NPMV4k

4K AV over IP H.264/H.265 Multiview Processing Decoder

User Manual

Version: V1.0.0

Important Safety Instructions

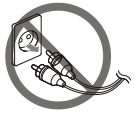
1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

6. Clean this apparatus only with dry cloth.

2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.

7. Unplug this apparatus during lightning storms or when unused for long periods of time.

3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



8. Protect the power cord from being walked on or pinched particularly at plugs.

4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Only use attachments / accessories specified by the manufacturer.

5. Do not place sources of naked flames, such as lighted candles, on the unit.

10. Refer all servicing to qualified service personnel.

Table of Contents

Introduction

This device is a Multiview, high resolution processor with the ability to scale and present up to four 4K/30 sources simultaneously on a single screen in picture-by-picture mode. It is used in conjunction with H.264/H.265 encoders for flexible AV distribution over a Gigabit network. It is ideal for applications in which Multiview presentation and 4K/60 video processing are required, including video conferencing, distant learning, command and control centers, auditoriums, and other live presentation venues.

Recommended Software Versions

The device works together with H.264/H.265 encoders to distribute IP streams throughout the matrix system by using specific software versions of operation tools. We would recommend that you use the following versions to deploy network.

Device/Operation Tool	Software Versions
NPTX4k	V1.0.29 or above
NPRX4k	V1.0.23 or above
NPVW4k	V1.0.29 or above
NPMV4k	V1.0.27 or above
NPCTL4k	V1.3.17:TTV_1.0 or above

Features

- Decodes and displays up to four 4K@30Hz streams simultaneously on a single 4K@60Hz display.
- Supports HDMI output up to 4K@60Hz 4:4:4 8bit.
- Automatically sizes, centers and optimizes the image to the scaled output rate and fill the window.
- Audio and video signals can be routed separately or as a whole.

- Analog audio de-embedding.
- CEC control of the connected display.
- Supports bidirectional serial communication for control of the connected RS232 device, plus for routing between encoder and this device.
- AES-128 decryption of audio and video.
- IEEE 802.3af PoE compliant PD.
- Supports communication protocols of SSH/HTTPS/LDAP/802.1x.

Package Contents

- 1 x Decoder
- 2 x 3.5mm 3-Pin Phoenix Male Connectors
- 4 x Wall Mount Brackets
- 2 x Rack Mount Brackets
- 8 x M3*L5 Mounting Screws

Specifications

Video	
Input Video Port	1 x Gigabit RJ-45
Input Video Type	H.264 (MPEG-4 AVC)/H.265
Input Resolutions	1920x1080[8](1080p60), 3840x2160[5] 1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz
Output Video Port	1 x HDMI
Output Video Type	HDMI 2.0, HDCP 2.2
Output Resolutions	Up to 3840x2160@60Hz
End-to-End Time Latency	• Input 1080P video: 61ms (Low latency mode) | 134ms (High quality mode) • Input 4K@30Hz video: 66ms (Low latency mode) | 235ms (High quality mode)
Video Impedance	100Ω

Audio	
Input Audio Port	1 x Gigabit RJ-45
Input Audio Signal	PCM, Stereo, 16-bit, 32/44.1/48KHz sample
Output Audio Port	1 x HDMI, 1 x 3.5mm 3-Pin Phoenix Connector AUDIO
Output Audio Signal	LPCM Stereo

Control	
Control Method	Front panel button, IP controller (NPCTL4k)

General	
Operating Temperature/Humidity	32°F ~ 113°F (0°C ~ 45°C) 10% ~ 90%, non-condensing
Storage Temperature/ Humidity	-4°F ~ 158°F (-20°C ~ 70°C) 10% ~ 90%, non-condensing
Power	DC 12V 1A / PoE
Power Consumption	5.6W (Max)
ESD Protection	Human body model: ±8kV (air-gap discharge)/±4 kV (contact discharge)
Dimensions (W x H x D)	220 x 25 x 130.2mm/8.66" x 0.98" x 5.13”
Net Weight	0.75kg/1.65lbs

Panel Description

Front Panel

#	Name	Description
1	POWER LED	• On: The device is powered on. • Off: The device is powered off.
2	LINK LED	• On: The device is connected to the network and receiving IP stream. • Blinking: The device is connected to the network but doesn't receive any IP stream. • Off: The device is not connected to the network. / The device is booting.
3	ID KEY	Press to show the information of the device (including the device's IP address, MAC address and the connected encoder's MAC address) on the connected display.

Rear Panel

#	Name	Description
1	12V	DC 12V 1A power input port. Connect this port to a DC 12V power adapter.
2	LAN (POE)	Connect to a network switch for IP stream input and control of the device. **Note:** • This device can be powered either by a PoE-enabled Ethernet switch or by a power adapter. • Powered by the power adapter has higher priority than that by PoE. When the device is connected to both a power adapter and the PoE-enabled Ethernet switch, it

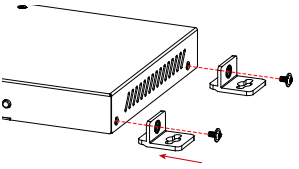
#	Name	Description
		receives power from the power adapter instead of the switch.
3	AUDIO OUT	Connect to an audio receiver such as an amplifier for audio de-embedding output.
4	HDMI OUT	Connect to an HDMI display device.
5	RS-232	Connect to an RS232 device for bidirectional serial communication.
6	RESET	The RESET KEY is used to reset the device. Use a pointed stylus to press and hold this key for more than five seconds until the RESET LED lights up, then release this key, the device reboots and restores to its factory defaults.

Installation

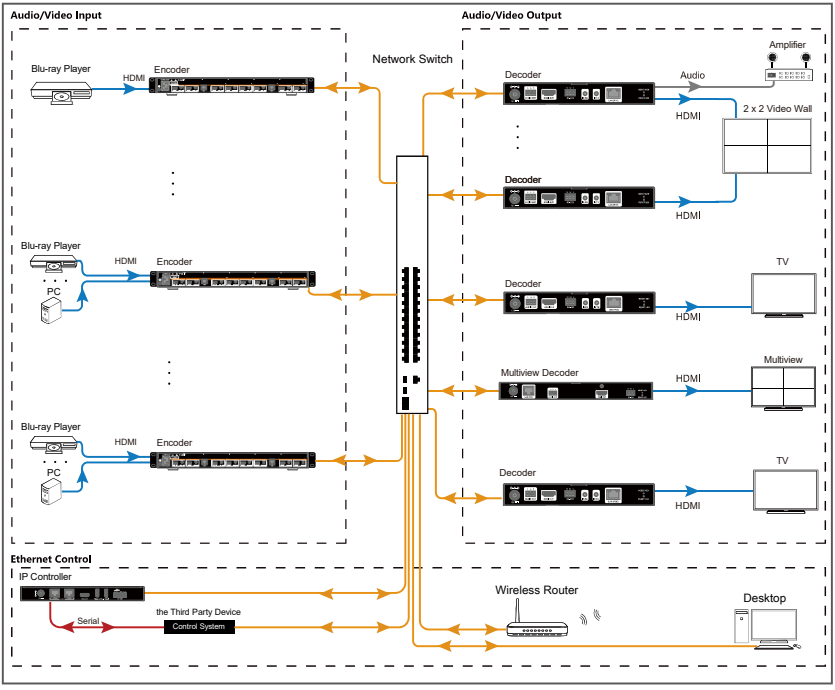
Note: Before installation, ensure all devices are disconnected from the power source.

The device can be installed on a flat surface or on a rack. To install the device on a surface, perform the following:

1. Attach the wall mount brackets to the panels of both sides using the screws (two on each side) provided in the package.
2. Install the brackets onto the position as desired using screws (not included).



Applications



The Multiview processing decoder is used in conjunction with H.264/H.265 encoders and decoders for flexible AV distribution of point-to-point, point-to-multipoint, multipoint-to-point and multipoint-to-multipoint over a Gigabit network.

Firmware Upgrade

Users can use the NPCTL4k Controller to update the devices to their latest versions to obtain new features.

Note: Do not cut off the power during upgrading process.

Tip:

1. Log on to the controller's web UI, enter the tab **Advanced** > **Firmware** > select specific devices on the left **>** click **Select the firmware files** to browse for the local firmware files.
2. Select **Upload to NPCTL4k** > **Upgrade** to start upgrading. The device will reboot automatically after the upgrading is complete. Please wait for a few seconds until the device restarts successfully.

Contact Neopro Support

Got a question about our product, or need some help? We have a couple of options:

Contact Neopro at:

Phone Support: 754 222-8520

Email Support: support@neoprointegrator.com