1GbE AV Over IP HDMI Encoder/Decoder
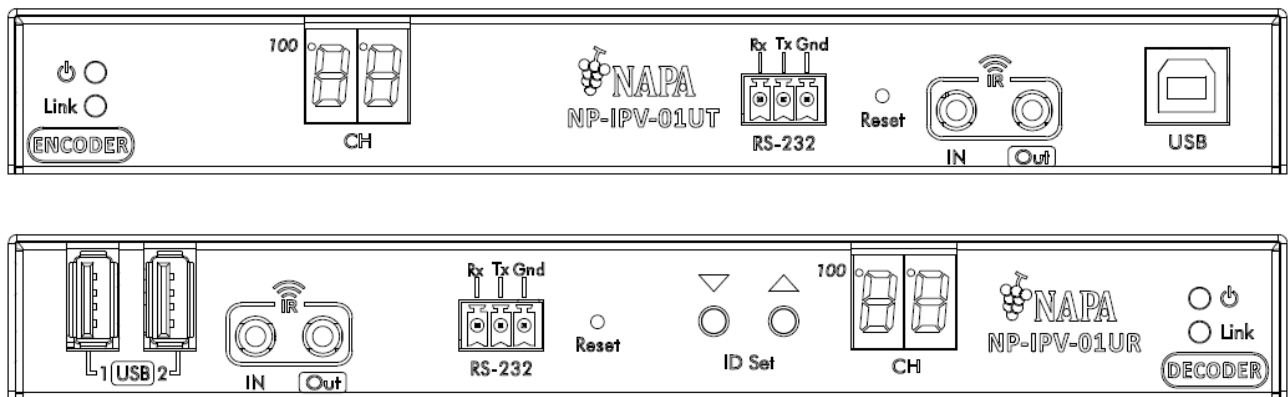
NP-IPV-01UT / NP-IPV-01UR

User Guide
Ver.1.1.0

Thank you for choosing our product.
To ensure the best performance of this product, please read this user guide fully and carefully before using it and keep this manual together with the product for future reference as needed.

- Some information contained in this guide such as exact product appearance, communication commands, and so on may differ depending on the product version.
- This guide is subject to change without notice. You can download the latest version from IDK's sales at: www.idkav.com

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Safety Instructions

Read all safety and operating instructions before using this product. Follow instructions and heed warnings/cautions.

Instructions and warnings/cautions for all products are provided. Some of them may not be applicable to your product.

⚠️ **Warning**	Indicates the presence of a hazard that may result in death or serious personal injury if the warning is ignored or the product is handled incorrectly.
⚠️ **Caution**	Indicates the presence of a hazard that may cause minor personal injury or property damage if the caution is ignored or the product is handled incorrectly.

Symbol	Description	Example
⚠️ **Caution**	This symbol is intended to alert the user. (Warning and caution)	⚠️ **Hot surfaces Caution**
🚫 **Prohibited**	This symbol is intended to prohibit the user from specified actions.	🚫 **Do not disassemble**
🔵 **Instruction**	This symbol is intended to instruct the user.	**Unplug**

⚠️ Warning

For lifting heavy products:

❗ **Instruction**	● **Lifting must be done by two or more personnel.** To avoid injury: When lifting the product, bend your knees, keep your back straight and get close to it with two or more persons.

For installing and connecting products:

🚫 **Prohibited**	● **Do not place the product in unstable place.** Install the product in a horizontal and stable place, as this may fall or tip over and cause injury. ● **Secure the product if installing in the locations with vibration.** Vibration may move or tip over the product unexpectedly, resulting in injury.

⚠ **Warning**

![Instruction icon] **Instruction**	● **Installation work must be performed by professionals.** The product is intended to be installed by skilled technicians. For installation, please contact a system integrator or IDK. Improper installation may lead to the risk of fire, electric shock, injury, or property damage. ● **Insert the power plug into an outlet that is unobstructed.** Unobstructed access to the plug enables unplugging the product in case of any extraordinary failure, abnormal situation or for easy disconnection during extended periods of non-use. ● **Insert the power plug into an appropriate outlet completely.** If the plug is partially inserted, arching may cause the connection to overheat, increasing the risk of electric shock or fire. Do not use a damaged plug or connect to a loose outlet. ● **Unplug the product from an AC power source during installation or service.** When connecting peripheral devices to this product, unplug all involved devices from outlets. Ground potential differences may cause fire or other difficulties. ● **The product must be electrically earthed/grounded.** To reduce the risk of electric shock, ensure the product is connected to a mains socket outlet with a protective earthing connection. ● **For PoE/PoH, use category cables meeting IEEE802.3af/at.** Otherwise, it may cause problems or a fire.

For operating products:

![Prohibited icon] **Prohibited**	● **Keep out any foreign objects.** To avoid fire or electric shock, do not permit foreign objects, such as metal and paper, to enter the product from vent holes or other apertures. ● **For power cable/plug and Category cable,** ・ **Do not scratch, heat, or modify, including splicing or lengthening them.** ・ **Do not pull, place heavy objects on them, or pinch them.** ・ **Do not bend, twist, tie or clamp them together forcefully.** Misuse of the power cable and plug may cause fire or electric shock. If power cables/plugs become damaged, contact your IDK representative.
![Do not disassemble icon] **Do not disassemble**	● **Do not repair, modify or disassemble.** Since the product includes circuitry that uses potentially lethal, high voltage levels, disassembly by unauthorized personnel may lead to the risk of fire or electric shock. For internal inspection or repair, contact your IDK representative.
![Do not touch icon] **Do not touch**	● **Do not touch the product and connected cables during electric storms.** Contact may cause electric shock.
![Instruction icon] **Instruction**	● **Clean the power plug regularly.** If the plug is covered in dust, it may increase the risk of fire.

If the following problem occurs:

![Unplug icon] **Unplug**	● **Unplug immediately if the product smokes, makes unusual noise, or produces a burning odor.** ● **Unplug immediately if the product is damaged by falling or having been dropped.** ● **Unplug immediately if water or other objects are directed inside.** If you continue to use the product under these conditions, it may increase the risk of electric shock or fire. For maintenance and repair, contact your IDK representative.

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⚠ **Caution**

For installing and connecting products:

🚫 **Prohibited**	● **Do not place the product in a location where it will be subjected to high temperatures.** If the product is subjected to direct sunlight or high temperatures while under operation, it may affect the product's performance and reliability and may increase the risk of fire. ● **Do not store or operate the product in dusty, oil smoke filled, or humid place.** Placing the product in such environment may increase the risk of fire or electric shock. ● **Do not block the vent holes.** If ventilation slots are blocked, it may cause the product to overheat, affecting performance and reliability and may increase the risk of fire. ● **Do not place or stack heavy items on the product.** Failure to observe this precaution may result in damage to the product itself as well as other property and may lead to the risk of personal injury. ● **Do not exceed ratings of outlet and wiring devices.** Exceeding the rating of an outlet may increase the risk of fire and electric shock.
🚫 **No wet hands**	● **Do not handle power plug with wet hands.** Failure to observe this precaution may increase the risk of electric shock.
❗ **Instruction**	● **Use and store the product within the specified temperature/humidity range.** If the product is used outside the specified range of temperature and humidity continuously, it may increase the risk of fire or electric shock. ● **Do not place the product at elevations of 1.24 mi. (2,000 m) or higher above sea level.** Failure to do so may shorten the life of the internal parts and result in malfunctions. ● **When mounting the product into the rack, provide sufficient cooling space.** Mount the product in a rack meeting EIA standards, and maintain spaces above and below for air circulation. For your safety as required, attach an L-shaped bracket in addition to the panel mount bracket kit to improve mechanical stability. ● **Never insert screws without the rubber feet into the threaded holes on the bottom of the product.** Never insert screws alone into the threaded holes on the bottom of the product. Doing so may lead to damage when the screws contact electric circuitry or components inside the product. Reinstall the originally supplied rubber feet using the originally supplied screws only.

For operating products:

Hot surfaces Caution	**For products with the hot surfaces caution label only:** ● **Do not touch the product's hot surface.** If the product is installed without enough space, it may cause malfunction of other products. If you touch product's hot surface, it may cause burns.
Prohibited	● **Use only the supplied power cable and AC adapter.** ● **Do not use the supplied power cable and AC adapter with other products.** If non-compliant adapter or power cables are used, it may increase the risk of fire or electric shock.
Unplug	● **If the product won't be used for an extended period of time, unplug it.** Failure to observe this precaution may increase the risk of fire. ● **Unplug the product before cleaning.** To prevent electric shock.
Instruction	● **Do not prevent heat release.** If cooling fan stops, power off the product and contact IDK. Failure to do so may raise internal temperature and increase the risk of malfunction, fire, or electric shock. ● **Keep vents clear of dust.** If the vent holes near the cooling fan or near the fan are covered with dust, internal temperatures increase and may increase the risk of malfunction. Clean the vent holes and near the fan as needed. If dust accumulates inside of the product, it may increase the risk of fire or electric shock. Periodic internal cleaning, especially before humid rainy season, is recommended. For internal cleaning, contact your IDK representative.

Contents

About this Product

NP-IPV-01UT / R is IP network extender which can send maximum 4K@60Hz image by Cat 5e/6 cable.
With a combination of 1G PoE network switch, external power supply is unnecessary.
This can be used for video wall, matrix switcher and extender simply and flexibly.
Bidirectional IR and RS232 and USB extension available.

Combined use with LAN switch

Users need to settle Jumbo frame to all LAN switch on network route. All Encoders and Decoders are designed to be used under the same broad cast domain.

Since this product uses Multicast for video transmission,
please settle IGMP Snooping of LAN switch to "enable", so that to avoid unnecessary packet flooding.

Accessories

Please ensure that all the accessories below are included.

- ■ **Encoder**
  - ・ NP-IPV-01UT   1 unit
  - ・ Phoenix Connector (3 pins)   1 piece
  - ・ Rack mounting parts   1 pair
  - ・ IR Cable   1 piece

- ■ **Decoder**
  - ・ NP-IPV-01UR   1 unit
  - ・ Phoenix Connector (3 pins)   1 piece
  - ・ Rack mounting parts   1 pair
  - ・ IR Cable   1 piece

Product Introduction

· NP-IPV-01UT (Encoder)
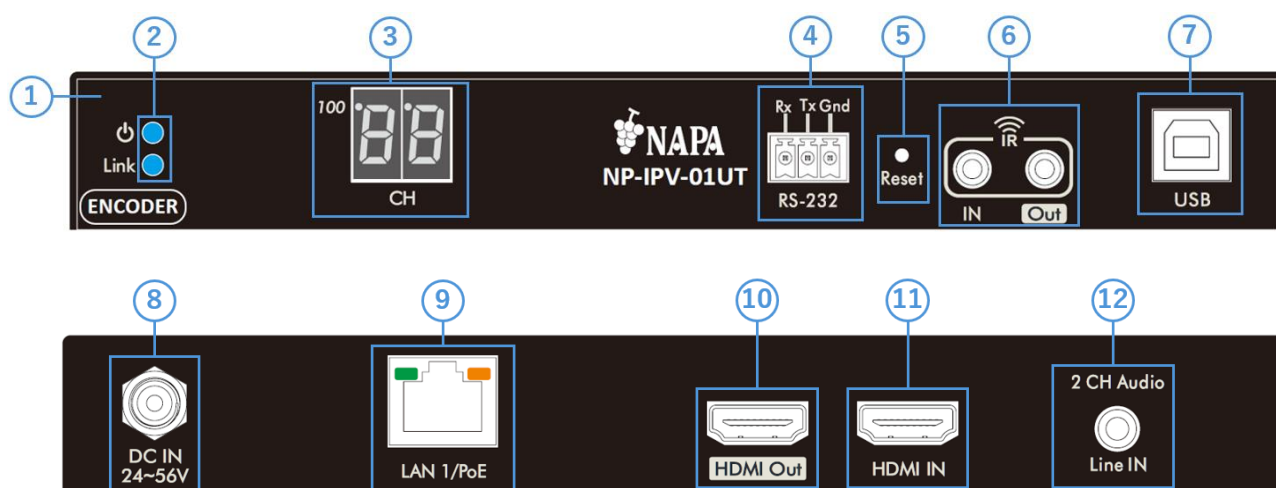
①	**Front Panel**
②	**Status LED**
	Power LED blinks during reboot, and lights after rebooting.
	Link LED lights when Encoder and Decoder are connected and passing video.
③	**Channel Display**
	Display Encoder's present channel.
④	**RS-232C**
	RS-232C Connector Port.
⑤	**Reset button**
	Reboot by pushing this button for Encoder.
⑥	**IR port**
	Cable port for 3.5mm IR Input / Output Cable.
⑦	**USB port**
	Connecting port for USB Host.
⑧	**48 V DC IN**
⑨	**LAN Port**
	Connect to network using Cat-5e (or better) cable. This port can accept PoE power.
⑩	**HDMI Output**
⑪	**HDMI Input**
⑫	**Analog Audio Input**

﹒ NP-IPV-01UR (Decoder)
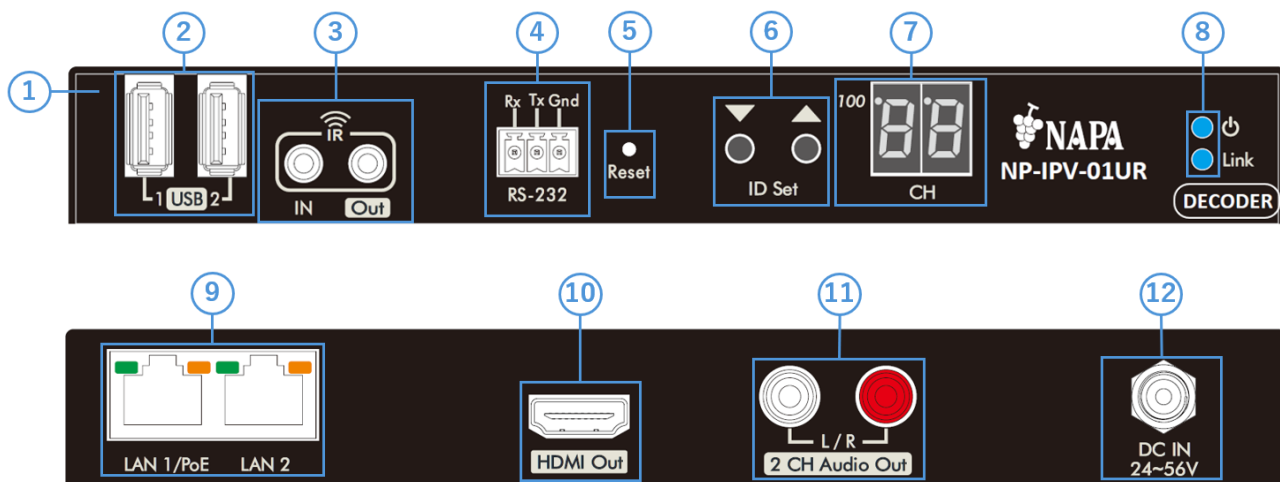
①	**Front Panel**
②	**USB port** 　Connect USB devices such as Mouse and Keyboard.
②	**IR Port** 　Cable port for 3.5mm IR Input / Output Cable.
④	**RS-232C** 　RS-232C Connector Port.
⑤	**Reset button** Reboot by pushing this button for Decoder.
⑥	**Channel Set button** 　Press UP or Down button to select Channel.
⑦	**Channel Display** 　Display Decoder's present channel.
⑧	**Status LED** 　Power LED blinks during reboot, and lights after rebooting. 　Link LED lights when Encoder and Decoder are connected and passing video.
⑨	**LAN Port** 　Connect to network using Cat-5e (or better) cable. This port can accept PoE power.
⑩	**HDMI Output**
⑪	**Analog Audio Output**
⑫	**48 V DC IN**

Setting

IP address Setting

Fixed IP address is settled to each Encoder and Decoder at the factory default.
If users use multiple Encoders and Decoders in the same network, they need to put unique IP address for each device.

・Encoder IP address / Channel Setting

Encoder's IP address is set [169.254.2.1] at the factory default.
Setting IP address can be done by [Network] (reference P.19 Network) in Web UI.
Setting Channel can be done by using the command "setup_device".
From [System]-[Utilities]-[Console API Command] in the Web UI,
users can change the channel number by running the command
"set_channel (specified channel number)".

Console API Command

set_channel 1   Apply

Output

・Decoder IP address / Channel Setting

Decoder's IP address is set [169.254.3.1] at the factory default.
Channel number of Decoder is shown in the Channel Display at Front panel.
Channel can be changed by pushing △(up) / ▽(down) button in the Front panel.
IP address can be changed by following steps.

① Connect Decoder to PoE power or DC power.
② Wait until Channel Display shows number.
③ Connect HDMI cable from Decoder's HDMI Out to Monitor. IP address can be confirmed on Monitor.
④ Connect PC by LAN cable to Decoder's LAN2 port.
⑤ Enter IP address in web browser to confirm Web UI.
⑥ Go to [Network]-[IP Setup]-[Static] of WebUI and change IP address, then Click "Apply".
⑦ Go to [System]-[Utilities] of WebUI and select "Reboot", then Click "Apply" for rebooting.

※Please see Web UI for more details.

Power Supply

Power supply for Encoder / Decoder is available either PoE power or 48V DC power.

Installation

Encoder and Decoder units can be connected over LAN switch, or they can be directly connected point to point.

Users can observe each LED of units and information display on monitor to make sure units work correctly.

▪ Matrix

Connect each Encoder and Decoder through LAN switch as per following image.
Each Decoder can choose Encoder by selecting channel button.
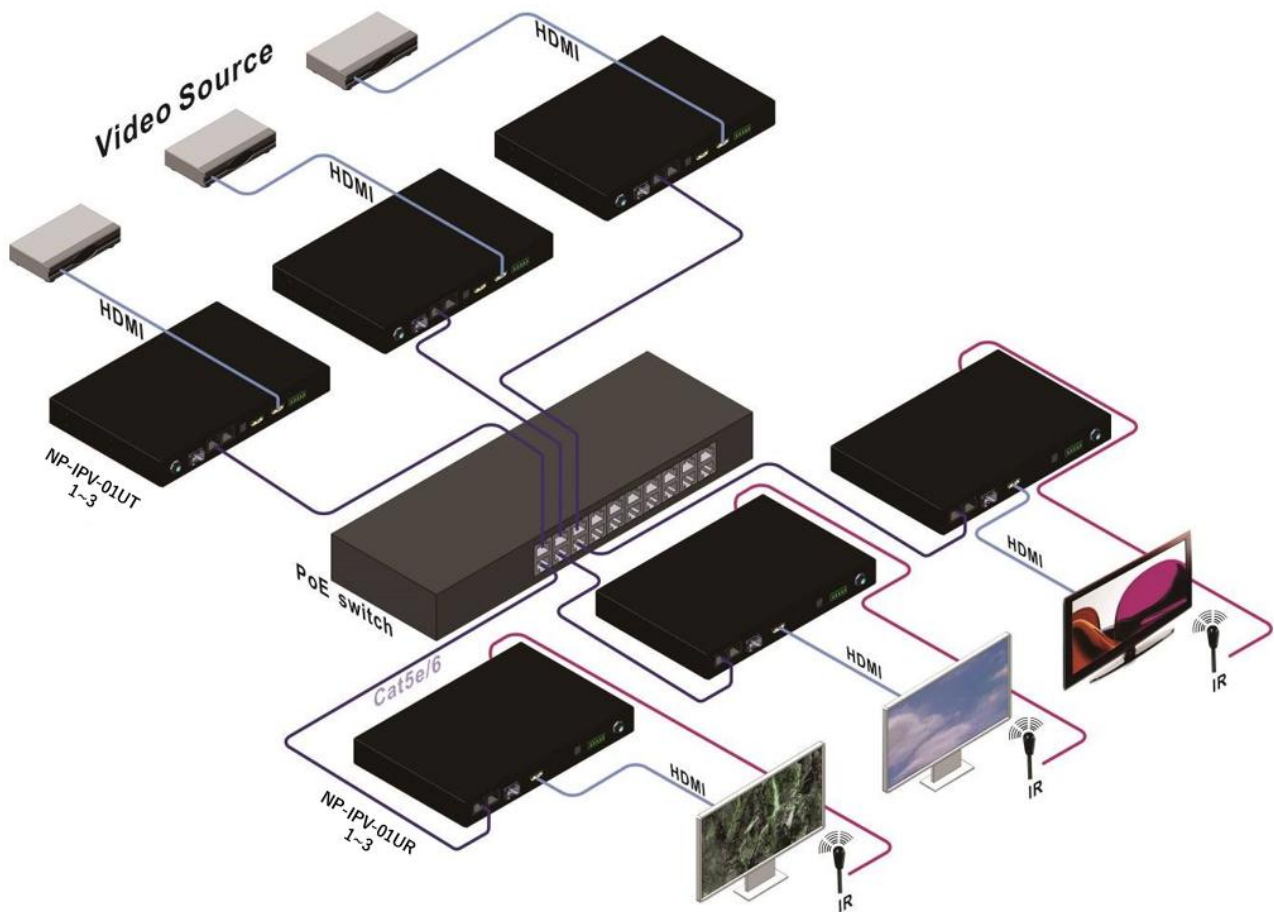
‧ Video Wall

Connect each Encoder and Decoder through LAN switch as per following image.
Please see WebUI Video Wall Section for more details.
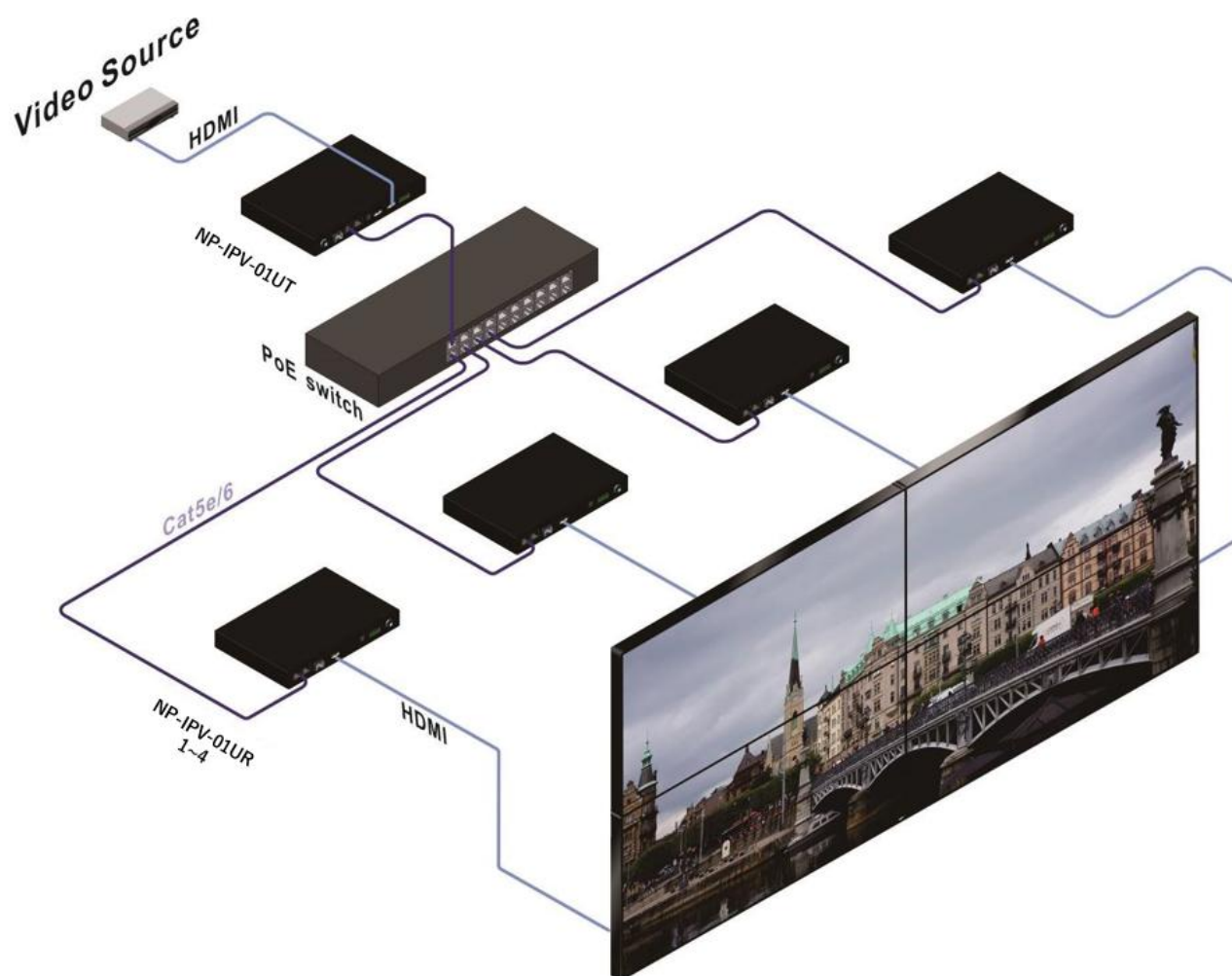
Web UI

Web UI allows users to settle various functions that they need. Connect PC's ethernet port to LAN switch or LAN2 port of Decoder. Key in IP address of Encoder, Decoder from web browser and access to WebUI. Users can click the necessary tab and choose functions.

If Windows PC is used as setting device, its wired LAN is settled as DHCP as default.
In case Decoder is connected directly, link local address(169.254.xxx.xxx) is allocated automatically to Windows PC after about 1 minute passed.

System

・ Version Information

Version Information is available.
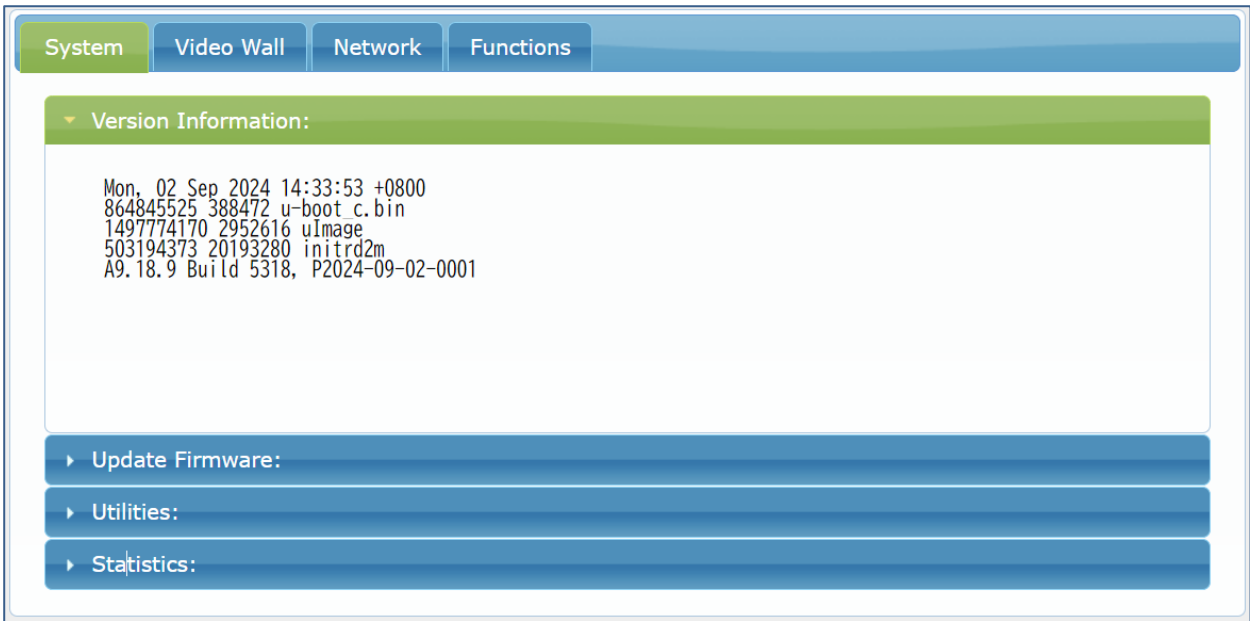
・ **Update Firmware**

Firmware can be updated by uploading the firmware file.

System	Video Wall	Network	Functions

▶ Version Information:

▼ Update Firmware:

　　ファイルを選択　選択されていません

　　Upload

Warning: Stop any service by disconnecting from the peer before you proceed to upgrade firmware.

▶ Utilities:

▶ Statistics:

・**Utilities**

①	**Factory Default**
	Set all settings to default setting.
	IP address is also reset to factory default 169.254.2.1 (Encoder) / 169.254.3.1 (Decoder).
②	**Reboot**
	There are several settings which require the unit to reboot.
	Click "Reboot" button and wait for rebooting in those cases.
③	**Change EDID (only for Encoder)**
	EDID can be changed from available rate. Select any EDID from dropdown menu and click "Apply".
	※Users can register their own EDID data to "User defined EDID" of Encoder.
	Please refer to [NP-IPV-01U Command Guide] for the details.
④	**Console API Command**
	Users can issue a command which is listed in [NP-IPV-01U Command Guide].
⑤	**Output**
	Shows the result of command execution.

▪ **Statistics**

Network information, Video sigmal information are available.

Encoder and Decoder show invididual information.

System	Video Wall	Network	Functions

▸ Version Information:

▸ Update Firmware:

▸ Utilities:

▾ Statistics:

State Machine

State: s_attaching

Network

Product Serial Number: sampleT01

ID (Host Name): 0001

IP Address: 169.254.2.1

Subnet Mask: 255.255.0.0

Default Gateway: 169.254.1.1

MAC Address: 0019FA00617E

Casting Mode: Multicast Mode

Link Status: on

Link Mode: 1G

Channel: 1

Video

EDID Used:

```
00 ff ff ff | ff ff ff 00 | 06 74 02 10 | 01 00 00 00 | .........t......
30 1a 01 03 | 80 50 2d 78 | 2a 5f b1 a2 | 57 4f a2 28 | 0....P-x*_..WO.(
0f 50 54 21 | 00 00 81 c0 | 01 00 01 00 | 01 00 01 00 | .PT!............
01 00 01 00 | 01 00 02 3a | 80 18 71 38 | 2d 40 58 2c | .......:..q8-@X,
45 00 fe 1f | 11 00 00 1e | 00 00 00 10 | 00 00 00 00 | E...............
00 00 00 00 | 00 00 00 00 | 00 00 00 00 | 00 fd 00 38 | ...............8
4c 26 53 11 | 00 0a 20 20 | 20 20 20 20 | 00 00 00 fc | L&S...      ....
00 4e 50 2d | 48 44 32 49 | 50 20 48 44 | 20 20 01 5f | .NP-HD2IP HD  ._
02 03 20 c1 | 48 90 1f 20 | 04 13 03 12 | 3c 23 09 1f | .. .H.. ....<#..
07 83 01 00 | 00 6a 03 0c | 00 10 00 80 | 1e 00 10 00 | .....j..........
01 1d 00 72 | 51 d0 1e 20 | 6e 28 55 00 | 60 59 21 00 | ...rQ.. n(U.`Y!.
00 1e 00 00 | 00 00 00 00 | 00 00 00 00 | 00 00 00 00 | ................
00 00 00 00 | 00 00 00 00 | 00 00 00 00 | 00 00 00 00 | ................
00 00 00 00 | 00 00 00 00 | 00 00 00 00 | 00 00 00 00 | ................
00 00 00 00 | 00 00 00 00 | 00 00 00 00 | 00 00 00 00 | ................
00 00 00 00 | 00 00 00 00 | 00 00 00 00 | 00 00 00 bc | ................
```

Local Video Output:

Attached: n

Video Timing Information:

Not Available

Video Wall

This section allows users to configure video wall.

Users can use any unit (Encoder/Decoder) to set the same group units to execute Video wall function. Choose setting unit from dropdown list of the following drawing.

"Hosts" group shows Encoders and "Clients" group shows Decoders. It is recommended to settle common value for video wall structre such as monitor size and number of vertical/horizontal monitor after selection of "All". Video wall location of each Decoder can be set after common setting by selecting each Decoder.

※Setting for the Encoder is not required.

・ Basic Setup
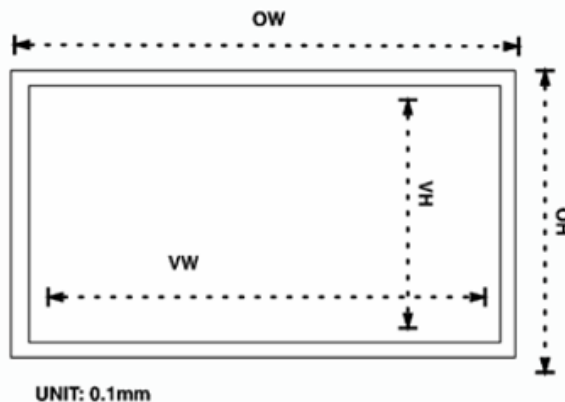
Bezel and Gap Compensation

Used for bezel and gap compensation. If user doesn't need adjustment, please set all values to "0".

Enter monitor size. Note that the unit is 0.1mm and value must be integral.

Wall Size and Position Layout

Vertical Monitor Count: Select total monitors vertically in video wall.

Horizontal Monitor Count: Select total monitors horizontally in video wall.

Row Position: Select row position of monitor that Decoders connect to.

Column Position: Select column position of monitor that Decoders connect to.

※the count of Row Position and Column Position starts from "0".

①	**Preferences** Stretch Type Select "Stretch out" to keep same aspect ratio as original video source. Select "Fit In" to show all video area inside wall. This setting works only if vertical or horizontal monitors are different. Rotate and Flip Rotate video on screen. Users can select 0, 180, 270 degrees.
②	**Apply To:** Select Encoder / Decoder to reflect on the setting changed in Web UI.
③	**Show OSD** Enable this function to show the position number on monitor. This function may help users to recognize the monitor position in video wall.

Network

IP Setup

Select IP address mode.

Auto IP: Link local IP address is assigned at randam.

DHCP : IP address is assigned by DHCP server.

Static : User can key in fixed IP address.

※Encoder can settle channel number at the same time of IP address setting.

Channnel number needs to be unique as well as IP address.

Casting Mode

Please choose Multicast only.

※Multicast operation is highly recommended except the special cases.

Please consult us if unicast operation is prefered and required.

Function

Video over IP

Enable Video over IP   : Always check this part enable during operation.

Enable Video Wall   : Always check this part enable during operation.

Maximum Bit Rate (only for Encoder):

   Reduce the maximum bit rate if there are total throughout limit on network.

   ※Please note that reducing the maximum bit rate will affect video quality.

     It is highly recommended to use "Best Effort" if there are no problems.

Copy EDID from this Video Outout (only for Decoder):
Please DO NOT check under multicast operation.
If user wants to settle specific monitor EDID for Encoder under multicast operation,
please refer to [NP-IPV-01U Command Guide]. If users would enable this function,
Decoder will send EDID information of connecting monitor to Encoder.
Encoder records EDID information to its memory and sends to souce devices.
If users want to rese to default EDID value, please refer to "Change EDID".

Scaler Output Mode (only for Decoder):
Users can scale and set HDMI output resolution such as 1080P@60, 2160P@60 regardless of
the resolution of Encoder input.
Keep Pass-Through if users want to set the resolution of Decoder output the same as video source.

Timeout for detecting Video Lost:
Select time value to keep lasting video frame when Encoder detects video lost.

Turn off screen on video lost:
Enable this function to turn off Decoder's HDMI output after detection of Encoder's video lost.
This function can be used to utilize the power saver function of monitor.

Power Save Timeout:
Enable this function to set the time from power saver mode to turn off the power of monitor.

USB over IP

"USB Hub Extension" and "Keyboard / Mouse extension" are available as USB extension.

"USB Hub Extension" is more like direct connection of actual keyboard and mouse to the host.

Under multicast mode when same video & audio is sent to several Decoders,

keyboard and mouse are extended to only one Decoder.

To switch the extension to the other Decoder, users need to push "up and down" buttons in front panel

of Decoder at the same time.

"Keyboard / Mouse Emulation extension" stands for the connection of virtual keyboard and mouse.

Under muticast mode when same video and audio are sent to several Decoders,

any connected Decoders can use keyboard and mouse.

Enable USB over IP:

Enables "USB hub extension".

To enable this function, uncheck "K/M over IP" in "Compatibility Mode".

Operation Mode:

Always select "Active per request".

Compatibility Mode:

K/M over IP:

Enables "Keyboard/Mouse emulation extension function".

To enable this function, uncheck "Enable USB over IP".

※Disable both "Enable USB over IP" and "K/M over IP" if USB extension function is not in use.

Serial over IP
  Enable Serial over IP:
    Enables RS-232C serial extension over IP. users need to select same operation mode and set enable
    for all Encoders and Decoders. If different operation modes are set between the units, this may influence
    the image quality. Rx pin of RS-232C connector receives the data and Tx pin sends the data.

  Operation Mode:
    Type 1:
    By sending command to RS-232C connector of Encoder, users can choose the Decoder to extend serial
    communication. Communication parameter to Encoder is fixed to [115200 b / 8 bit / none parity / 1 stop
    bit]. By sending CTRL-N to Encoder, it shows '>' as prompt and starts to receive a command.
    The command should be > ast_c MAC_ADDRES COMMUNICATION_PARAMETERS
    MAC_ADDRESS needs to be specified as 12 alphanumeric characters without separator.
    Kindly refer to the below figure "Operation Mode Type 1: Communication parameters description."
    how to describe COMMUNICATION_PARAMETERS.
    Users need to have AV transmission between Encoder and Decoder if they want to have serial
    transmission among same pair.

Type 2 :

Transmit serial data between Encoder and Decoder which AV transmission are established.

Under multicast mode, serial data is forwarded to all Decoders from one Encoder while audio and video are transmitted.

Serial data which is sent to one specific Decoder is forwarded to Encoder only.

Serial data transmission to two or more Decoders at same time may cause the unstable operation.

Type 1 guest mode:

Not available.

Type 2 guset mode:

Transmits serial data to RS-232C connector of Encoder or Decoder through network.

Please access TCP port 6752 of Encoder or Decoder to which the user wants to send and receive data.

There is buffering every one line from Telnet terminal software to RS-232C connector of Tx pin.

There is no buffering from Telnet terminal software to RS-232C connector of Rx pin and the data is forwarded every 1byte.

Baudrate Setting:

Specifies RS-232C communication parameters.

All Encoder and Decoder must have the same parameters.

Effective under Type 2 and Type 2 guest mode. Not effective under Type 1.

Specification

		NP-IPV-01UT	NP-IPV-01UR
Video/Audio input	HDMI	1 input	-
		HDMI/DVI 1.0 TMDS single link, HDCP 1.4/2.2 TMDS clock: Up to 300 MHz, TMDS data rate: Up to 18 Gbps Deep Color/HDR[*1]	
		640x480@60 to 3840x2160@60 Reduced Blanking 480i, 576i to 3840x2160@24/25/30/50/59.94/60 (4:4:4), 3840x2160@50/59.94/60 (4:2:0), 　　　　　　　4096x2160@24/25/30/50/59.94/60 (4:4:4), 4096x2160@50/59.94/60 (4:2:0) Color depth: 24/30/36 bits *For all supported video signals, see the table below.	
		LPCM: Up to 8 channels Sampling frequency: 32/44.1/48/88.2/96/176.4/192 kHz Reference level: -20 dBFS, Max. input level: 0 dBFS	
		Connector: HDMI Type A (19-pin) Maximum distances[*2]: 16.4 ft (5 m)	
	Analog audio	1 input	-
		Stereo L/R Input impedance: 20 kΩ unbalanced Max. input level: 1 Vrms	-
	1GbE	-	1 input
		*Supported video signals are the same as those of HDMI.	
		RS-232C/IR/USB	
		Connector: RJ-45 Maximum distances: 328 ft. (100 m) Cable: CAT5e / CAT6	
Video/Audio output	HDMI	1 output	1 output
		HDMI/DVI 1.0 TMDS single link, HDCP 1.4/2.2 TMDS clock: Up to 300 MHz, TMDS data rate: Up to 18 Gbps Deep Color/HDR[*1]	
		640x480@60 to 3840x2160@60 Reduced Blanking 480i, 576i to 3840x2160@24/25/30/50/59.94/60 (4:4:4), 3840x2160@50/59.94/60 (4:2:0), 　　　　　　　4096x2160@24/25/30/50/59.94/60 (4:4:4), 4096x2160@50/59.94/60 (4:2:0) Color depth: 24/30/36 bits *For all supported video signals, see the table below.	
		LPCM: Up to 8 channels Sampling frequency: 32/44.1/48/88.2/96/176.4/192 kHz Reference level: -20 dBFS, Max. output level: 0 dBFS	
		Connector: HDMI Type A (19-pin) Maximum distances[*2]: 16.4 ft (5 m)	
	Analog audio	-	1 output
		-	Stereo L/R Output impedance: 33 Ω unbalanced Max. output level: 0.95 Vrms
	1GbE	1 output	-
		*Supported video signals are the same as those of HDMI.	
		RS-232C/IR/USB	
		Connector: RJ-45 Maximum distances: 328 ft. (100 m) Cable: CAT5e / CAT6	
Control I/F	RS-232C	1 port/Connector: Captive screw (3-pin)	
	LAN	1 port/10Base-T/100Base-TX/1000Base-T (Auto Negotiation), Auto MDI/MDI-X, Connector: RJ-45	
	USB	1 port/HID class, Connector: Female Type-B	1 port/HID class, Connector: Female Type-B
	IR input / output	1 port each for input / output	
Functions		7-segment Channel display, Scaler (only for Decoder)	
General	Power	PoE, Connector: RJ-45 (1GbE input)	
		AC adapter: AC 100 V - 240 V ±10%、 50 Hz/60 Hz ±3 Hz、 DC 48 V 0.5 A 24 W	
	Power consumption	PoE: 7.7 W AC adapter: 7.7 W	PoE: 8.5 W AC adapter: 8.5 W
	Dimensions	190.4 (W) x 24.5 (H) x 127.2 (D) mm (Excluding connectors and the like)	
	Weight	0.70 kg	
	Temperature	Operating: 32°F to 104°F (0°C to +40°C), Storage: -4°F to +176°F (-20°C to +80°C)	
	Humidity	20% to 90% (non-condensing)	

[*1]　x.v.Color/3D/ARC/HEC/CEC are not supported.
[*2]　The maximum specified distances may not be achievable with some device combinations, cabling method, or other manufacturer's cable. For the same reasons, video signal disturbances or interruptions may occur, even if signals are within the specified distance (cable length) parameters.
　　The maximum cable length varies depending on the connected devices. The specifications have been qualified under following conditions:
　　　・HDMI (1080p@60)　　　: When IDK's 24 AWG cable was used and signal of 1080p@60 24 bits was transmitted.
　　　・HDMI (4K@60)　 : When IDK's 18 Gbps supported cable was used and signal of 3840x2160@60 24 bits was transmitted.

Supported video signals

Signal	Resolution	Frame Rate [Hz]	Pixel Clock [MHz]	Color Depth [bits]	INPUT HDMI 1GbE	OUTPUT HDMI 1GbE
640x480@60	640x480	59.94	25.18	24 / 30 / 36	O	O
800x600@60	800x600	60.32	40.00	24 / 30 / 36	O	O
1024x768@60	1024x768	60.00	65.00	24 / 30 / 36	O	O
1280x768@60	1280x768	59.87	79.50	24 / 30 / 36	O	O
1280x800@60	1280x800	59.84	83.50	24 / 30 / 36	O	O
1280x960@60	1280x960	60.00	108.00	24 / 30 / 36	O	O
1280x1024@60	1280x1024	60.02	108.00	24 / 30 / 36	O	O
1360x768@60	1360x768	60.02	85.50	24 / 30 / 36	O	O
1366x768@60	1366x768	59.79	85.50	24 / 30 / 36	O	O
1400x1050@60	1400x1050	59.98	121.75	24 / 30 / 36	O	O
1440x900@60	1440x900	59.89	106.50	24 / 30 / 36	O	O
1600x900@60	1600x900	60.00	118.25	24 / 30 / 36	O	O
1600x1200@60	1600x1200	60.00	162.00	24 / 30 / 36	O	O
1680x1050@60	1680x1050	59.95	146.25	24 / 30 / 36	O	O
1920x1080@60 RB	1920x1080	59.93	138.50	24 / 30 / 36	O	O
1920x1200@60 RB	1920x1200	59.95	154.00	24 / 30 / 36	O	O
2048x1152@60 RB	2048x1152	60.00	162.00	24 / 30 / 36	O	O
2560x1440@60 RB	2560x1440	59.95	241.50	24 / 30 / 36	O	O
2560x1600@60 RB	2560x1600	59.97	268.50	24 / 30 / 36	O	O
480i	720x480	59.94	27.00	24 / 30 / 36	O	O
480p	720x480	59.94	27.00	24 / 30 / 36	O	O
576i	720x576	50.00	27.00	24 / 30 / 36	O	O
576p	720x576	50.00	27.00	24 / 30 / 36	O	O
720p@50	1280x720	50.00	74.25	24 / 30 / 36	O	O
720p@59.94	1280x720	59.94	74.18	24 / 30 / 36	O	O
720p@60	1280x720	60.00	74.25	24 / 30 / 36	O	O
1080i@50	1920x1080	50.00	74.25	24 / 30 / 36	O	O
1080i@59.94	1920x1080	59.94	74.18	24 / 30 / 36	O	O
1080i@60	1920x1080	60.00	74.25	24 / 30 / 36	O	O
1080p@50	1920x1080	50.00	148.50	24 / 30 / 36	O	O
1080p@59.94	1920x1080	59.94	148.35	24 / 30 / 36	O	O
1080p@60	1920x1080	60.00	148.50	24 / 30 / 36	O	O
3840x2160@24	3840x2160	24.00	297.00	24 / 30 / 36	O	O
3840x2160@25	3840x2160	25.00	297.00	24 / 30 / 36	O	O
3840x2160@30	3840x2160	30.00	297.00	24 / 30 / 36	O	O
3840x2160@50	3840x2160	50.00	594.00	24 / 30 / 36*	O	O
3840x2160@59.94	3840x2160	59.94	593.41	24 / 30 / 36*	O	O
3840x2160@60	3840x2160	60.00	594.00	24 / 30 / 36*	O	O
4096x2160@24	4096x2160	24.00	297.00	24 / 30 / 36	O	O
4096x2160@25	4096x2160	25.00	297.00	24 / 30 / 36	O	O
4096x2160@30	4096x2160	30.00	297.00	24 / 30 / 36	O	O
4096x2160@50	4096x2160	50.00	594.00	24 / 30 / 36*	O	O
4096x2160@59.94	4096x2160	59.94	593.41	24 / 30 / 36*	O	O
4096x2160@60	4096x2160	60.00	594.00	24 / 30 / 36*	O	O

RB: Reduced Blanking
*For RGB/YCbCr 4:4:4, only 24 bit is supported.

For best results, please confirm that the source device(s) video output can be configured to match the listed formats above. For questions regarding other input video signals, please contact your IDK representative.

Troubleshooting

This chapter provides recommendations in case difficulties are encountered during the setup and operation.

In case the NP-IPV-01U does not work correctly, please check the following items first.
・ Are the NP-IPV-01U and all devices connected to power or powered on?
・ Are signal cables connected correctly?
・ Are there any loose or partially mated connections?
・ Are the interconnecting cables specified correctly to support adequate bandwidth?
・ Are specifications of connected devices matched to each other?
・ Are configuration settings for the connected devices correct?
・ Is there any nearby equipment that may cause electrical noise/RF interference?

Refer to the manuals of connected devices as well, since they may possibly be the cause of the problem.

If the problem persists, please contact us after checking the following items.
・ Does the problem occur at all connectors?
Does the problem occur when you connect the devices without connecting the NP-IPV-01U?

NP-IPV-01UT / NP-IPV-01UR User Guide

Ver.1.1.0

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