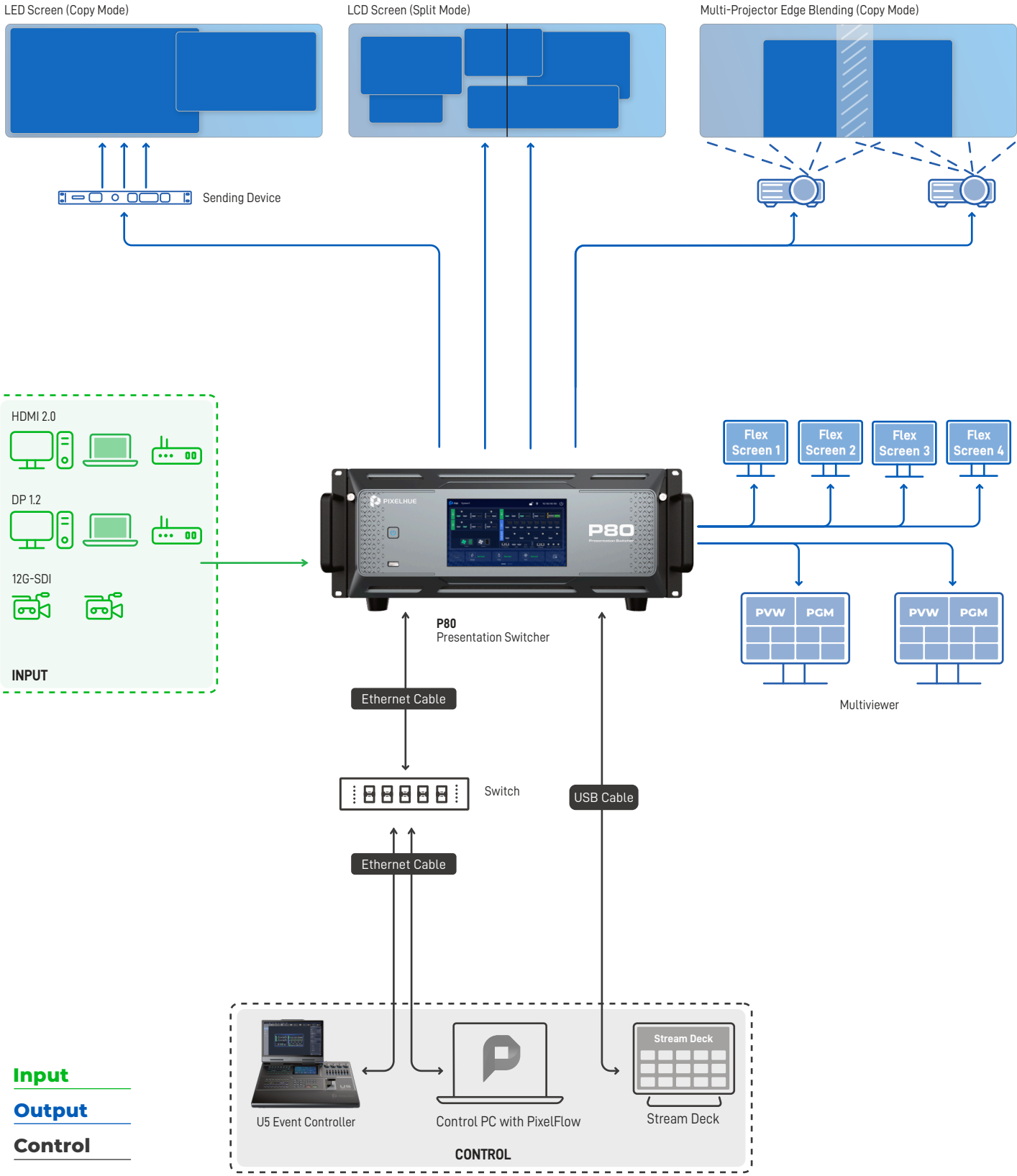


APPLICATION



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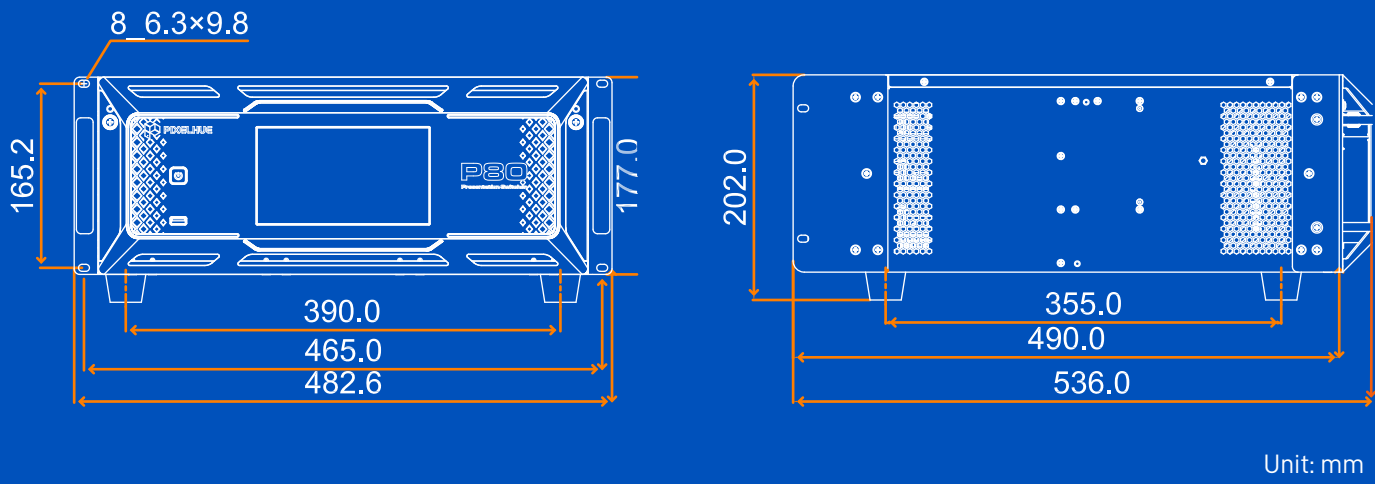


P80

4K Presentation Switcher
for Unlimited Live Control

P80 EN_2024-06-25

Dimensions



Specifications

Front Screen

7" Touchscreen

Chassis

4RU

Dimensions

W 482.6 mm × D 536.0 mm × H 177.0 mm
W 19.0 in × D 21.1 in × H 7.0 in

Weight

Net weight: 23.0 kg / 50.7 lbs
Gross weight (packed with flight case): 59.6 kg / 131.4 lbs

Electric Parameters

Power connector: 100-240V~, 50/60Hz
Max power consumption: 450 W

Noise on Average

(@1, 0.75m height)
45 dB

Operating Environment

Temperature: 0°C to 50°C (32°F to 122°F)
Humidity: 5% RH to 85% RH, non-condensing

Storage Environment

Temperature: -20°C to +70°C (-4°F to +158°F)
Humidity: 5% RH to 95% RH, non-condensing

Certifications

FCC, IC, CE, RoHS, CB, KC, PSE

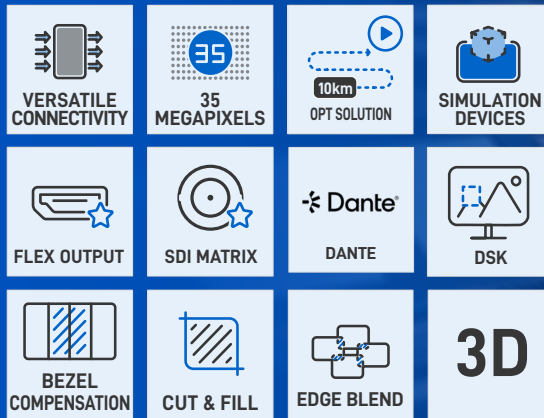
Packing Information

1x Flight case
2x AC power cords
1x DC power cord
1x Ethernet cable
3x HDMI cables
3x DP cables
8x Optical modules
1x Phillips screwdriver
1x Customer Letter
1x Quick Start Guide
1x Safety Manual
1x Certificate of Approval

Command Every Screen Control Every Layer

P80 is not just another switcher—it's the command center for your most demanding productions. Built to handle up to 20x 4K inputs with effortless precision, P80 empowers operators to master every screen and every layer without compromise. From flawless keying and seamless cut & fill to dramatic live effects, transitions feel instantaneous and under total control.

Designed for mission-critical shows, P80 delivers dual independent MVR outputs, full-link HDR conversion, and rock-solid reliability. Its 7-inch touchscreen and PixelFlow integration put streamlined control at your fingertips, whether you're driving a live broadcast, a massive stage, or a high-stakes corporate event. With P80, you don't just manage visuals—you command the entire experience.



Versatile 4K Connectivity

The P80 presentation switcher features versatile 4K connectivity including HDMI 2.0, DP 1.2 and 12G-SDI. The P80 is designed with 12x fixed concurrent 4K inputs and a swappable input card with support for P_HDMI2.0, DP1.2, OPT Link Card, Q8_HDMI2.0+DP1.2+12G-SDI Input Card, Q8_8xHDMI2.0+12G-SDI Input Card, and Q8_ST2110 (100G)+HDMI2.1+DP1.4 Input Card, making the P80 more capable. The P80 comes with 8x HDMI 2.0 main output connectors, supporting up to 4x 4K concurrent outputs (copy mode) or 8x DL concurrent outputs (split mode).

The P80 also supports 4x 4K flex outputs, 4x 12G-SDI matrix outputs, and 2x dedicated Multiviewer outputs. Additionally, 8x 10G SFP optical ports are offered to copy the HDMI 2.0 outputs, allowing for up to 4x 4K outputs.

Powerful Functionalities

The P80 employs FPGA-based high-performance image enhancement architecture and real 4K60p 4:4:4 10-bit internal video processing. The P80 supports up to 8x 4K mixing main layers and 4x 4K mixing PIP layers. Up to 256 presets and 256 layer presets can be saved for easy recall. This powerful multi-screen and multi-layer presentation switcher is ideal for medium to large-scale live events and permanent video wall installations requiring high reliability, unrivaled ease of use, optimal image quality and cutting-edge live 4K processing features. Seamless transitions, smooth video display and various visual effects maximize audience engagement.

Flex Output

The P80 comes with 4x HDMI 2.0 for flex outputs which can be freely configured as independent screens or edge-blended widescreens.

SDI Matrix

4x 12G-SDI are provided for matrix outputs, allowing any content from the input sources such as HDMI 2.0, DP 1.2 and 12G-SDI, MVR, PGM and flex outputs to be mapped to the SDI matrix. SDI matrix offers more flexible output options for users and enhances the versatility of the P80.

Flexible Control Options

The P80 is exceptionally easy to control via any of the following options:

- 7-inch graphical touchscreen on the front panel
- Event controller U5/U5 Pro/U5 MINI
- Event management software PixelFlow
- Third-party control system Stream Deck (Companion integrated into the P80)

In addition, multiple P80 units can be controlled simultaneously from a single event controller/PC with PixelFlow when they are on the same LAN and in the same project.

P80

4K Presentation Switcher



KEY FEATURES

Versatile 4K connectivity: HDMI 2.0, DP 1.2 and 12G-SDI
Up to 12x fixed concurrent 4K inputs and a swappable input card
8x HDMI 2.0 main output connectors configurable as independent screens or edge-blended widescreens
Up to 4x 4K concurrent main outputs (copy mode) or 8x DL concurrent main outputs (split mode)
8x 10G SFP optical ports for copying output and long-distance signal transmission
4x HDMI 2.0 flex outputs configurable as independent screens or edge-blended widescreens
4x 12G-SDI matrix for mapping any content from the input sources, MVR, PGM and flex outputs to the output
Dual-P80 linking for sharing input sources
2x HDMI 2.0 for connecting to Multiviewer screens
Up to 8x 4K mixing main layers and up to 4x 4K mixing PIP layers
Live BKG for real-time, dynamic backgrounds
KeyFrame for smooth motion transitions
48kHz 64x64 Dante audio networking hardware and support

Up to 256 relative and complete presets for easy recall
Free conversion between SDR, HDR10 and HLG
Advanced DSK capability: smart key, chroma key and luma key
Device backup, copying output, input source backup, and dual power supply redundancy to guarantee stability and reliability
Visualized live view of input and output connector statuses for easy troubleshooting
Virtual pixel function for convenient layer configuration
Multiple standard timings such as DMT, CEA, SMPTE and VESA
Custom EDID with support for reduced blanking and HBlank settings
Compatible with Mac EDID and supports Mac mosaic
HDCP 1.3, HDCP 1.4 and HDCP 2.2 for full-link content protection with a global switch for all inputs or outputs
Electrostatic protection to keep events smooth and successful
Rugged 4RU chassis with a cleanable dust filter
24/7 stable and reliable

SWAPPABLE INPUT CARD

P_HDMI2.0_DP1.2_OPT Link Card

- 2x HDMI 2.0
- 2x HDMI 2.0/DP1.2 (Only one type of connector can be selected as the input source at the same time.)
- 2x OPT (100G) for linking to another P80 device to share input sources
- HDMI 2.0
 - Max resolution: 4096×2160@60Hz 8bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Dynamic range: HDR10/HLG/SDR
 - Quantization range: Full/Limited
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.4 compliant
 - No support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)
- DP 1.2
 - Maximum resolution: 4096×2160@60Hz 10bit 4:4:4
 - Maximum width: 8192 pixels (8192×1080@60Hz)
 - Maximum height: 7680 pixels (1080×7680@60Hz)
 - Quantization range: Full/Limited
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.3 compliant
 - No support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)



Q8_HDMI2.0+DP1.2+12G-SDI Input Card

- 4x HDMI 2.0
- 4x DP1.2
- 12G-SDI not available*
- HDMI 2.0
 - Max resolution: 4096×2160@60Hz 8bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Dynamic range: HDR10/HLG/SDR
 - Quantization range: Full/Limited
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.4 compliant
 - Support for interlaced video signal
 - No support for deinterlacing processing
 - Support for 8-channel embedded audio (24bit/48kHz)
- DP 1.2
 - Max resolution: 4096×2160@60Hz 10bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Quantization range: Full/Limited
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.3 compliant
 - No support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)



Q8_8xHDMI2.0+12G-SDI Input Card

- 8x HDMI 2.0
- 12G-SDI not available*
- HDMI 2.0
 - Max resolution: 4096×2160@60Hz 8bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Dynamic range: HDR10/HLG/SDR
 - Quantization range: Full/Limited
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.4 compliant
 - Support for interlaced video signal
 - No support for deinterlacing processing
 - 8-channel embedded audio (24bit/48kHz)



Q8_ST2110 (100G)+HDMI2.1+DP1.4 Input Card

- 2x 100G OPT
 - 1 primary and 1 backup per input card
 - Up to 4x 4K×2K@60Hz 12bit 4:4:4
 - Support for processing of 8-bit, 10-bit and 12-bit inputs
 - Support for 4:2:2 and 4:4:4 inputs
 - Standard: Support SMPTE ST 2110 (-10, -20) and SMPTE 2059 (-1, -2).
 - Backup: Support the SMPTE 2022-7 standard.
 - Custom resolutions
 - Max width: 8192 pixels
 - Max height: 7680 pixels
 - PixelFlow control: Support loading video stream configuration by SDP file or directly inputting. Exporting SDP file is also supported.
 - PTP settings: Support the IEEE 1588-2008 standard, enabling high-precision synchronization across different input sources when Lock Input to PTP is activated.
 - FEC configuration: With parameters set at the card level, this feature can automatically detect and correct errors during data transmission,
- enhancing the reliability of video signal transfer. Support RS-FEC and NO-FEC encoding methods. This feature requires configuration on the switch before it can be used.
- IP address: IPv4 DHCP and static IP
- Multicast protocol: IGMPv3
- 2x HDMI 2.1
 - One HDMI 2.1 and one DP 1.4 form a group, with only one usable at a time
 - Up to 8K×4K@30Hz 10bit 4:4:4 (Currently limited to 4K×2K@60Hz 10bit 4:4:4)
 - Support for processing of 8-bit, 10-bit and 12-bit inputs
 - Support for 4:2:0, 4:2:2 and 4:4:4 inputs
 - Support for processing of Full and Limited range videos
 - Support for HDR and 3D inputs
 - HDCP 1.4 and HDCP 2.3 compliant
 - Support for deinterlacing processing
 - Support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)
 - Custom resolutions
 - Max width: 8192 pixels
 - Max height: 7680 pixels

- 2x DP 1.4
 - One HDMI 2.1 and one DP 1.4 form a group, with only one usable at a time
 - Up to 8K×4K@30Hz 10bit 4:4:4 (Currently limited to 4K×2K@60Hz 10bit 4:4:4)
 - Support for processing of 8-bit, 10-bit and 12-bit inputs
 - Support for 4:2:2 and 4:4:4 inputs
 - Support for processing of Full and Limited range videos
 - Support for HDR and 3D inputs
 - HDCP 1.3 and HDCP 2.3 compliant
 - No support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)
 - Custom resolutions
 - Max width: 8192 pixels
 - Max height: 7680 pixels



Inputs

- 12x fixed 4K concurrent inputs:
 - 4x HDMI 2.0
 - 4x HDMI 2.0/DP 12 (Only one type of connector can be selected as the input source at the same time.)
 - 4x 12G-SDI
- HDMI 2.0:
 - Max resolution: 4096×2160@60Hz 8bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Dynamic range: HDR10/HLG/SDR
 - Quantization range: Full/Limited
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.4 compliant
 - No support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)
- DP 1.2:
 - Max resolution: 4096×2160@60Hz 10bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Quantization range: Full/Limited
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.3 compliant
 - No support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)
- 12G-SDI:
 - Support for ST-2082 (12G), ST-2081 (6G), ST-424 (3G), ST-292 (HD), and ST-259 (SD) video inputs
 - Compatible with SD-SDI, HD-SDI, 3G-SDI and 6G-SDI
 - Max resolution: 4096×2160@60Hz 10bit 4:2:2
 - Support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)

Main Outputs

- 8x HDMI 2.0 main output connectors
 - Up to 4x 4K concurrent main outputs in copy mode
 - Up to 8x DL concurrent main outputs in split mode
- 8x 10G SFP optical ports for copying HDMI 2.0 outputs
- HDMI 2.0
 - Max resolution: 4096×2160@60Hz 8bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Bit depth: 8bit/10bit/12bit
 - Color space: YCbCr/RGB
 - Dynamic range: HDR10/HLG/SDR
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.4 compliant
 - Support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)

Flex Outputs

- 4x HDMI 2.0 flex output connectors
- Configurable as independent screens or edge-blended widescreens with support for Multiviewer, transition effects such as fade, test patterns, AOI, virtual pixels, etc.
- Up to 4x 4K mixing PIP layers and 4x still BKG with support for adjustment of layer position, size and Z-order, layer effects including flip, crop and mask, layer color adjustment, and layer presets.
- Auxiliary devices such as teleprompters can also be connected.
- HDMI 2.0
 - Max resolution: 4096×2160@60Hz 8bit 4:4:4
 - Max width: 8192 pixels (8192×1080@60Hz)
 - Max height: 7680 pixels (1080×7680@60Hz)
 - Bit depth: 8bit/10bit/12bit
 - Color space: YCbCr/RGB
 - Dynamic range: HDR10/HLG/SDR
 - EDID management (support for standard and custom resolutions)
 - HDCP 2.2 and 1.4 compliant
 - Support for interlaced video signal
 - Support for 8-channel embedded audio (24bit/48kHz)

Screens

- Output connectors can be freely configured as independent screens or edge-blended widescreens.
- Up to 4x 4K main screens and 4x flex screens are supported.
- Multi-screen mosaic
- Users can manually arrange the mosaic layout or select a layout template. If a connector used for mosaic fails, it can be replaced with another normal connector in the software.
- Edge blending and LCD bezel compensation
- Virtual pixel configuration supported, simplifying calculations between on-site screen size and P80-loaded screen pixels
- AOI (Area of Interest) feature to customize active areas of outputs
- Custom test patterns

SDI Matrix

- 4x 12G-SDI matrix for mapping any content from the input sources, MVR, PGM and flex outputs to the output
- 12G-SDI
 - Compatible with HD-SDI, 3G-SDI and 6G-SDI
 - No support for bit depth and color space settings
 - Support for 8-channel embedded audio (24bit/48kHz)

Dante Audio Networking

- Dual redundancy Gigabit Ethernet ports (AES67 compliant)
- Audio de-embedding/embedding on every input & output (raw audio)
- De-embedded audio channels can be routed directly to the Dante network.
- Audio channels from external Dante audio processor can be re-embedded for sending to display, streaming or recording device.
- 64×64 Dante channels @48 kHz

Multiviewer

- 2x HDMI 2.0 for connecting to Multiviewer screens to monitor all the input sources, PWW and PGM.
- Allows users to select independent or copy mode and select a standard resolution and frame rate for the connectors.
 - In independent mode, 2x concurrent DL outputs are supported.
 - In copy mode, 1x 4K output and 1x copying output are supported.
- A variety of Multiviewer layout templates are provided and custom Multiviewer layout templates are supported.
- The Multiviewer windows can be resized and repositioned, and the width, height and color of the border can be adjusted.
- Intuitive and upgraded Multiviewer interaction, including maintaining source aspect ratio, snapping between canvases and Multiviewer window, adjusting background color, showing or hiding UMD information, customizing UMD color, and canvases zoom

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 input and output (with support for loop-through).
- Supports Tri-level sync for input and output.

Layers

- Up to 8x 4K mixing main layers are supported.
- Any of the inputs, Multiviewer, PGM, or local images can be selected as the source of a layer.
- Layers can be repositioned and resized.
- The Z-order of layers can be adjusted.
- Layer names are displayed and can be modified.
- Layer resource usage is displayed in real time.
- Layer effects: DSK, mask, crop, flip, cut & fill, KeyFrame, border, shadow and more
- Layer presets: All (or a portion) of the current layer's properties (such as input source, position, size, effects) can be saved as a layer preset in PixelFlow for easy recall. Up to 256 layer presets can be saved.

Presets

- Up to 256 presets can be saved for easy recall.
- Relative and complete presets are supported to satisfy application requirements.
- Allows users to select preferred parameters such as transition duration and input source to save to a preset.
- Presets can be loaded to PWW or PGM.

BKG

- Supports still and live BKG. Only one of them can take effect at a time.
- BKG can be turned on or off, changed or deleted.
- The BKG image automatically scales to fit the screen while maintaining aspect ratio and is positioned at the bottom layer by default.
- Images imported from the control PC or event controller, captured from input sources and PGM can be used as still BKG.
- One dedicated still BKG image available on each PGM output. Up to 4 still BKG supported.
- Still BKG storage capacity is up to 1 GB and PNG/BMP/JPG/JPEG files are supported.
- Various sources can be used as live BKG: local input sources, PGM sources, and still images.
- Live BKG can be created in connector or screen mode.
- Live BKG can be created for each screen. Up to 16 live BKG presets can be saved for a screen. A maximum of 4 live BKG can be used simultaneously for a P80 device.

Transition & Effects

- Seamless transition from PWW to PGM via Take, Cut or T-bar
- Two options for transition between PWW and PGM: Copy and Swap
- Customizable transition duration (0.1s to 10s)
- Fade in and out supported
- Screen freeze and FTB (Fade to Black) supported

PixelFlow Software Functionalities

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

Processing Capability

- FPGA-based high-performance image enhancement architecture
- Ultra-low latency, as low as 1 frame in proper configuration
- BT601, BT709, BT2020, DCI-P3 color space processing support
- Free conversion between SDR, HDR10 and HLG
- Advanced DSK capability: smart key, chroma key and luma key
- Compliant with HDCP 1.3, 1.4 and 2.2

Supported Resolutions

Input	Bit Depth	Sampling Format	Supported Resolutions	Connector Bandwidth
HDMI 2.0	8bit	RGB 4:4:4 YCbCr 4:4:4 YCbCr 4:2:2	4096×2160@60Hz 8192×1080@60Hz	18 Gbps
	10bit	RGB 4:4:4 YCbCr 4:4:4 YCbCr 4:2:2	4096×2160@30Hz 4096×1080@60Hz 4096×2160@60Hz	
	12bit	RGB 4:4:4 YCbCr 4:4:4 YCbCr 4:2:2	4096×2160@30Hz 4096×1080@60Hz 4096×2160@60Hz	
	8bit	RGB 4:4:4 YCbCr 4:4:4 YCbCr 4:2:2	8192×1080@60Hz 4096×2160@30Hz 3840×2160@60Hz	
DP 1.2	10bit	RGB 4:4:4 YCbCr 4:4:4 YCbCr 4:2:2	8192×1080@60Hz 4096×2160@60Hz 3840×2160@60Hz	21.6 Gbps
	12bit	RGB 4:4:4 YCbCr 4:4:4 YCbCr 4:2:2	8192×1080@60Hz 3840×2160@60Hz	
	10bit	YCbCr 4:2:2	4096×2160@60Hz	