

Pearl Nano

4.14.2 Technical notes
June 7, 2021

Limitations and known issues

This section includes known issues or limitations that affect functionality or usability and ways that you can work around these limitations.

Affecting encoding

- **Limitation:** When Pearl Nano is overloaded, video frames or audio samples can be dropped causing variable frame rate and audio cracks.
Workaround: Pearl Nano is a powerful system capable of many simultaneous tasks, but like any other computing device, it has finite resources. If this problem is observed, check the CPU load from your system's Info page.
- The color range of the HDMI and SDI video inputs is limited. As such, the color black (0.0.0) in the video signal is encoded as nearly black (16.16.16). This does not affect HDMI pass-through or media like images that are added to a layout that contain the color black; however, this can affect matching black colored backgrounds and media with black content in the HDMI and SDI video.
Workaround: Use backgrounds or media that are nearly black (16.16.16) when it's necessary to match the black of the video signals.
- **Limitation:** When encoding 720×480i and 720×576i HDMI™ video signals that have a YUV 4:2:2 color space and a bit depth of 24 bits, black visual elements such as a background display as green.
- An audible clicking noise is sometimes heard in recordings and live streams of RTSP video sources.
Workaround: Remove the RTSP source using the Admin panel and recreate it to resolve the issue.
- Changing input settings for an HDMI or SDI input can cause the Pearl Nano's channel to stop working. This includes scaling settings, output resolution or frame rate, and disconnecting/reconnecting an input.
Workaround: This can be prevented by disabling **Use current signal resolution as frame size** on the **Channel encoding settings** page. Alternatively, restore the channel by restarting the device.

Affecting streaming and recording

- AFU to Amazon Web Services S3 Simple Cloud Storage transfer sometimes does not recover after the network connection is cut. The expected behavior is that the file transfer would restart, but there is sometimes a time desync that results in a failed transfer.
Workaround: If the network connection is severed during a AFU transfer, the process must be restarted from the beginning, and the transfer must proceed without interruptions to the network.

Affecting the Admin panel

- Cropping a video source to 16:9 using the layout editor may not scale correctly and can appear as a thin line in the layout editor. This happens when the device or web browser you're using with the admin interface has a different approach to composing layout. Recording and streaming are not affected.
Workaround: Due to color space limitations (YUV with 2x2 subsampling), the cropped region's dimensions must be set to even values.

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- The Status section of the HDMI video input page does not indicate when the video input signal is interlaced.
 - Vertically oriented images display horizontally in the layout editor. There is no workaround for this issue.

Affecting CMS integrations

- If the Pearl Nano channel is not selected when setting up the Pearl Nano remote recorder in Panopto, you can still create an ad hoc event using Pearl's Admin panel or front screen; however, the ad hoc event isn't actually created on Pearl Nano or recorded.
Workaround: Enable the channel for the Pearl Nano remote recorder in Panopto.
- If the SD card is removed while a recorded event is uploading to Panopto, uploading is interrupted and the file does not upload; however, the event in Panopto appears as upload complete. If the SD card is immediately re-inserted, Pearl Nano must be rebooted before Pearl Nano will detect it.
Workaround: Wait a minimum of 5 minutes before re-inserting the SD card and rebooting Pearl Nano if the SD card is ejected while files are uploading to Panopto.
- If you modify a particular recurring lecture capture plus live webcasting event (e.g. a VOD + Live Stream event in a recurring series), Kaltura excludes that event from the recurring series and the webcast doesn't stream. That's because the RTMP URLs for the modified event loses its mandatory tokens. However, the recurring Kaltura event does record as scheduled and other events in the series are not affected.
Workarounds: To regenerate the RTMP tokens for a live event, go to MediaSpace, find the modified live event entry and uncheck the Live event checkbox - and save. Then re-check it and save the event again. Alternatively, you can go to the Kaltura Management Console (KMC), find the modified live event entry and then, in the Live stream tab, click **Re-generate Stream Token**.
- Pearl Nano starts a Panopto VOD event without warning that an SD card or an M.5 SSD is not installed and no recording is uploaded after the event ends. **Workaround:** Ensure that Pearl Nano has the appropriate storage medium installed before use.
- When using an external keyboard with Pearl Nano, pressing the Space bar to pause and then resume a Panopto event generates an error message; however, the event does pause and resume as expected.
Workaround: Press the Enter key to pause and resume a Panopto event when using an external keyboard.
- On the create new ad hoc event screen, the keyboard shortcut **shift+Tab** does not move to the previous input field or control, but moves to the next input field or control.
Workaround: Press Tab repeatedly until the field you want is highlighted.
- If a Panopto VOD event is left on pause until the scheduled end time of the event or the event is manually stopped while on pause, a recording of the full duration of the event is uploaded to Panopto instead of only the recording up to the point when the event was paused or stopped. **Workaround:** Unpause the event and then manually Stop the event.
- If an ongoing Panopto event is extended using the Panopto UI, the timer displayed on the Pearl device screen is not updated. It is updated in the web interface. **Workaround:** View the timer on the web interface, or extend the event's time using the Pearl device screen instead of the Panopto UI.