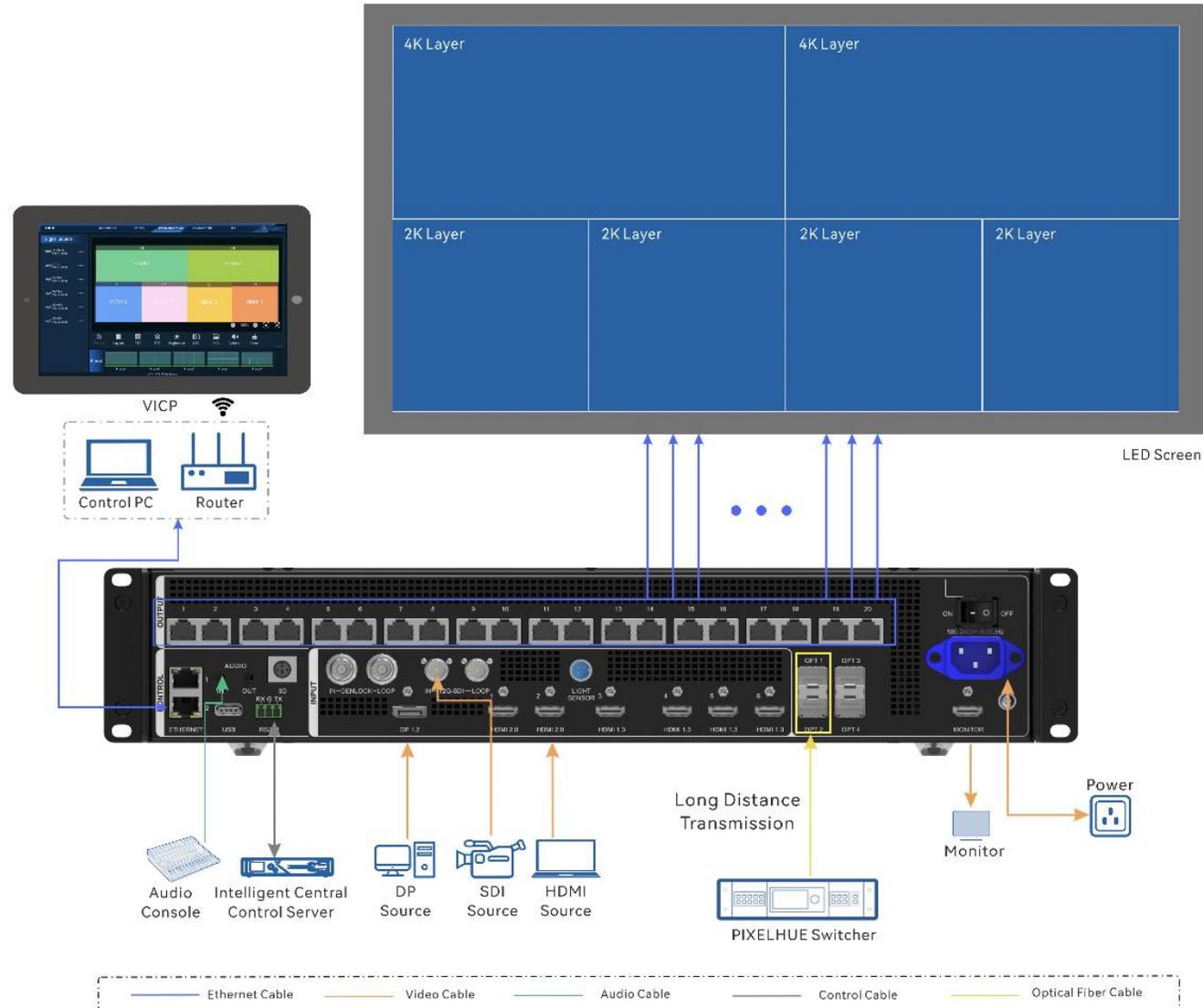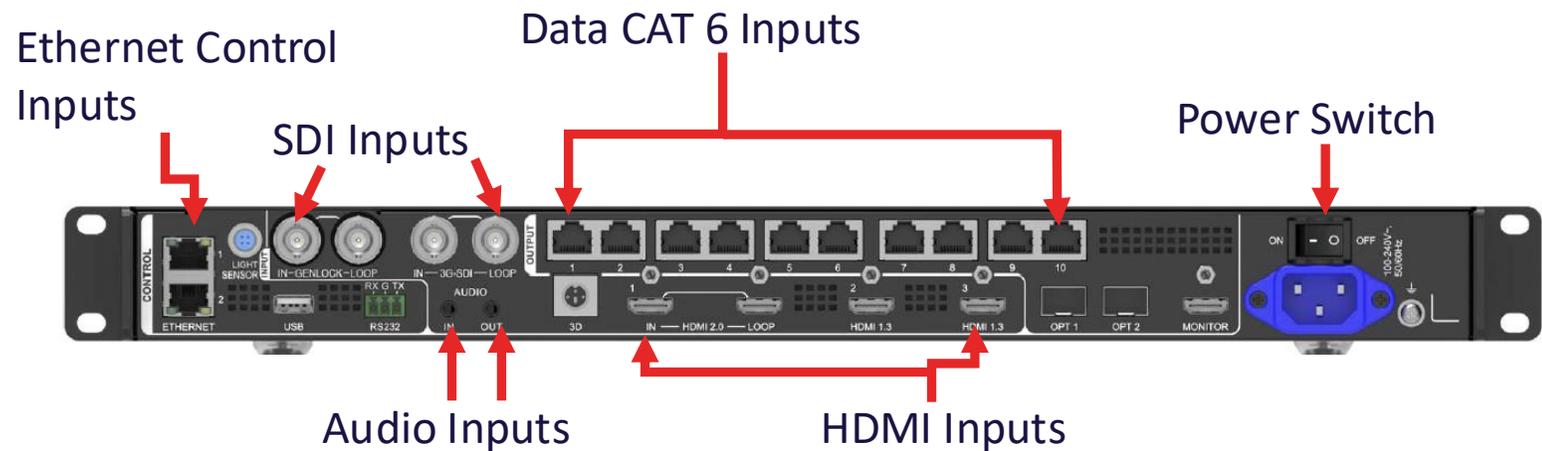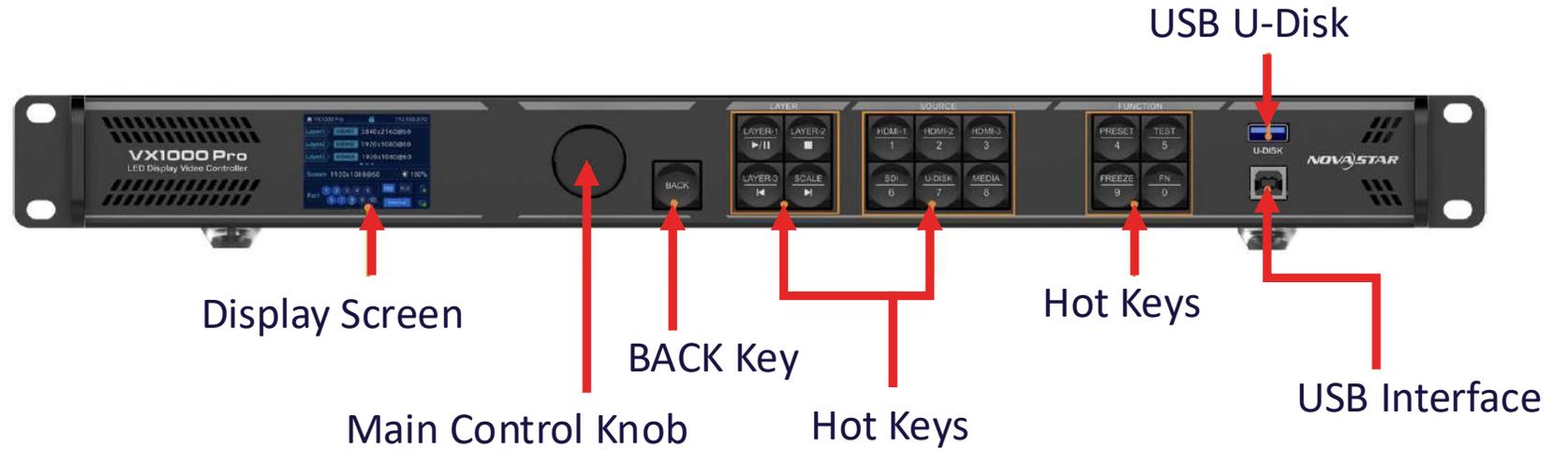# Novastar Video Processor

NovaStar Video Processors are industry-leading, all-in-one LED display controllers that combine video processing, screen configuration, and signal transmission into single units on board all **MAX LED Trailers.**

Novastar Video Processor

NovaStar Video Processors vary across the MAX Mobile LED lineup, depending on the needs of the screen. While capacity may vary, the functionality of these units are the same.

Front and back views are shown on this Page:

USB U-Disk

Display Screen

BACK Key

Main Control Knob

Hot Keys

Hot Keys

USB Interface

Ethernet Control Inputs

Data CAT 6 Inputs

SDI Inputs

Power Switch

Audio Inputs

HDMI Inputs

Novastar Video Processor

The **Input and Output Connections** of the NovaStar Video Processor is shown on this page:

Multiple connectors, free input and output

- A comprehensive range of input connectors

    - 1x HDMI 2.0 (IN & LOOP)

    - 2x HDMI 1.3

    - 1x 10G optical fiber port (OPT 1)

    - 1x 3G-SDI (IN & LOOP)

    - 1x USB 3.0 (Play images or videos saved in a USB drive.)

- Output connectors

    - 10x Gigabit Ethernet ports

    A single device supports up to 6.5 million pixels, delivering a maximum width of 10,240 pixels and a maximum height of 8192 pixels.

    - 2x Fiber outputs

    OPT 1 sends the output on Ethernet ports 1~10.

    OPT 2 copies or backs up the output on Ethernet ports 1~10.

    - 1x HDMI 1.3

    For monitoring display.

    - 1x 3D connector

    Directly connect a third-party 3D emitter.

- Self-adaptive OPT 1 for either video input or sending card output

    Thanks to the self-adaptive design, OPT 1 can be used as either an input or output connector, depending on its connected device.

Novastar Video Processor

The **Specifications** of the Inputs of the NovaStar Video Processor is shown on this page:

Input Connectors	Common Resolutions		Color Space	Sampling Rate	Bit Depth	Integer Frame Rates (Hz)
HDMI 2.0	4K×2K	4096×2160	RGB / YCbCr	4:4:4	12bit	24/25/30
					10bit	24/25/30
					8bit	24/25/30/48/50/60
			YCbCr	4:2:2	8/10/12bit	
			YCbCr	4:2:0	8/10/12bit	
	4K×1K	3840×1080	RGB / YCbCr	4:4:4	12bit	24/25/30/48/50/60/72/85
					10bit	24/25/30/48/50/60/72/100
					8bit	24/25//30/48/50/60/72/120
			YCbCr	4:2:2	8/10/12bit	
			YCbCr	4:2:0	8/10/12bit	
	2K×1K	1920×1080	RGB / YCbCr	4:4:4	12bit	24/25/30/48/50/60/72/120/144
					10bit	24/25/30/48/50/60/72/120/144
					8bit	24/25/30/48/50/60/72/120/144
			YCbCr	4:2:2	8/10/12bit	
			YCbCr	4:2:0	8/10/12bit	
HDMI 1.3	2K×1K	1920×1080	RGB / YCbCr	4:4:4	12bit	24/25/30
					10bit	24/25/30/48/50/60
					8bit	24/25/30/48/50/60
			YCbCr	4:2:2	8/10/12bit	
3G-SDI	2K×1K	1920×1080	YCbCr	4:2:2	8/10/12bit	24/25/30/48/50/60

Novastar Video Processor

The **Main Display** of the NovaStar Video Processor is shown on this page:

Model

Input

Input Size

IP Address

Layer

Brightness

Screen Size Output

Primary Data Ports

Redundant Data Ports

Novastar Video Processor

Applying content may be performed by using the **HDMI1 Input** in the **Application Drawer** or any of the Inputs found on the **Patch Panel.**
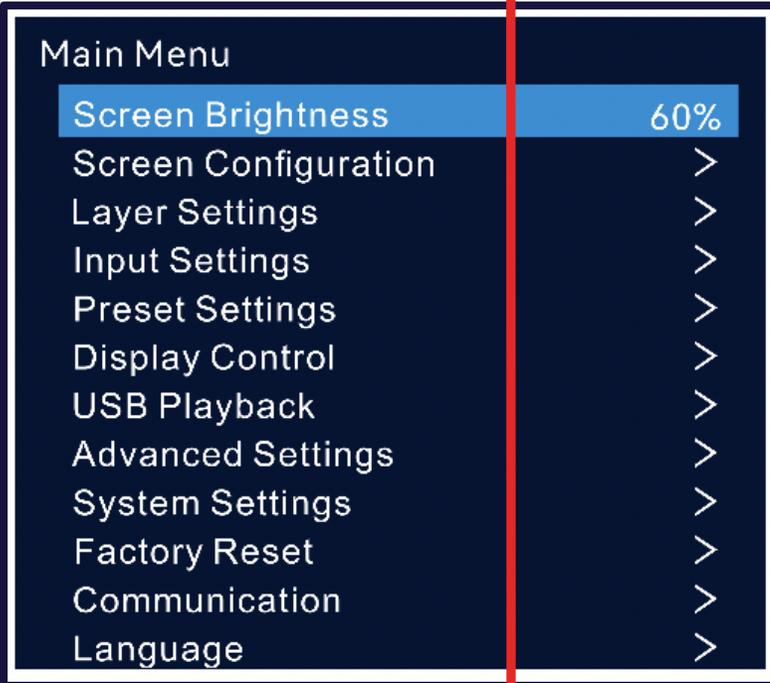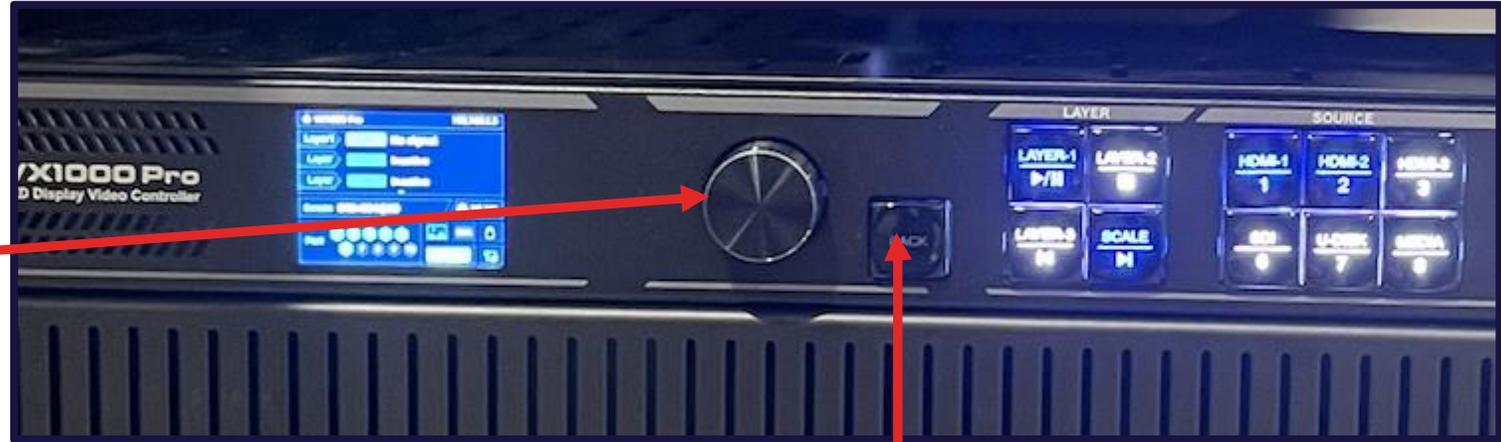
Novastar Video Processor

Easily navigate the main menu of the **NovaStar Video Processor** by using the **Main Control Knob.**

One press on the knob will allow access to the first page on the menu.

Rotating the dial will select the area of the menu to interface.

Pressing the dial again will select the line item.

Press **BACK** to go back.

Main Menu

|	
Screen Brightness	60%
Screen Configuration	>
Layer Settings	>
Input Settings	>
Preset Settings	>
Display Control	>
USB Playback	>
Advanced Settings	>
System Settings	>
Factory Reset	>
Communication	>
Language	>

Novastar Video Processor

When applying content, be sure the input resolution is at 1920x1080 at 60hZ.
The Mapping File loaded into the processor will scale the screen according to the size needed to display.
Press the Scale button to auto scale the input to fit the screen.

If HDMI1 is used as the input, Layer 1 must be active with the input of Layer 1 se... HDMI1.
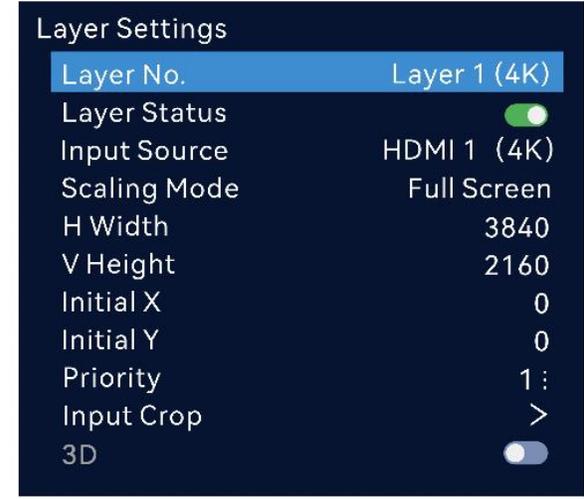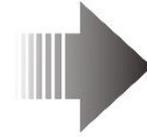
Novastar Video Processor

Using **Layers** can accomplish multiple sources of media to be displayed at once. This can be useful for a banner, a Picture-In-Picture, or any other application requiring 2 modes of Input.

To use **Layers**, one or both Layers will need to be resized to fit on the screen at a desired location.
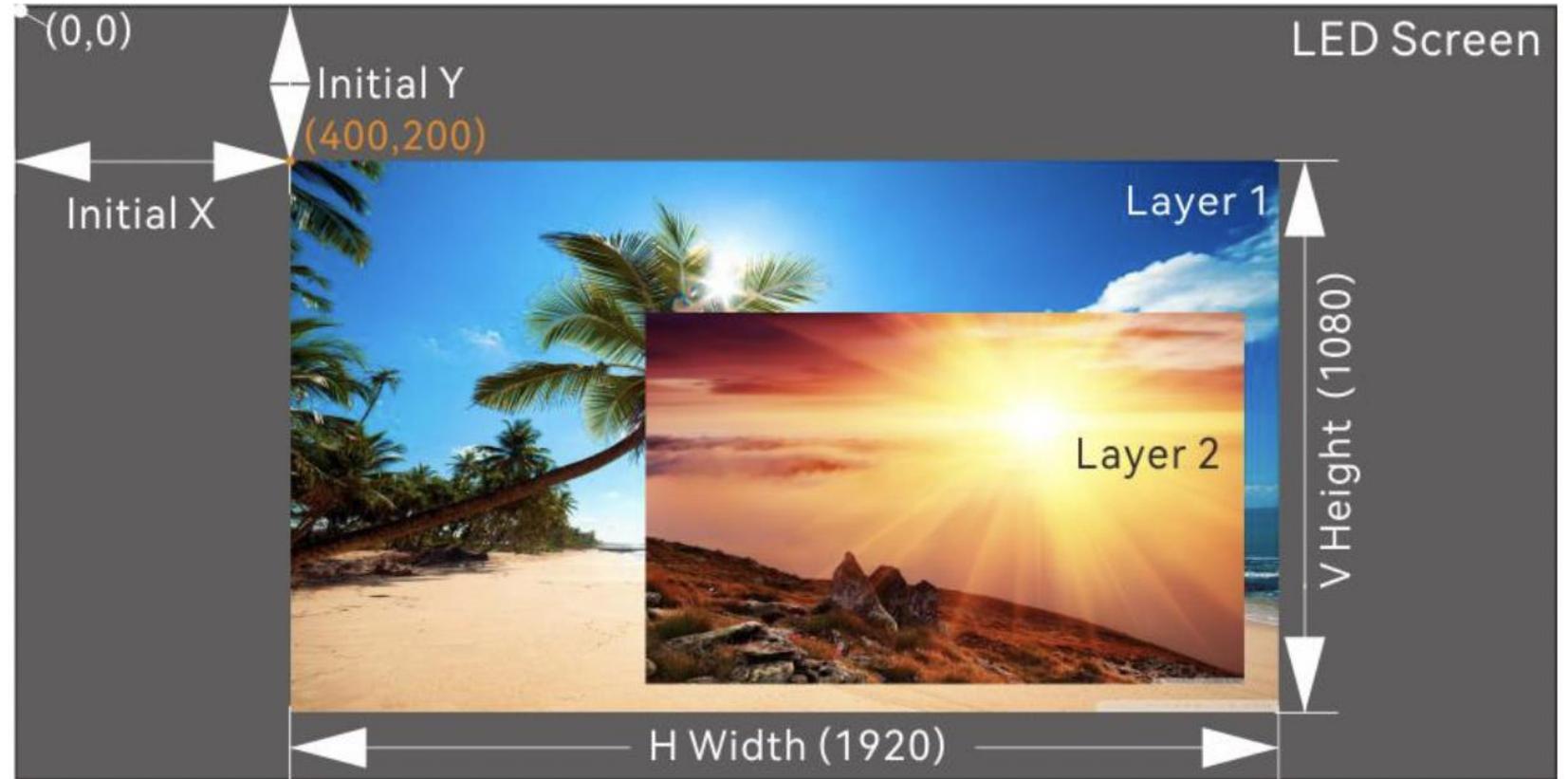
In this example, the **Layer 1** size is 1980x1080.
Layer 2 has been resized to 990x540 to fit over **Layer 1** at
H Width and *V Height* in the *Layers Menu.*
Priority 1 is **Layer 1; Priority 2** is **Layer 2.**

Novastar Video Processor

To adjust **Brightness,** press the **Main Control Knob** once and select **Brightness** by pressing **Main Control Knob.**

Rotate to desired **Brightness** setting and press the **Main Control Knob** again to save.

Press BACK to exit the Menu.

Main Menu	
Screen Brightness	**60%**
Screen Configuration	>
Layer Settings	>
Input Settings	>
Preset Settings	>
Display Control	>
USB Playback	>
Advanced Settings	>
System Settings	>
Factory Reset	>
Communication	>
Language	>

Novastar Video Processor

Content may be displayed through the **U-Disk** Input.

Connect a Flash Drive to the **U-Disk** connection to get started.

Limitations of the type of files displayed through the **U-Disk** is shown on this page:

Limitations

- Single-partition USB drive supported

- File system: NTFS, FAT32 and exFAT

- Max. width and height of media files

  Width: 3840 pixels, height: 2160 pixels

- Picture format: jpg, jpeg, png and bmp

- Decoded image resolution: 3840×2160 or lower

- Video format: mp4, mkv, mov, avi, flv, m4v, mpg, mpeg, ts

- Video coding: H.264, H.265, MPEG-2, MPEG-4

- Max. video frame rate:

  H.264: 3840×2160@30fps, H.265: 3840×2160@60fps

  MPEG-2/MPEG-4: 1920×1080@60fps

- Max bitrate:

  H.264/H.265: 100Mbps

  MPEG-2/MPEG-4: 50Mbps

- Audio coding: AAC, AC3, DTS, MP3, DVD, DVD_LPCM, MP2, OPUS

- Audio sampling rate:

  opus: 24kHz, 48kHz

  Other formats: 22.05kHz to 94kHz

Novastar Video Processor

Using the **U-Disk,** be sure the **Layer** is set for the Input as **U-Disk.**

Use the **USB Player function** from the Main Menu to navigate the files. Use Playback Settings to select how they are to be displayed, and set any repeating rules as well as transition effects.
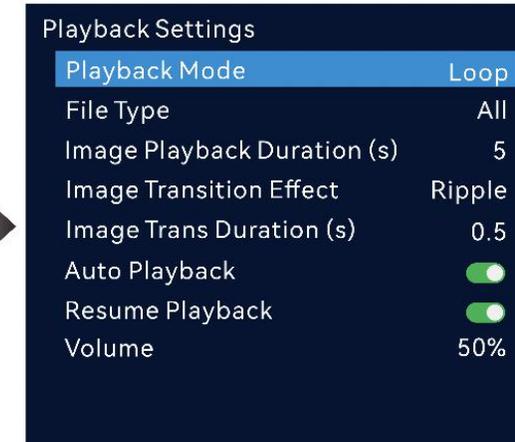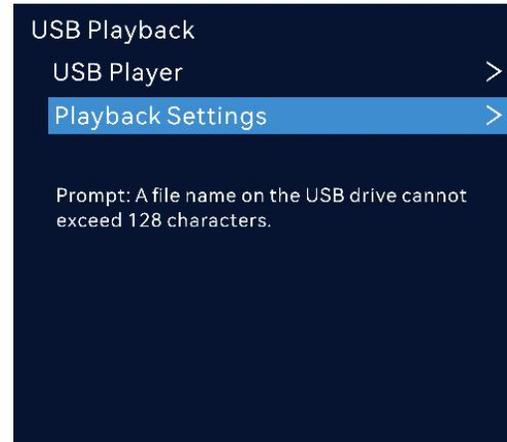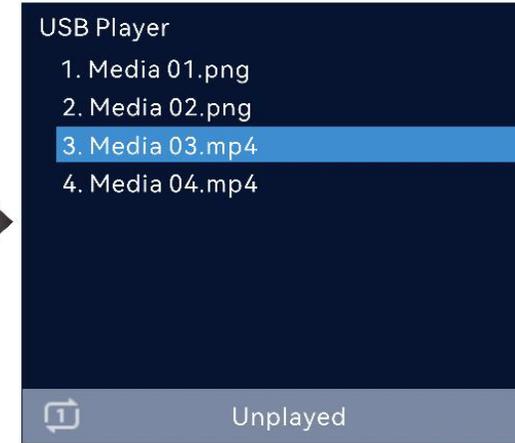
The resolution of a USB source is fixed at 1920×1080@60Hz.

Novastar Video Processor

All **Audio** used on MAX Mobile products use embedding technology.

A wired input may be used outside of the standard components inside the Production Box.

The Video Input selected to be displayed will also carry the Audio to the NovaStar and then to the Mixer.

Note: Some MAX Mobile Products may be equipped with an HDMI Switch to embed audio or a standard 1/8" AUX jack to be connected to the laptop.