

HELIOS LED Processing System

PX1 Receiver

Release Notes v20.05.0

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Introduction

The HELIOS LED Processing Platform also includes the PX1 Tile Receiver Card as part of a complete system.

Some features/improvements may require updating the PX1 receiver card firmware also.

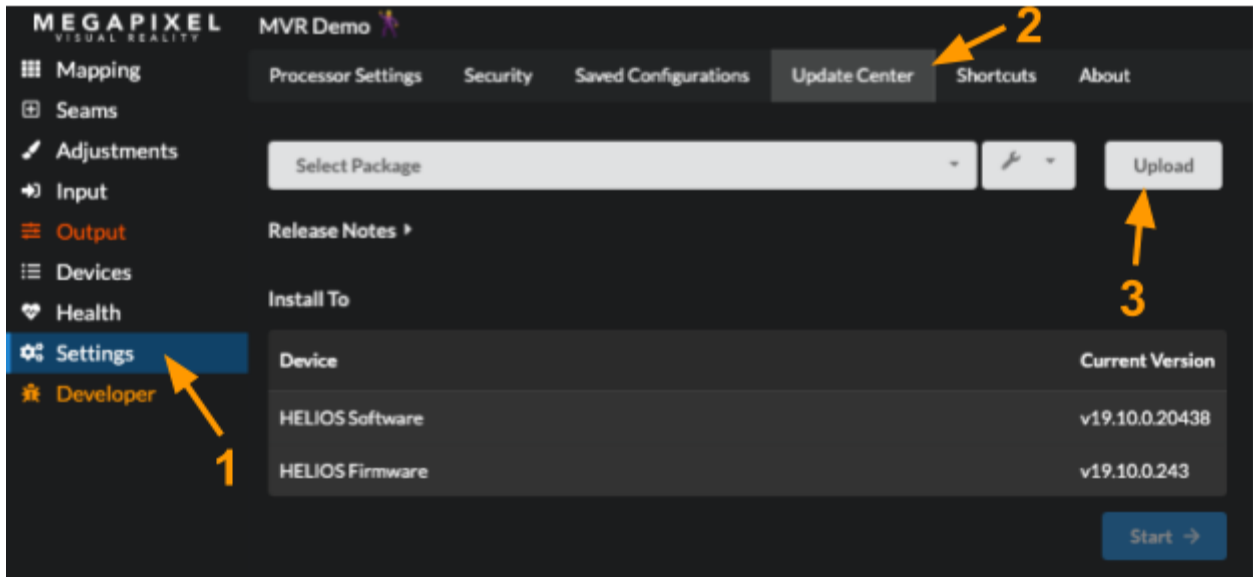
The current user manual and releases for the HELIOS LED Processing Platform can be found at: <http://www.megapixelvr.com/support/>

It is always recommended to update the HELIOS Processor software prior to upgrading the PX1 Receiver Card firmware.

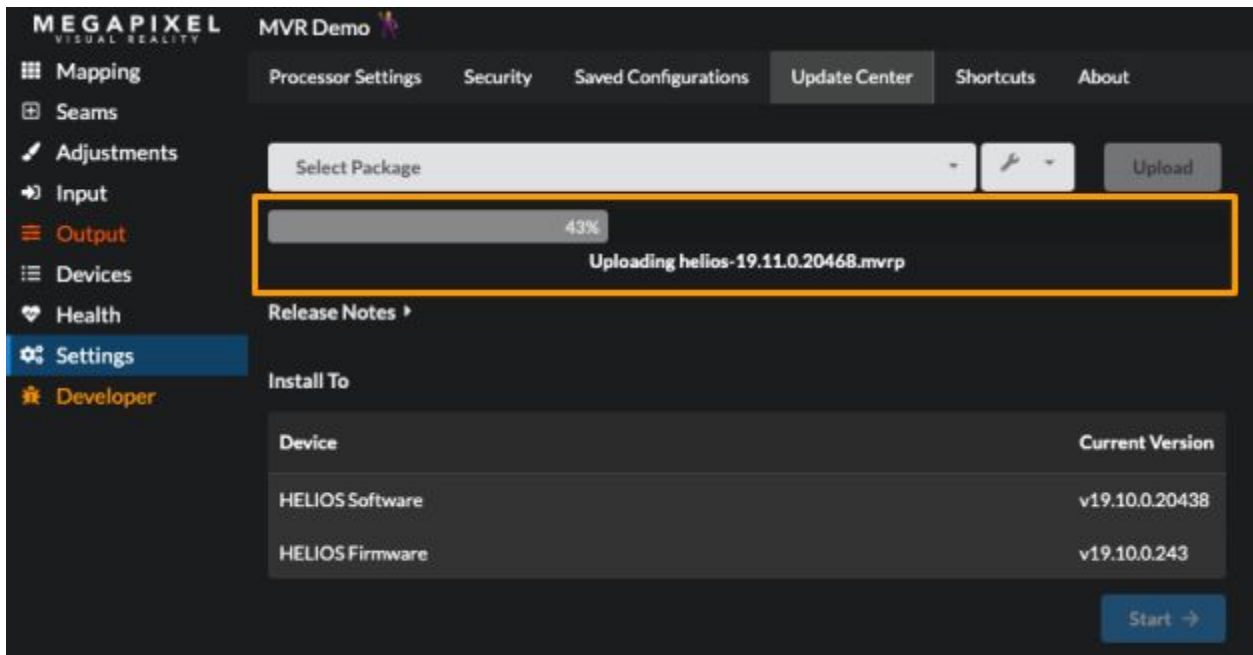
Upgrading the HELIOS Processor will upgrade both the software and firmware versions as needed on the HELIOS Processor.

HELIOS Upgrade Instructions

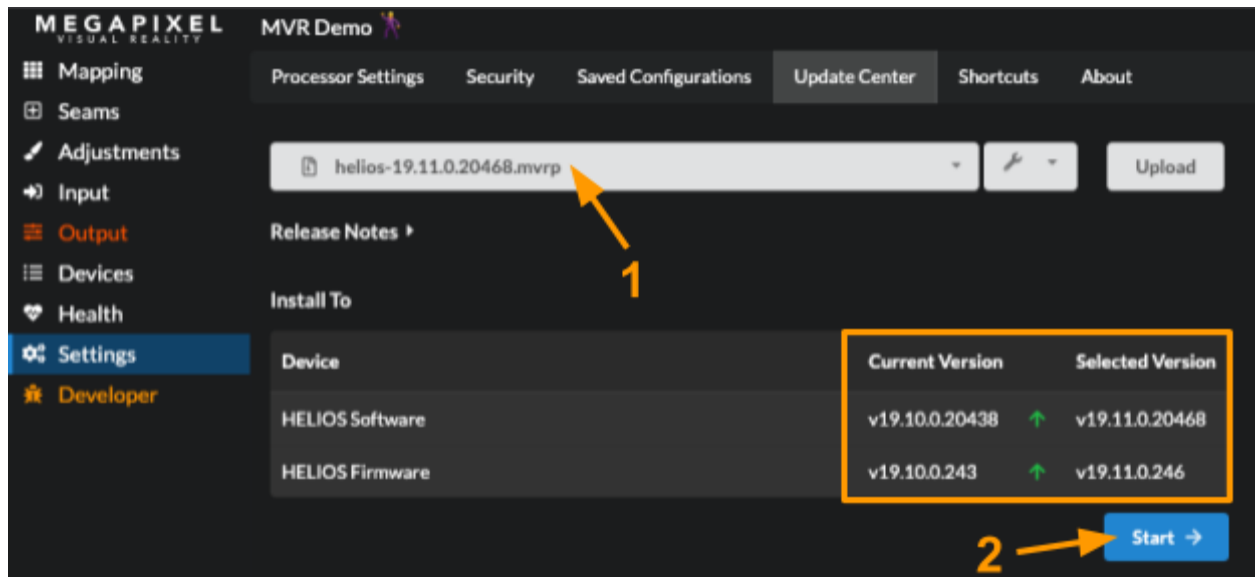
In the HELIOS web UI navigate to: *Settings->Update Center* and select the "Upload" button.



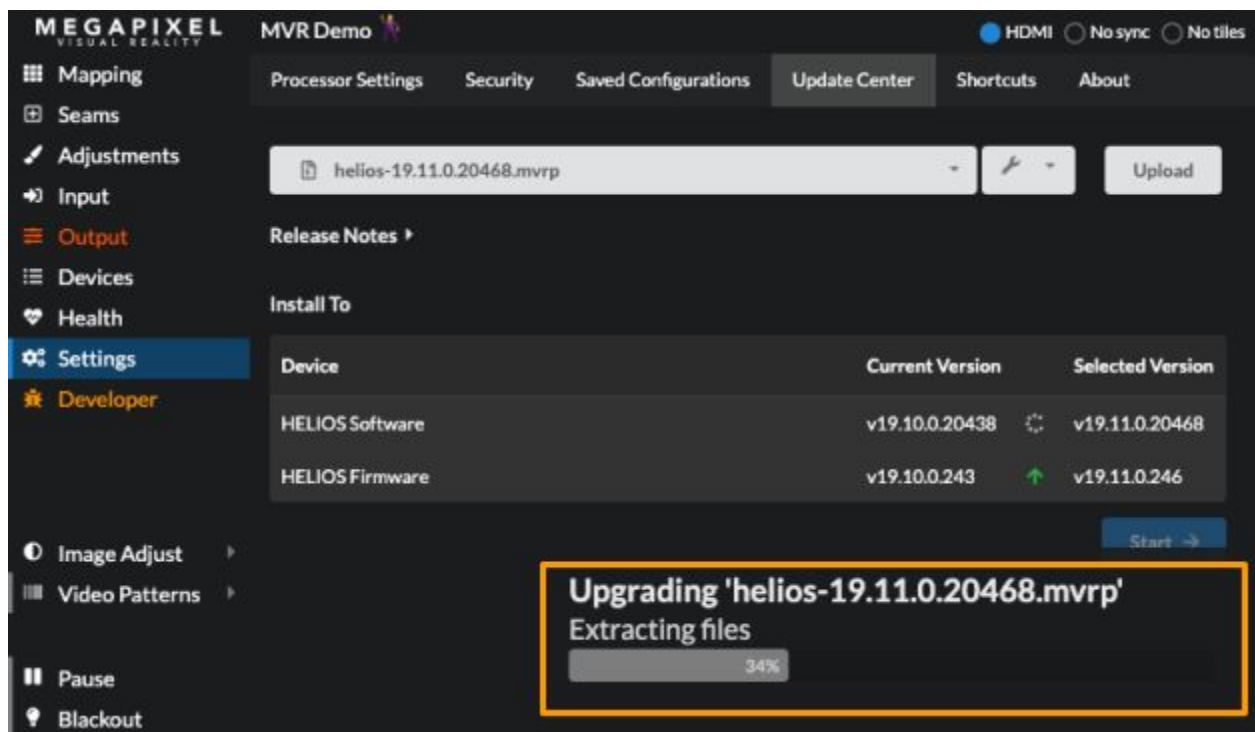
Browse to the current software .MVRP file your computer and upload it. You should see the following progress bar as the file is being uploaded.



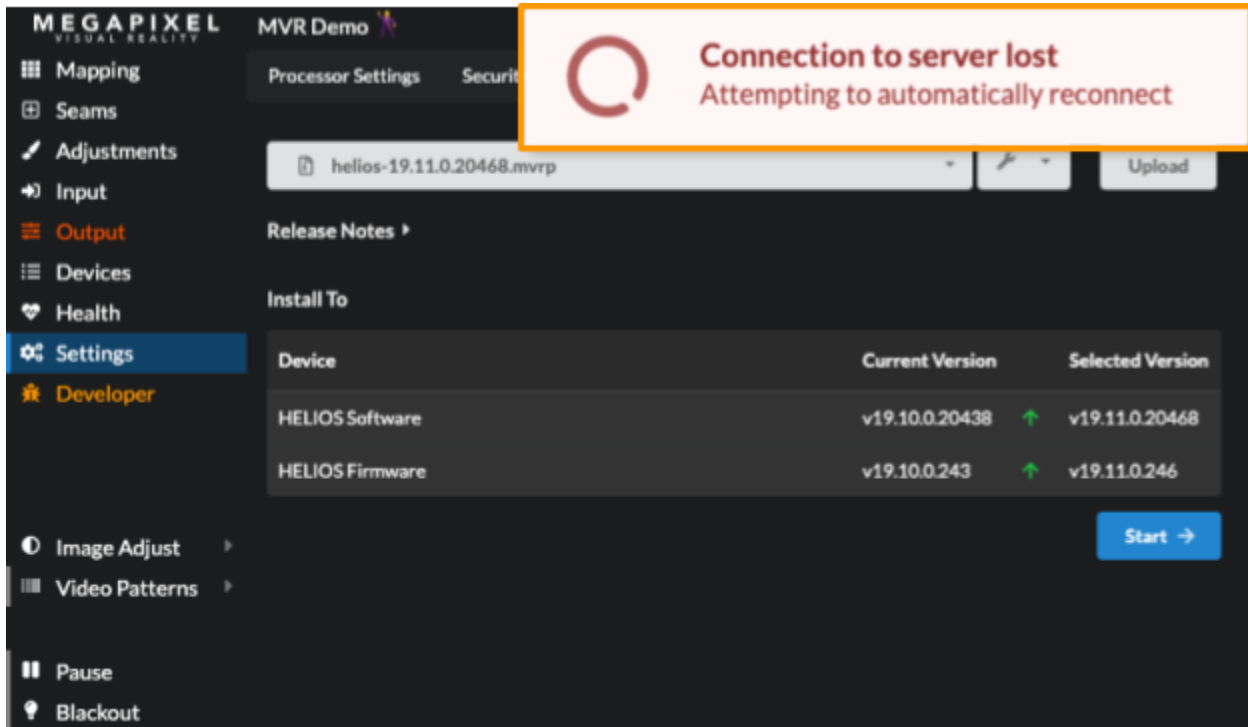
After the package has uploaded, you can then execute installation by selecting the appropriate MVRP package in the drop down list (1) and then clicking on "Start" (2).



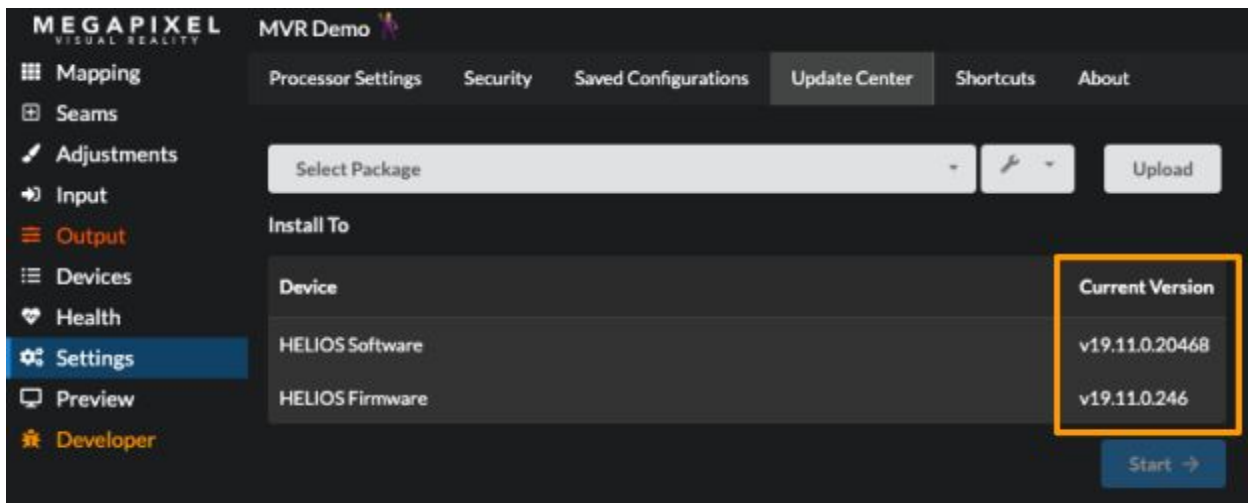
You will then see the upgrade process continuing as shown below.



During the upgrade, you will see the "Connection to server lost" message as HELIOS is performing the upgrade and restarting.



Once the upgrade is complete, you can see the current software and firmware versions displayed below.



PX1 Upgrade Instructions

Once the firmware for the HELIOS Processor has been updated, then the firmware for the PX1 Tile Receiver Cards may also be upgraded using a similar process. Upload the PX1 Receiver Card firmware (px1-xx.xx.xx.xxx.mvrp) using the same process above and then select it in the drop down list.

You will then be presented options for which tiles to update to the latest firmware.

You can enable/disable which tiles are included in the firmware update and then press the "Start" button in order to initiate the firmware upgrade process.

The screenshot shows the MEGAPIXEL MVR Demo software interface. The 'Update Center' tab is active. A dropdown menu is set to 'px1-a19.11.0.213.mvrp'. Below it, a table lists tiles for update. A 'Start' button is at the bottom right. Three orange arrows and numbers (1, 2, 3) indicate key steps: 1 points to the firmware dropdown, 2 points to the 'Update' toggle in the table, and 3 points to the 'Start' button.

Tile	Distro	Port	String	Current	→	Selected	Identify	Update
Eclipse-1.5 HDR	0	A	2	v19.11.0.208	↑	a19.11.0.213	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Eclipse-1.5 HDR	0	A	1	v19.11.0.208	↑	a19.11.0.213	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Eclipse-1.5 HDR	0	A	1	v19.11.0.208	↑	a19.11.0.213	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Eclipse-1.5 HDR	0	A	2	v19.11.0.208	↑	a19.11.0.213	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Version Information

After updating, the following should be displayed as the current versions:

Device	Version
HELIOS Software	v20.05.0.20743
HELIOS Firmware	v20.05.0.270
PX1 Receiver Card	v20.05.0.276

Officially Supported Tiles

- Revolution Display ADVHD1.5
- Revolution Display ADV4 / ADV5 / ADV8
- Revolution Display RS1 / RS2 / RS3
- ROE Amber 1.5
- ROE Black Quartz 4.6
- ROE Diamond 2.6
- ROE Ruby 2.3
- ROE Sapphire 1.5

New Functionality

- System Redundancy
 - System redundancy capabilities now available using a main/backup HELIOS both driving from each end of a string of tiles.
 - Both traditional failover backup mode and new seamless failover mode available.
 - Please refer to the User Guide for full details on configuration and operation.
 - **IMPORTANT NOTE:** Redundancy operation requires tile firmware v20.02.0.250 or later.
 - Unfortunately older tile firmware versions can fail to respond to processors in a redundant configuration.
 - **WORKAROUND:** Disconnect the tile from the backup processor (or power off the backup processor) then perform the tile upgrade.

- **IMPORTANT NOTE:** HELIOS will need to reconfigure its attached network switches to support redundancy. (#487)
 - Switch reconfiguration will happen automatically when a network switch is connected to an upgraded HELIOS.
 - Current switch configuration version can be seen by looking at the switch's Contact field on the devices page, "v3" is the latest version.
 - **WARNING:** Once a switch has been reconfigured, it is not compatible with previous versions of HELIOS. Please contact us if you need to downgrade.
 - Please upgrade the HELIOS and its switches in an isolated environment before trying out the redundancy.
- HDR - High Dynamic Range with Dynamic Metadata support
 - **IMPORTANT NOTE:** Requires tile firmware v20.01.0.245 or later.
 - Initial support for SDR, HDR (traditional), HLG, and ST 2084 (PQ) curves
 - Initial support for dynamic range metadata.
 - Improved detection of (most) input colorimetry (DP is a known issue).
 - Please refer to the User Guide for full details on configuration and operation.
- Web Interface
 - Re-worked top right status icons.
 - Update sync status icon to indicate sync source (e.g., "Sync to HDMI") (#452)
 - Added a "Global settings" lock (#300).
 - Mobile - Added a test pattern selection to the mobile view (#478).
- Front panel LCD
 - Show the current operating mode (Standard/Jr) (#499).
 - Turning knob moves between pages.
 - Pressing knob now opens a menu:
 - Brightness %, Blackout, Freeze, and Test Pattern toggles.
 - Restore Factory Defaults.
 - Configure DHCP/Static IP address.
- Mapping
 - Identify option will now include "(rear only)" option when the "Rear indicator only" processor setting is set (#467).
 - Editable tile XY position can now be found under the "Positioning tools" (#460).
- Input
 - Added luminance-only support for HDMI 4:2:0. (#456)

- Output
 - Black clipping is no longer considered an “Advanced” function.
 - Default brightness limit to lowest to false, moved toggle to Output adjustment.
 - Added Gray Step Test Pattern (#365)
- Settings
 - Option to reset to factory settings while keeping the assigned IP (#351).
 - Update Center - Sort tiles by identify (#321).
- Shortcuts - Updated CSS. You can always use '?' to see keyboard shortcuts (#389).
- Switches
 - Temperature & fan speed monitoring added.
- Tiles
 - Alert when there's an authentication failure (#458)
 - Added diagonal line test patterns, and additional stats patterns to tiles (#423).
- Public API
 - Exposed device counters & sensors, available inputs, redundancy state, and the directly connected switches.
- Stacking
 - Should now discover other HELIOS when automatically assigned a link-local address (#495).
 - Improved/Reduced HELIOS-HELIOS connection time.

Bug fixes

- Devices - Support for > 1GbE tile port speeds (#484).
- Output - Less truncated edit fields when using an iPad (#470).
- Settings - Support uploading of licenses via Safari.
- SDI Level B fixed (#439).
- Fixed PSU reporting thresholds for VCCINT & VCC_PSINTFP (#465).
- Fixed DP errors on DP disconnect (#481).
- Avoid flickering when the input doesn't match the external sync's frequency (#482).
- Stop reporting that the external sync is valid after the external sync has been removed (#486).
- Changed wording when LDM is not in factory position (#503).
- Corrected DP EDID Vendor ID (#516).
- Heat Map - Hover temperature info above selection (#29).

- Mapping - Simplified selecting tiles when using port dropdown (#355).
- Output - show auto detected gamut (#525).
- Settings - pseudo-random static IP based on unit's MAC address.
- Fixed Interrupt handling issue causing memory corruption (#534).
- Fixed memory allocation issues and improved memory checking.
- Improved RPU crash handling.
- Reduced HELIOS Fan speeds.
- Adjusted ranges for SFP power limits for valid ranges.
- Update crash handlers in PX1 card.

Known issues

- Support HELIOS to same HELIOS redundancy is on our road map (#514)
- HDR over DisplayPort is still in progress (#521)

PREVIOUS RELEASES

Version v20.01.0

After updating, the following should be displayed as the current versions:

Device	Version
HELIOS Software	v20.01.0.20551
HELIOS Firmware	v20.01.0.252
PX1 Receiver Card	v20.01.0.245

Officially Supported Tiles

- Revolution Display ADVHD1.5
- Revolution Display ADV4 / ADV5 / ADV8
- Revolution Display RS1 / RS2 / RS3
- ROE Amber 1.5
- ROE Black Quartz 4.6
- ROE Diamond 2.6
- ROE Ruby 2.3
- ROE Sapphire 1.5

New Functionality

- New HELIOS Jr. model released.
- Adjustments - Intensity adjustment to quickly adjust the brightness of a group of LDMS added. (#449)
- Canvas - Escape to deselect any selected objects. (#433)
- Input - Alert when an unrecognized/invalid input is detected. (#436)
- Mapping
 - Show aggregated port details when multiple tiles are selected.
 - Theater mode settings to adjust tile(s) max luminance to a different calibration target. (#450)
 - Show additional test patterns in HELIOS that are supported by tile firmware. (#415)

- Output
 - No longer categorized as "advanced functionality".
 - "Automatic" gamut automatically adjusts the display's gamut to match the source advertisement (which is going to be Rec. 709, see known issues).
 - Added "Limit max to lowest tile max" setting to control how max display brightness is calculated. (#411)
- Light Science feature added for tiles which support enhanced low level controls. (#432)
- PX1
 - Improved control over gamma curves added.
 - Advertise available test patterns to HELIOS. (#415)
 - Added small grid test pattern.
 - Ethernet PHY LED's are now disabled when turning off "Show Indicators" for the tiles.
- Health
 - Reports - Include device's serial number in all reports.
- Settings
 - Identify behavior option added- "Front identify & Rear indicator", or "Rear indicator only". (#264)
 - Licensing (#6)
 - Support for per-unit feature based licensing added.
 - All existing HELIOS units will automatically be issued a "Standard" license to allow selection between Standard & Jr modes.
 - Operating mode (#326)
 - Control whether HELIOS is configured in "Standard" mode (8 x 10GbE SFP+) or a new "Junior" mode (8 x 1GbE copper SFP).
 - Requires HELIOS using at least a OS 19.10.0 release. This can be verified under Devices->Processor->expand HELIOS and note the version listed for "OS". (For those needing this functionality with an OS version lower than 19.10.0, please contact Support for details on upgrading your OS.)

Bug Fixes

- Devices - Removed support for incompatible SFPs. (#6)
- LCD
 - Show dual DP/HDMI in preview thumbnails for HELIOS configured using dual DP or dual HDMI input card configurations.
 - Update current input details if the input is changed while test pattern is active.
- Input
 - Avoid truncating reported frequency (e.g., 59.94).
 - Fix a DP state issue on disconnect. (#387)
- Output
 - Corrected bit depth calculation for 10-bit with non-60Hz frequencies. (#445)
 - Removed "Disabled" gamut.
- Settings
 - Networking - Keep static IP assignment when a DHCP server is available. (#462)
- Updates - Show HELIOS port information when updating tiles.
- Addressed an EEPROM write issue.
- Fixed bad sensor readings after a reboot. (#403)
- Sensor report improvements.
- Suppress some repeat error messages.
- PX1: Clearing Counters isn't clearing PHY errors. (#407)

Known Issues

- Input - Advertised input colorimetry is often incorrectly assumed to be Rec. 709 (#64)
- Output - Still need to handle non-scalable and wide inputs (#210)
- Previews - Only single inputs are supported. i.e., 2x2 SDI, 4x1 SDI will be black (#395)

Version v19.11.0

Device	Version
HELIOS Software	v19.11.0.20468
HELIOS Firmware	v19.11.0.246
PX1 Receiver Card	v19.11.0.216

New Functionality

- Input - Automatically expand details for the selected input (#358)
- LCD - Make it more obvious when in blackout/test pattern (#209)
- Processor Settings - Renamed Experimental to Advanced mode (#334)
- Preview - Support preview for single inputs, but still working on stitched inputs (#159)

Bug Fixes

- Application - Continue showing current input while test pattern is active (#357)
- Devices - Timeout detected sensor faults (#388)
- PX1 - Added delay after blackout before putting tiles into low power mode (#329)
- Fixed Alert Names (#163)

Known Issues

- Previews - Only single inputs are supported. i.e., 2x2 SDI, 4x1 SDI will be black (#395)