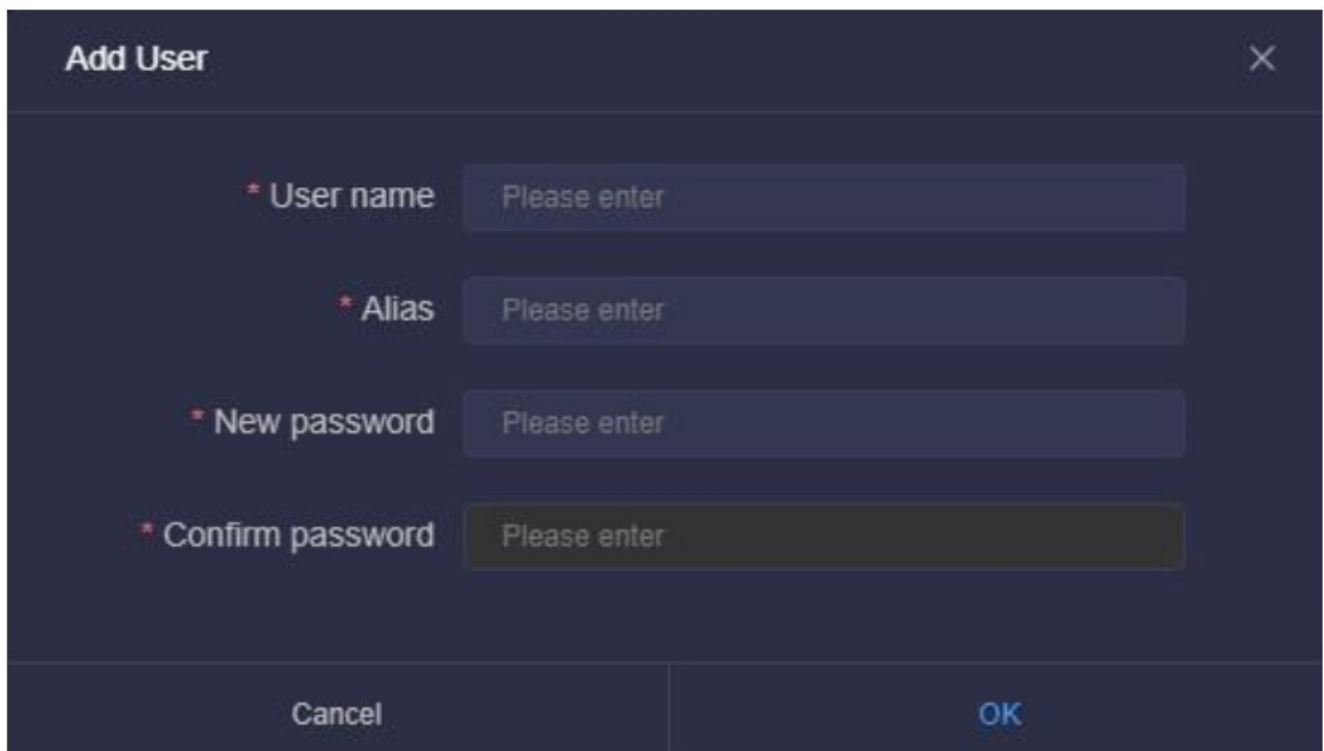
- Play Duration Configure the playing time of the NDI source, it will automatically skip to the next NDI source if the playing time ends.
- If the playlist is being used, please stop it first and then modify it.
- The same playlist can be used by multiple NDI output channels at the same time.

## Network Status

| Network Status 1 |       |           |          |            |            | Refresh |
|------------------|-------|-----------|----------|------------|------------|---------|
| Name             | Type  | Tx/s      | Rx/s     | Tx         | Rx         |         |
| eno1             | 1000M | 87.05Kbps | 1.93Mbps | 260.39Gbps | 803.44Gbps |         |

## User Management

In user management, you can add new users and modify and delete existing users. There is an admin account by default.

A dark-themed dialog box titled "Add User" with a close button (X) in the top right corner. It contains four input fields, each with a red asterisk icon and a placeholder text "Please enter". The fields are labeled "User name", "Alias", "New password", and "Confirm password". At the bottom, there are two buttons: "Cancel" and "OK".

**Add User**

\* User name

\* Alias

\* New password

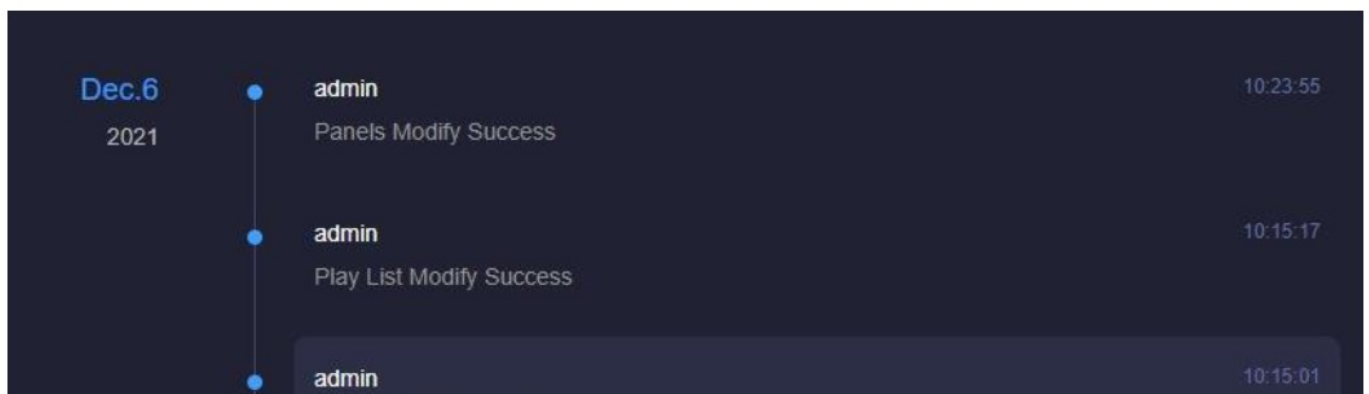
\* Confirm password

Cancel OK

- Management account: The management account is admin, it can modify and delete all accounts.
- Ordinary users: Ordinary users can only change their own password and all configurations under their account.
- All accounts can only see the configuration of the control panel, input, output and playlist created by themselves.

## Log

Please see Chapter 3.4 for details.

A log interface with a dark background. On the left, there is a date and time selector showing "Dec.6 2021". A vertical timeline with blue dots connects the log entries. The log entries are listed in a table-like format with columns for user, action, and time.

|               |                                   |          |
|---------------|-----------------------------------|----------|
| Dec.6<br>2021 | admin<br>Panels Modify Success    | 10:23:55 |
|               | admin<br>Play List Modify Success | 10:15:17 |
|               | admin                             | 10:15:01 |

For more questions, please contact us via : <https://www.kiloview.com/en/support>

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<https://www.linkedin.com/company/kiloview-electronics>



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Changsha City, Hunan Province, China.

## Documents / Resources

|   |   |
|---|---|
|  | <p><a href="#">KILOVIEW NDI Core IP-Based Video Transmission</a> [pdf] User Manual<br/>NDI Core, N60, IP-Based Video Transmission</p> |
|---|---|

## References

- [Kiloview2023 - Kiloview](#)
- [NDI Multiview - Kiloview](#)
- [NDI Core \(Control, Organize, Route and Everything\). - Kiloview](#)
- [Support and Help Center – Kiloview](#)
- [Kiloview NDI Core – Kiloview](#)