NovaPro UHD
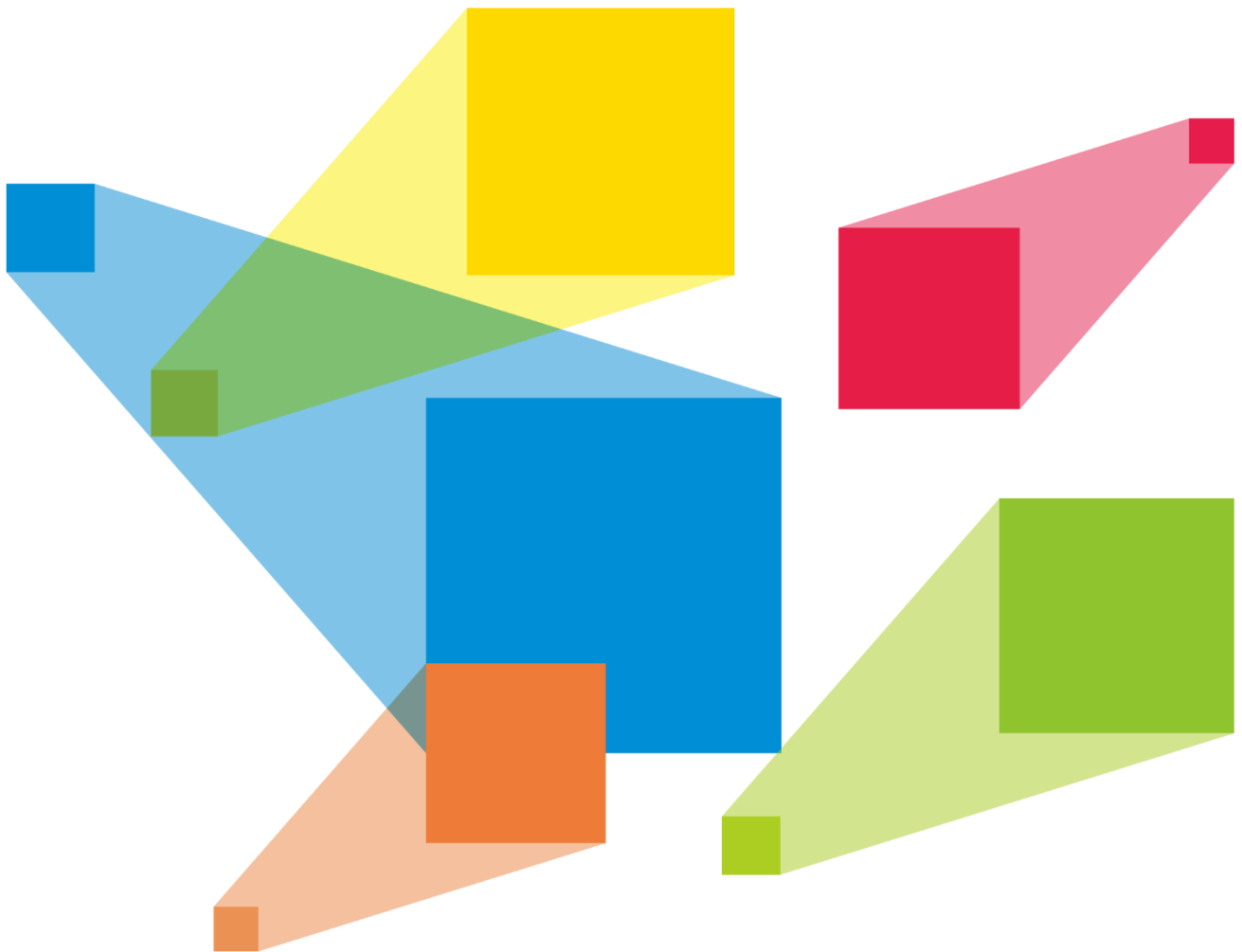
All-in-One Controller

Specifications

Overview

The NovaPro UHD is a new all-in-one controller developed by NovaStar. By integrating video processing, video control and LED screen configuration functions into one controller, this product is capable of receiving a variety of video signals, processing and sending images of resolutions up to ultra HD 4K×2K@60Hz and 8K×1K@60Hz, and provides a maximum loading capacity of 8.8 million pixels.

With the built-in Master VI smart platform, the NovaPro UHD supports layer creation, property settings, and screen configuration using the mouse, keyboard and monitor.

The NovaPro UHD can send the processed video to LED display through Neutrik Ethernet ports and OPT ports. Thanks to the powerful video processing and sending capabilities, this product is well suited for high-end rental applications, stage control systems and fine-pitch LED displays.

Features

- A variety of input connectors
  - 4 × 12G-SDI connectors with loop-through
  - 1 × HDMI 2.0 connector with loop-through
  - 1 × DP 1.2 connector
- 1 × replaceable input card

  Input card can be DVI or HDMI (default) card.
- 16 × Neutrik Ethernet ports and 4 × OPT ports
  - The loading capacity can be up to 8.8 million pixels
  - 4 × 10G OPT outputs with copy and hot backup modes
- 6 × layers, 1 × OSD, 1 × LOGO, and 1 × BKG
- 2 × layers up to 4K×2K, 4 × layers up to 2K×1K

  Layer scaling supported
- OSD supports 4K×2K resolution, cropping, opacity, dynamic or static images and position settings.
- Layer opacity adjustment, irregular layers, layer mask, and layer copying, mirroring and flipping supported

- Layer priority adjustment by z-order
- Up to 8K output width or height of a single device
- Multiviewer settings

  Monitor the input sources, PVW, PGM, or perform mixed monitoring.
- Quick and advanced screen configurations
- With the built-in smart platform Master VI, LED screen configuration and layer configuration can be easily performed using the connected mouse, keyboard and monitor.
- 10-bit processing of the input source
- HDR function to make images finer and smoother (NovaStar A8s or A10s Plus receiving card required)
- Low latency output

  The delay from the input source to receiving card can be as low as 1 frame when the low latency and synchronization functions are turned on and the data runs vertically on the screen.

Appearance

Front Panel

Button	Function
ON/OFF button	The device power button ● Press it to power on the device. ● Hold it down to power off or restart the device.

Layer buttons	● Layer operations:
	  – Press a button to quickly add a layer.
	  – Hold down an added-layer button to close the layer.
	● Indicator descriptions:
	  – On and blue: The layer is open, and the input source is accessed normally.
	  – Blue and flashing: The layer is being edited, and the input source is accessed normally.
	  – On and white: The layer is open, but the input source is not accessed.
	  – White and flashing: The layer is being edited, but no input source is accessed or the input source is abnormal.
	  – Off: The layer is not added.

Input source buttons	● Input source operations:
	  – Press a button to quickly access the input menu screen or switch the input source for the selected layer.
	● Indicator descriptions:
	  – On and blue for numbered buttons: The number input function is enabled.
	  – On and blue: The input source is accessed and in normal use.
	  – On and white: The input source is accessed but not in use.
	  – Off: The input source is not accessed or the input source is abnormal.

TFT screen	Displays current device status, menus, submenus and messages.

| Knob | • Press the knob to confirm the settings or enter the submenu. |
	• Rotate the knob to select a menu item or adjust a parameter.
Function buttons	• Navigation button: Hold it down to enter or exit the quick navigation screen.
	• FTB: Make the LED screen to fade to black.
	• LOGO: Enter the LOGO menu screen.
	• PRESET: Enter the preset menu screen.
	• FREEZE: Freeze the output image displayed on LED screen.
	• OSD: Enter the OSD menu screen.
	• FN: Custom function button. Press it to enter the function menu screen and hold it down to customize the function for the button.
	• TEST: Enter the test pattern menu screen.
	• BKG: Enter the BKG menu screen.
	• TAKE: Send the PVW to PGM with a transition effect. A total of 16 transition effects are supported.
	• CUT: Send the PVW directly to PGM without a transition effect.
ESC button	Press the button to exit the current menu or cancel the operation.
USB ports	2 × USB ports
	• Insert a USB drive to perform system update.
	• Connect a mouse or keyboard.

Rear Panel

Note:

The NovaPro UHD supports replacement of an input card. D_4×HDMI 1.3 input card is the default configuration, which can be replaced by a D_4×DVI input card.

Input		
Connector	**Quantity**	**Description**
12G-SDI	4	Supports ST-2082-1 (12G), ST-2081-1 (6G), ST-424 (3G) and ST-292 (HD) standard video inputs.
		Input resolutions up to 4K×2K@60Hz and downward compatible
		Supports 12G-SDI output with loop-through.

Connector	Quantity	Description
		Note: When the input source is a 12G-SDI signal, you must use CANARE / L-4.5CHD+ / UHDTV-SDI SDI cables and the cable length should be less than 50 m. 12G-SDI connectors 1, 2 and 3 DO NOT support the deinterlaced function, but connector 4 supports the function.
DP 1.2	1	Input resolutions up to 4K×2K@60Hz (8K×1K@60Hz) and downward compatible Supports HDCP 1.3. DOES NOT support interlaced signal inputs.
HDMI 2.0	1	Input resolutions up to 4K×2K@60Hz (8K×1K@60Hz) and downward compatible Supports HDCP 1.4 and HDCP 2.2. DOES NOT support interlaced signal inputs. Supports HDMI 2.0 output with loop-through.
HDMI 1.3	4	D_4×HDMI 1.3 input card by default Input resolutions up to 1920×1080@60Hz Supports HDCP 1.3. Supports interlaced signal inputs. The HDMI input card can be replaced by a D_4×DVI input card.

Output

Connector	Quantity	Description
Ethernet port	16	Gigabit Ethernet output ports ● Maximum loading capacity: 8.8 million pixels ● Maximum width: 8192 pixels ● Maximum height: 8192 pixels
OPT 1–4	4	10G fiber optical output ports (copy and hot backup) ● OPT 1 transmits data on Ethernet ports 1–8. ● OPT 2 transmits data on Ethernet ports 9–16. ● OPT 3 is the copy/hot backup channel for OPT 1. ● OPT 4 is the copy/hot backup channel for OPT 2.
MVR	1	HDMI 1.3 connector A Multiviewer connector to monitor the input source, PVM, PGM or perform mixed monitoring
AUX	1	HDMI 1.3 connector An auxiliary output connector for connecting an auxiliary device, such as a teleprompter

Control

| Connector	Quantity	Description
ETHERNET	1	For PC communication or network connection

| USB	3	• 1 × USB (Type-B): Connect to the PC for device debugging.
		 • 2 × USB (Type-A):
		   - Insert a USB drive to perform system update.
		   - Connect a mouse or keyboard.
		   - Output connector for device cascading

GENLOCK IN-LOOP	1	Connect a synchronization signal source to synchronize the cascaded devices.
CONTROL UI	1	Connect to a monitor for displaying the user interface of the embedded Master VI software.

Applications
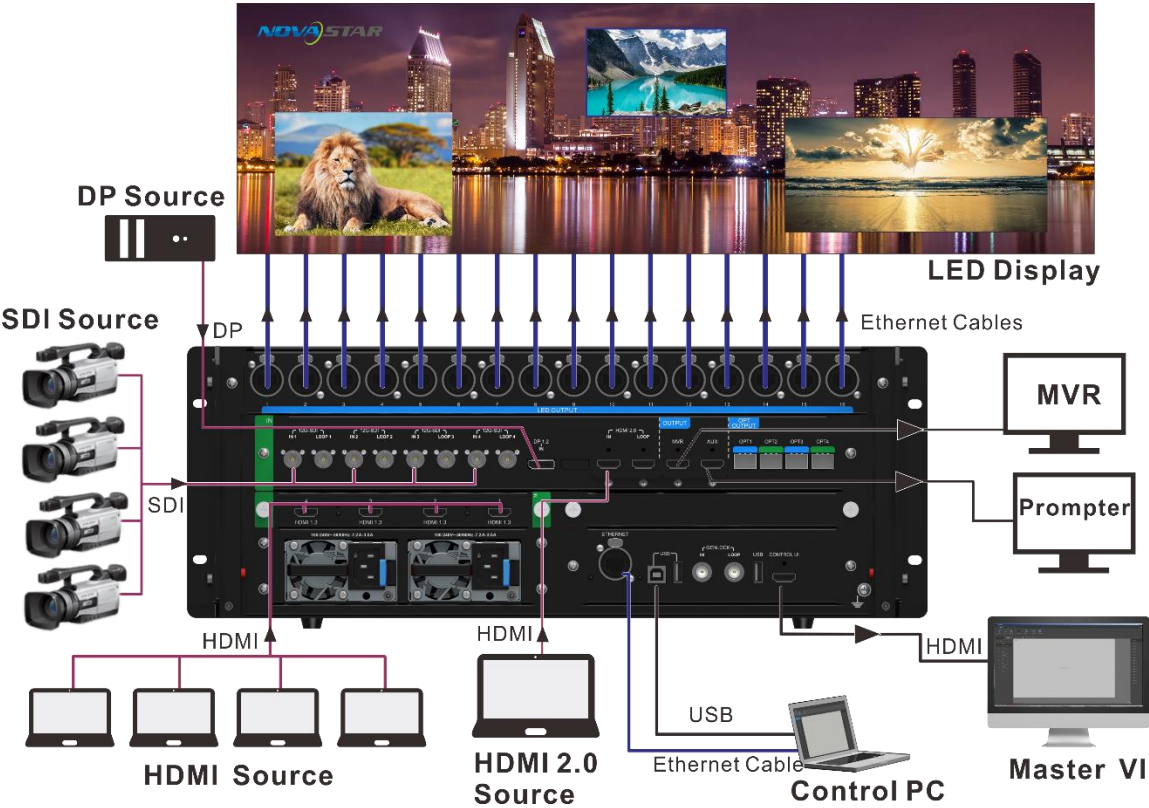
Dimensions

Device Dimensions
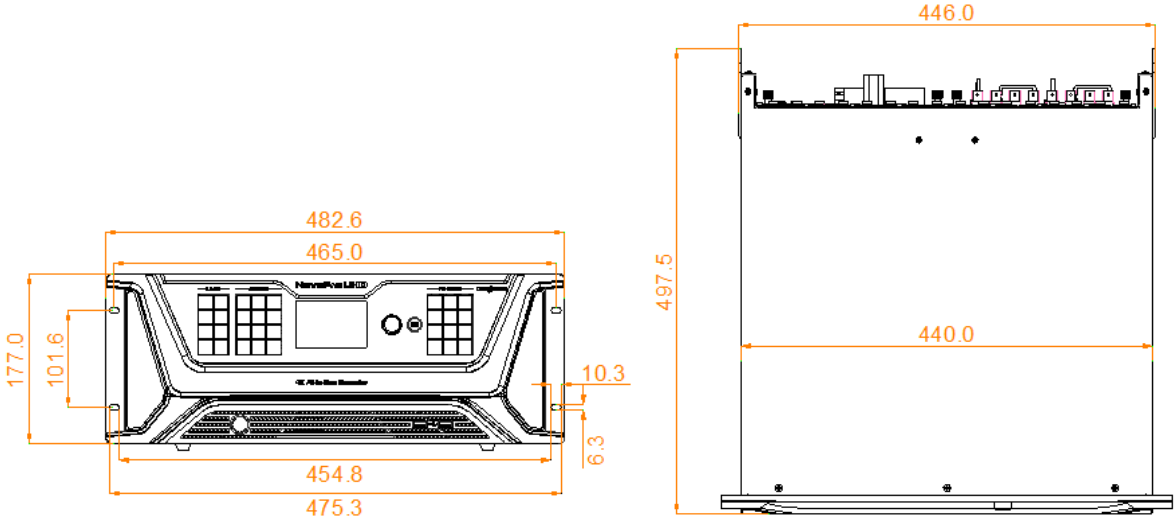
Flight Case Dimensions
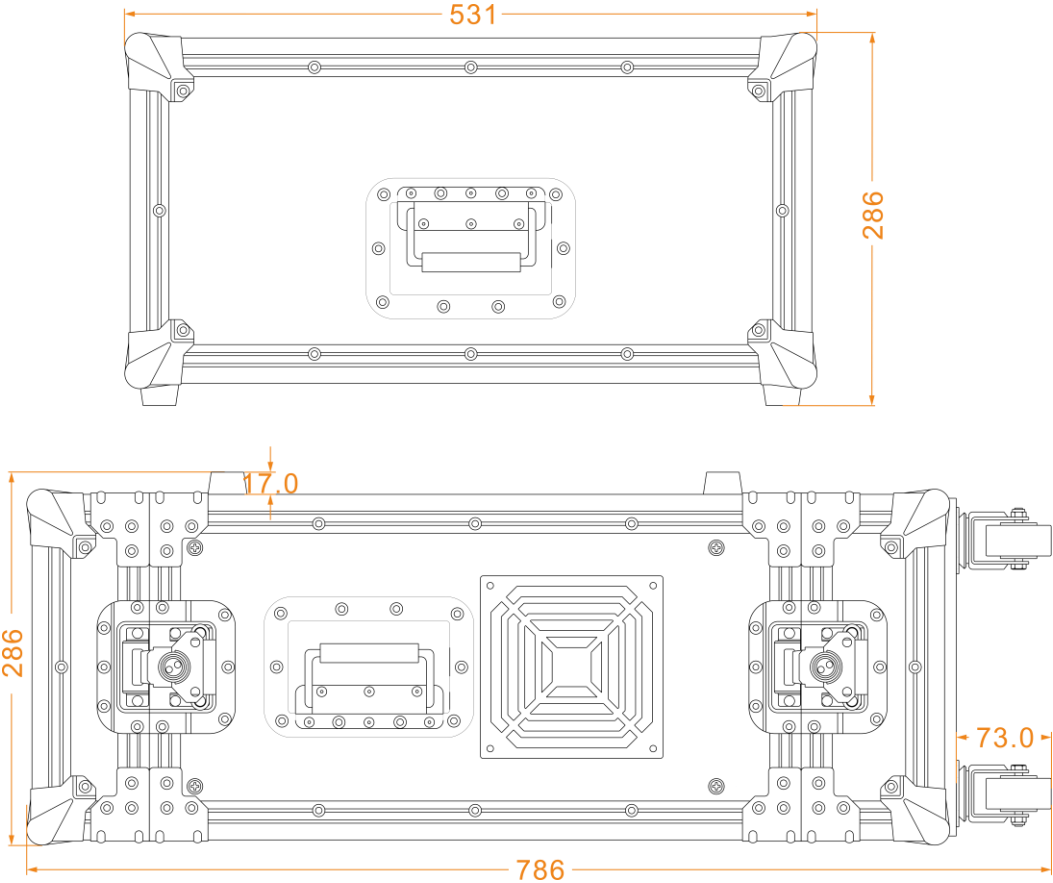
Note:

All the dimensions in the above diagrams are given in millimeters (mm).

For detailed dimension drawings of the flight case, please contact NovaStar's customer service staff.

Specifications

Overall Specifications		
Electrical Specifications	Power connector	100-240V~,50/60Hz, 7.2A-3.5A Dual power connector design
	Power consumption	180 W
Operating Environment	Operating temperature	−10°C to +60°C
	Operating humidity	0% RH to 80% RH
	Storage humidity	0% RH to 95% RH
Physical Specifications	Dimensions	482.6 mm × 177 mm × 497.5 mm 4U standard chassis
	Net weight	21 kg
	Gross weight	42 kg
Packing Information	Accessories	• 2 × Power cords • 1 × USB drive (16GB) • 1 × DVI cable • 1 × USB cable • 1 × Ethernet cable • 1 × HDMI cable • 1 × DP cable • 1 × Mini DP to DP cable • 1 × Custom Letter • 1 × Quick Start Guide • 1 × Certificate of Approval • 1 × Safety Manual • 46 × Silicone dustproof plugs
	Flight case	531 mm × 286 mm × 786 mm
Certifications		FCC, IC, EMC, UL/CUL, CB, CE, ROHS 10, EAC and KC
Noise Level (typical at 25°C/77°F)		57 dB(A)

Video Source Features

Input Connector	Color Depth		Max. Input Resolution
• HDMI 2.0 • DP 1.2	8 bit	RGB4:4:4	3840×2160@60Hz
		YCbCr4:4:4	

Input Connector	Color Depth		Max. Input Resolution
		YCbCr4:2:2	
		YCbCr4:2:0	Unsupported
	10 bit	RGB4:4:4	1920×1080@60Hz
		YCbCr4:4:4	
		YCbCr4:2:2	3840×2160@60Hz
		YCbCr4:2:0	Unsupported
	12 bit	RGB4:4:4	1920×1080@60Hz
		YCbCr4:4:4	
		YCbCr4:2:2	3840×2160@60Hz
		YCbCr4:2:0	Unsupported
HDMI 1.3	8 bit	RGB4:4:4	1920×1080@60Hz
		YCbCr4:4:4	
		YCbCr4:2:2	
	10 bit	RGB4:4:4	
		YCbCr4:4:4	
		YCbCr4:2:2	
	12 bit	RGB4:4:4	
		YCbCr4:4:4	
		YCbCr4:2:2	
12G-SDI	• Maximum input resolution: 4096×2160@60Hz • DOES NOT support input resolution and bit depth settings. • Supports ST-2082-1 (12G), ST-2081-1 (6G), ST-424 (3G) and ST-292 (HD) video inputs.		

Statement

You are welcome to use the product of Xi'an NovaStar Tech Co., Ltd. (hereinafter referred to as NovaStar). This document is intended to help you understand and use the product. For accuracy and reliability, NovaStar may make improvements and/or changes to this document at any time and without notice. If you experience any problems in use or have any suggestions, please contact us via contact information given in document. We will do our best to solve any issues, as well as evaluate and implement any suggestions.

Xi'an NovaStar Tech Co., Ltd.

Website: http://www.novastar.tech

E-Mail: support@novastar.tech