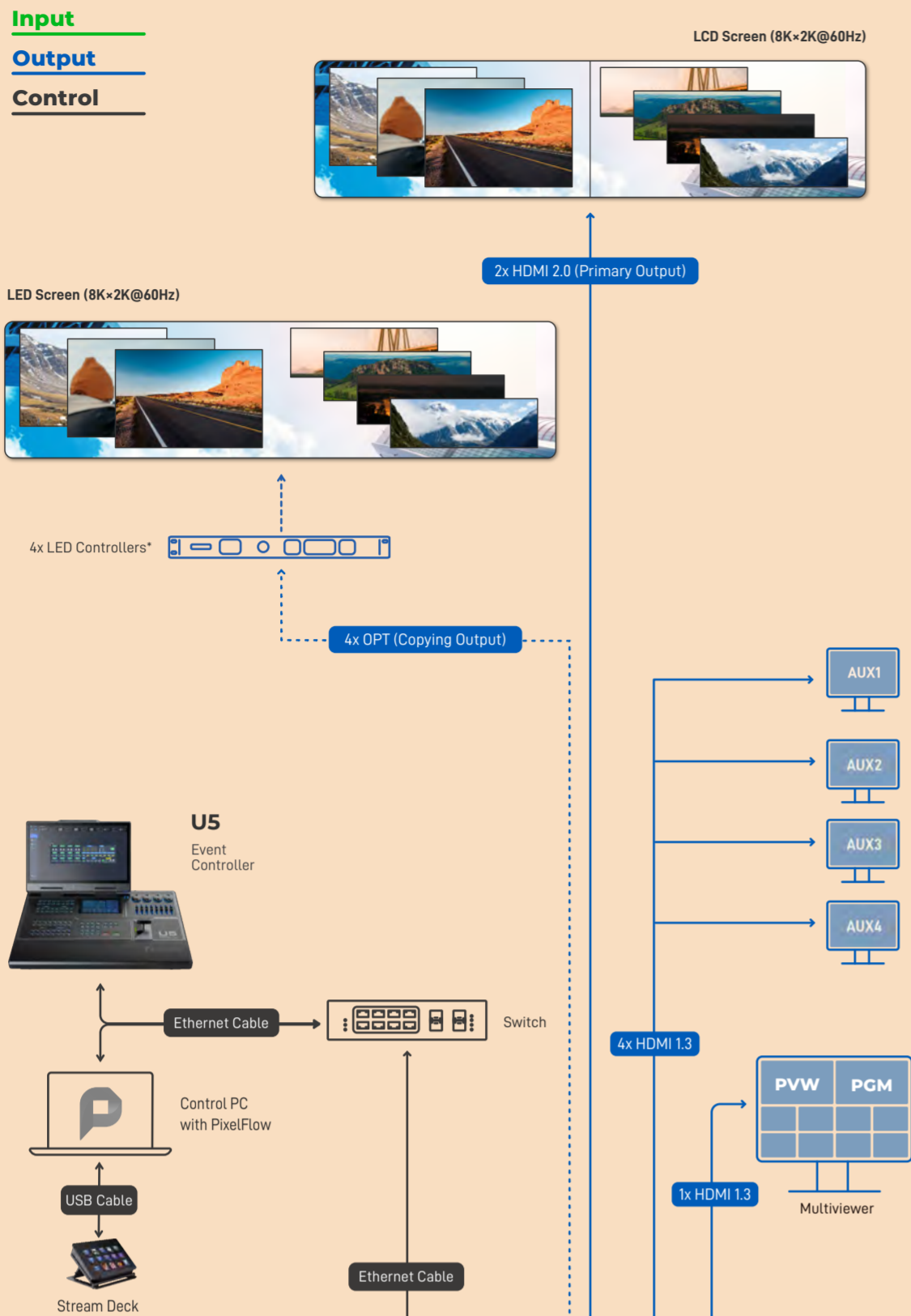


# APPLICATION

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## SWITCHER MODE



## P20/P10 4K Presentation Switchers

# P SERIES

Ideal for Small/Medium-Sized Events

- 4K I/O
- HDMI 2.0
- DP 1.2
- 12G-SDI
- 10km Distance
- UP TO 12 INPUTS
- UP TO 4 OUTPUTS
- UP TO 7 LAYERS
- HDR SDR
- DSK
- MULTIVIEWER
- FLEXIBLE CONTROL



imagine *beyond* reality

## PGM ONLY MODE

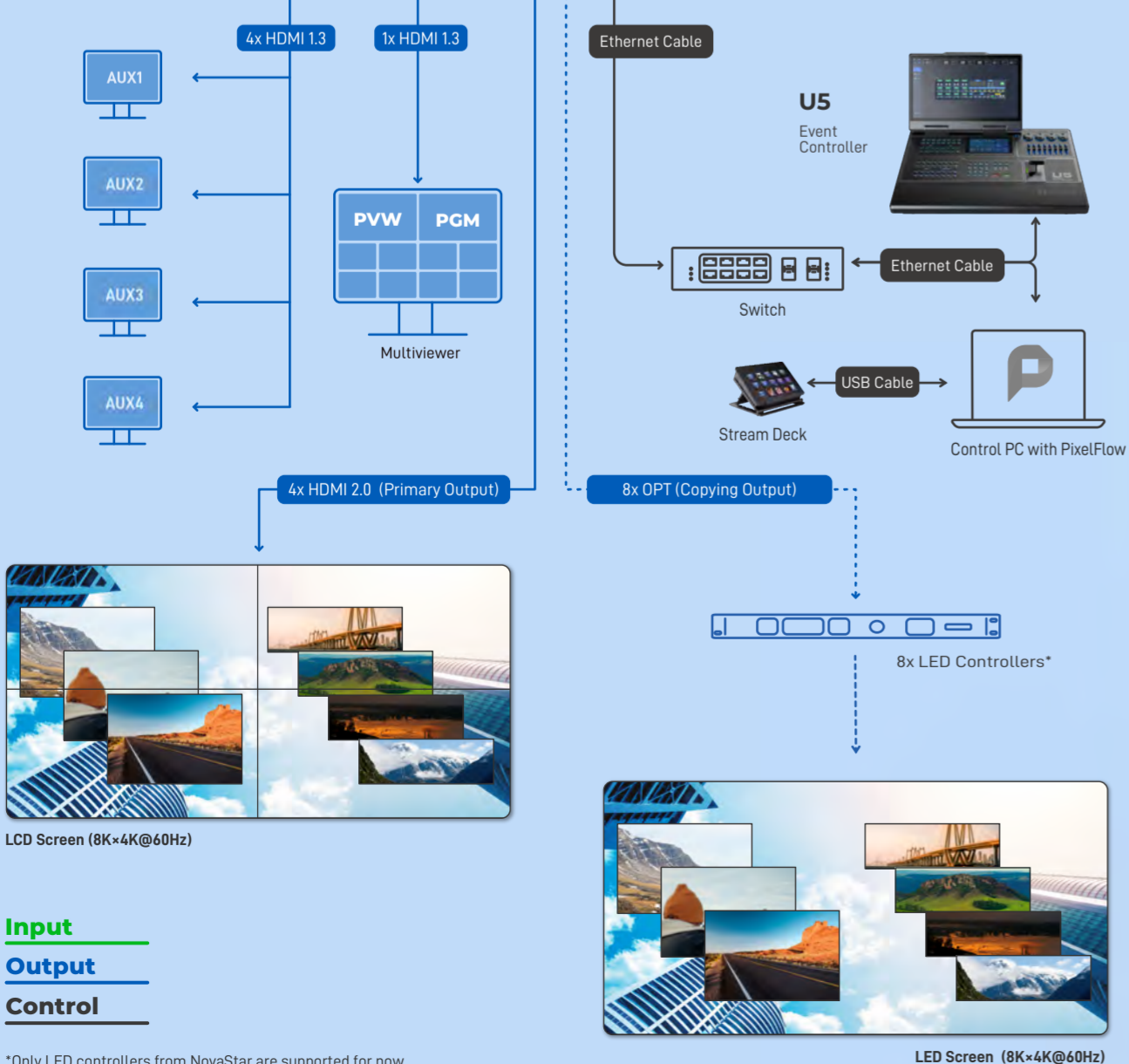
# PIXELHUE

### Flawless Live 4K Processing

The P series (P20 and P10) are PIXELHUE's all-new 4K presentation switchers fully featured in a compact form factor. Featuring high-quality 4K processing, the P20 and P10 are designed with a wide variety of 4K connectors, including HDMI 2.0, DP 1.2, and 12G-SDI.

The P20 and P10 can work in switcher mode or PGM only mode. In switcher mode, a single P20 supports up to two 4K\*2K@60Hz outputs and a single P10 supports one 4K\*2K@60Hz output. In PGM only mode, the output resolution per P20 is up to 8K\*4K@60Hz and P10 is up to 8K\*2K@60Hz.

Additionally, the P20 and P10 come with dedicated AUX outputs connecting to auxiliary devices and a dedicated Multiviewer output is provided for live monitoring of all the inputs and outputs from one display. High-performance image deinterlacing is also supported.



## P20

Presentation Switcher

\*Only LED controllers from NovaStar are supported for now.

LED Screen (8K\*4K@60Hz)

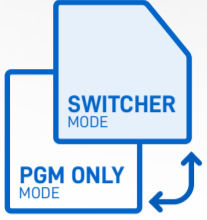


# P10

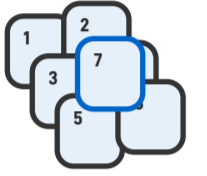
Presentation Switcher

## Powerful Functionalities

The P20 and P10 employ FPGA-based high-performance image enhancement architecture and real 4K60p 4:4:4 10-bit internal video processing. With dual working modes, versatile 4K connectivity, high-quality video processing, flawless image mosaic, various transition effects and much more, the P20 and P10 are perfect fits for small/medium-sized live events and many fixed installations requiring high reliability, unrivaled ease of use, optimal image quality and cutting-edge live 4K processing features. Seamless transitions and smooth video display maximize audience engagement.



Dual working modes make the P20 and P10 more capable, allowing users to choose switcher mode or PGM only mode according to their application requirements. The P20 supports up to 7 layers (3x 4K@60Hz layers and 4x 2K@60Hz layers, or 4x 4K@60Hz layers) and the P10 supports up to 6 layers (2x 4K@60Hz layers and 4x 2K@60Hz layers, or 3x 4K@60Hz layers). Users can freely arrange the layout of layers. Up to 128 presets are supported to satisfy different requirements.



High-resolution images can be captured from live inputs and outputs and used as BKG. In addition, the P20 comes with advanced DSK capability including luma key and chroma key and allows for free conversion between SDR, HDR10 and HLG.

## Longer Transmission Distance

10G optical fiber ports are provided for copying HDMI 2.0 output, allowing the P20 and P10 to transmit signals to the VX1000 or VX600 LED controller from NovaStar over a long distance (up to 10 km with SMF) without fiber converters. This method not only ensures the signal stability but also lowers the transmission cost, making the P20 and P10 ideal for long-distance signal transmission.

## Flexible Control Options

In addition to superior performances and outstanding visual experience, the P20 and P10 are exceptionally easy to operate. Various control options are available.

- Full-featured front panel buttons and 5-inch graphical LCD
- Versatile event controller U5/U5 Pro
- All-new event management software PixelFlow
- Third-party control system Stream Deck



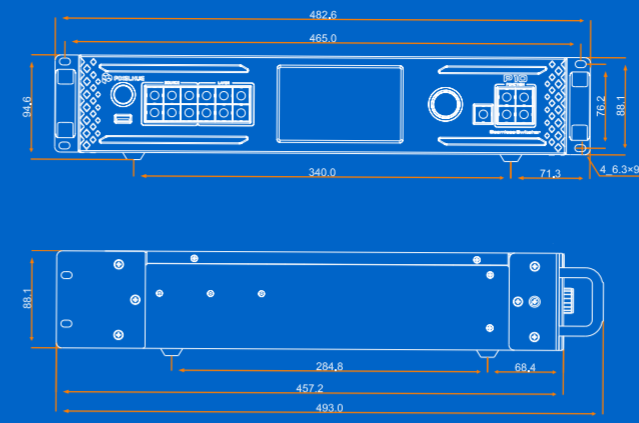
## Superb Stability & Reliability

The P20 and P10 are created for applications requiring the highest stability and uptime. Different backup methods are supported, including input source backup, automatic output backup and device backup. Once the primary input source is not stable or disappears, it will be switched to the backup source seamlessly. When the primary device fails, the backup device will take over the work immediately to ensure uninterrupted operation. Seamless switching from the primary to backup device or connector with no downtime makes the products highly reliable and worry-free.

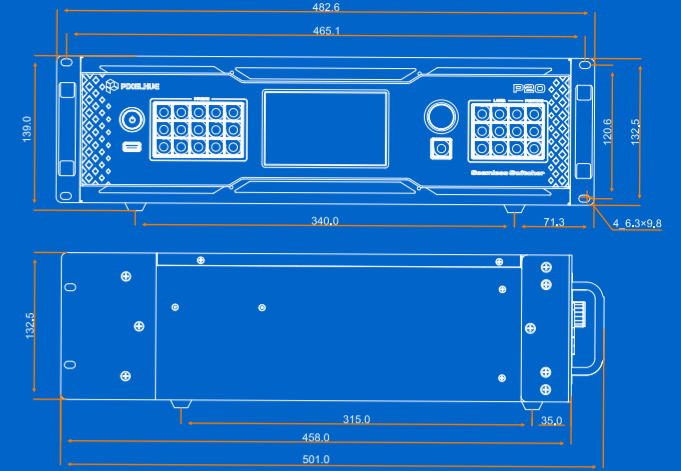
What's more, the products have passed a series of rigorous drop tests, shock & vibration tests and thermal tests, ensuring the products can survive in any kind of road trip or event environment.

## Dimensions

### P10



### P20



Unit: mm

## MODELS

	P20	P10		P20	P10
<b>Inputs</b>	8x DP 1.2/HDMI 2.0 4x 12G-SDI	4x DP 1.2/HDMI 2.0 2x 12G-SDI	<b>Chassis</b>	3 RU	2 RU
<b>Outputs</b>	8x HDMI 2.0	2x HDMI 2.0 6x HDMI 1.3	<b>Dimensions</b>	L 482.6 × P 501.0 × H 139.0 mm W 19.0 × D 19.7 × H 5.5 inches	L 482.6 × P 493.0 × H 94.6 mm W 19.0 × D 19.4 × H 3.7 inches
<b>OPT Ports</b>	8	4	<b>Weight</b>	Net Weight: 10.2 kg / 22.5 lbs With Paper Box: 14.3 kg / 31.5 lbs With Flight Case: 25.2 kg / 55.6 lbs	7.9 kg / 17.4 lbs 10.2 kg / 22.5 lbs 20.6 kg / 45.4 lbs
<b>*3.5 mm Audio Jacks</b>	2x Line In & 2x Line Out	2x Line In & 2x Line Out	<b>Electrical Parameters</b>	Input Power: 100~240V~, 3.0-1.5A, 50/60Hz Max Power Consumption: 160 W	100~240V~, 3.0-1.5A, 50/60Hz 82 W
<b>Layers</b>	3x 4K@60Hz layers and 4x 2K@60Hz layers, or 4x 4K@60Hz layers	2x 4K@60Hz layers and 4x 2K@60Hz layers, or 3x 4K@60Hz layers	<b>Noise on Average (@1, 0.75m height)</b>	45.6 dB	41.9 dB
<b>Multiviewer Connectors</b>	1x HDMI 1.3		<b>Operating Environment</b>	Temperature: 0°C to 50°C Humidity: 0% RH to 80% RH, non-condensing	
<b>AUX Connectors</b>	4x HDMI 1.3	2x HDMI 1.3	<b>Storage Environment</b>	Temperature: -20°C to +60°C Humidity: 0% RH to 95% RH, non-condensing	
<b>Presets</b>	128		<b>Certifications</b>	FCC, IC, CE, KC, CB	
<b>BKG &amp; LOGO</b>	Up to 255 BKGs & LOGOs (Maximum storage space: 512 MB)		<b>Packing Information</b>	<ul style="list-style-type: none"> <li>• 1x Power cable</li> <li>• 1x Ethernet cable</li> <li>• 1x HDMI cable</li> <li>• 1x DP cable</li> <li>• 1x Customer Letter</li> <li>• 1x Quick Start Guide</li> <li>• 1x Safety Manual</li> <li>• 1x Certificate of Approval</li> </ul>	
<b>DSK</b>	Luma Key & Chroma Key	N/A			
<b>Front Screen</b>	5" LCD				
<b>Gigabit Ethernet Ports</b>	2				
<b>Control</b>	<ul style="list-style-type: none"> <li>• Front panel buttons and LCD</li> <li>• Event controller U5/U5 Pro</li> <li>• Event management software PixelFlow</li> <li>• Third-party control system Stream Deck</li> </ul>				

\*The audio function will be available after Q3 of 2023.

# KEY FEATURES

- Switching between switcher mode and PGM only mode
- Versatile 4K connectivity: HDMI 2.0, DP 1.2 and 12G-SDI
- 10G optical fiber ports for copying output and long-distance signal transmission
- P20: Up to 2x 4K×2K@60Hz outputs in switcher mode and output resolution per P20 in PGM only mode up to 8K×4K@60Hz
- P10: 1x 4K×2K@60Hz output in switcher mode and output resolution per P10 in PGM only mode up to 8K×2K@60Hz
- AUX outputs allowing auxiliary devices such as teleprompters to be connected
- A dedicated Multiviewer output allowing the PGM & PVW screens and all the connected sources to be monitored from one display
- 2x Gigabit Ethernet ports used for control and live input view
- P20: Up to 7 layers (3x 4K@60Hz layers and 4x 2K@60Hz layers, or 4x 4K@60Hz layers)
- P10: Up to 6 layers (2x 4K@60Hz layers and 4x 2K@60Hz layers, or 3x 4K@60Hz layers)
- Up to 128 presets
- Up to 255 BKGs & LOGOs (Maximum storage space: 512 MB)
- 12-bit/10-bit/8-bit video sources accepted
- Free conversion between SDR, HDR10 and HLG (P20 only)
- Advanced DSK capability: chroma key and luma key (P20 only)
- High-performance image deinterlacing
- High-precision output synchronization in PGM only mode
- Various transition effects: fade and cut
- Custom test patterns
- HDCP 1.4 and HDCP 2.2 for full-link content protection
- Device backup, copying output, and input source backup to guarantee stability and reliability
- Visualized live monitoring of input and output connector statuses
- 5-inch graphical LCD on the front panel allowing for a more intuitive user experience
- Exceptionally easy to control via front panel buttons and LCD, event controller U5/U5 Pro, event management software PixelFlow, or third-party control system Stream Deck

## Inputs

For an input that contains a DP 1.2 and HDMI 2.0, only one connector can be used as the input source at the same time.

- DP 1.2
  - Maximum resolution: 4096×2160@60Hz/8192×1080@60Hz
  - Minimum resolution: 800×600@60Hz
  - Maximum width: 8192 pixels (8192×1080@60Hz)
  - Maximum height: 8192 pixels (1080×8192@60Hz)
  - Maximum frame rate: 120 Hz
  - EDID management (support for standard resolutions and custom resolutions)
  - HDCP 1.3 compliant
- HDMI 2.0
  - Maximum resolution: 4096×2160@60Hz/8192×1080@60Hz
  - Minimum resolution: 800×600@60Hz
  - Maximum width: 8192 pixels (8192×1080@60Hz)
  - Maximum height: 8192 pixels (1080×8192@60Hz)
  - Maximum frame rate: 120 Hz
  - Support for HDR (P20 only)
  - EDID management (support for standard resolutions and custom resolutions)
  - HDCP 2.2 compliant and downward compatible
- 12G-SDI
  - Support for ST-2082 (12G), ST-2081 (6G), ST-424 (3G), ST-292 (HD)
  - Maximum resolution: 4096×2160@60Hz
  - Maximum frame rate: 60 Hz
  - Support for interlaced input signal

## Outputs

- HDMI 2.0
  - Maximum resolution: 4096×2160@60Hz/8192×1080@60Hz
  - Minimum resolution: 800×600@60Hz
  - Maximum width: 8192 pixels (8192×1080@60Hz)
  - Maximum height: 8192 pixels (1080×8192@60Hz)
  - Maximum frame rate: 120 Hz
  - Support for HDR (P20 only)
  - EDID management (support for standard resolutions and custom resolutions)
  - HDCP 2.2 compliant and downward compatible
- HDMI 1.3
  - Maximum resolution: 1920×1080@60Hz/2048×1080@60Hz
  - Minimum resolution: 800×600@60Hz
  - Maximum width: 2048 pixels (2048×1080@60Hz)
  - Maximum height: 2048 pixels (1080×2048@60Hz)
  - Maximum frame rate: 120 Hz
  - EDID management (support for standard resolutions up to 2048×1152@60Hz and custom resolutions)
  - HDCP 1.4 compliant and downward compatible

## OPT

- 10G optical fiber ports
- The OPT ports copy the outputs of HDMI 2.0 connectors.
- The transmission distance with SMF is up to 10 km.

## Multiviewer

- One dedicated HDMI 1.3 connector
- Connect to the Multiviewer display, allowing for live monitoring of all the inputs and outputs from one display.
- The output resolution is fixed at 1920×1080@60Hz.

## AUX

- HDMI 1.3 connectors
- Connect to auxiliary devices such as teleprompters.
- The output resolution is fixed at 1920×1080@60Hz.

## Ethernet

- 2x Gigabit Ethernet ports used for control and input view
- One works as primary and the other as backup.
- Two Ethernet ports share the same IP address.

## Genlock

- Genlock synchronization signal connector
- GENLOCK IN: Synchronization signal input
- GENLOCK LOOP: Synchronization signal loop output

## Transition & Effects

- Seamless transition from PVW to PGM via Take, Cut or T-bar operation
- Fade in/out supported
- Customizable transition durations (0.1s to 10s)
- Two options for transition between PVW and PGM: Copy and Swap

## Layers

- P20 supports up to 7 layers (3x 4K@60Hz layers and 4x 2K@60Hz layers, or 4x 4K@60Hz layers).
- P10 supports up to 6 layers (2x 4K@60Hz layers and 4x 2K@60Hz layers, or 3x 4K@60Hz layers).
- Customizable layer layout

## BKG & Logo

- Up to 255 BKGs & LOGOs (Maximum storage space: 512 MB)
- BKG can be either a captured or imported image.
- High-resolution images can be captured from live inputs and outputs and used as BKG.

## Control Options

- Front panel buttons and 5-inch graphical LCD
- Event controller U5/U5 Pro
- Event management software PixelFlow
- Third-party control system Stream Deck

## PixelFlow Software Functionalities

- Long-term stable running
- Upgraded and visualized UI, adaptive to U5/U5 Pro/ PC screens
- One click to change skins of U5/U5 Pro buttons
- Software parameter controllable by U5/U5 Pro encoders or faders
- Distinct function areas and hover menu for ease of use

## Processing Capability

- FPGA-based high-performance image enhancement architecture
- Ultra-low latency, as low as 1 frame in proper configuration
- BT.401, BT.709, BT.2020, DCI-P3 color space processing support
- Free conversion between SDR, HDR10 and HLG (P20 only)
- Advanced DSK capability: chroma key and luma key (P20 only)
- Compatible with HDCP 1.4 and HDCP 2.2

## Supported Resolutions

Input	Bit Depth	Sampling	Supported Resolutions	Supported Bandwidth
HDMI 2.0 DP 1.2	8bit	RGB 4:4:4	4096×2160@60Hz	18 Gbps
		YCbCr 4:4:4	8192×1080@60Hz	
		YCbCr 4:2:2		
	10bit	RGB 4:4:4	4096×2160@30Hz	
		YCbCr 4:4:4	4096×1080@60Hz	
		YCbCr 4:2:2	4096×2160@60Hz	
12bit	RGB 4:4:4	4096×2160@30Hz		
	YCbCr 4:4:4	4096×1080@60Hz		
12G-SDI	8 bit 10 bit 12 bit	YCbCr 4:2:2	4096×2160@60Hz	11.88 Gbps

**Note:** Specifications subject to change without prior notice.