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PC Recommendation for

ORCA-Flash4.0 V3 / LT+

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Purpose

This document shows the PC configuration recommendation for following Hamamatsu ORCA-Flash4.0 Series with Hamamatsu imaging software HCImage.

- C13440-20CU : ORCA-Flash4.0 V3
- C11440-42U30 : ORCA-Flash4.0 LT+

- Notice
  - Various conditions not described in this document could result in performance inconsistent with that which is described within this document.

Single Camera with Camera Link

Items	Recommended
Camera	C13440-20CU (V3)
Model	Dell Precision™ Tower 5810 Workstation
CPU	Intel Xeon E5-1630 v4
OS	Windows 10 / 8.1 Professional 64-bit
RAM	32 GB or more
Frame Grabber	Active Silicon AS-FBD-1XCLD-2PE4L installed in SLOT1_PCIe3x8, SLOT4_PCIe3x16 or SLOT5_PCIe2x4
Drivers	DCAM-API v16.10 or later

- To achieve full speed recording at max resolution and max 25,000+ fps speed at small regions.
- These BIOS settings may need to be adjusted:
  - Disable (uncheck) SpeedStep and C-State under the Performance section.
  - Enable (check) Turbo Boost and Hyper-Threading under the Performance section.

Single Camera with USB 3.0

Items	Recommended
Camera	C13440-20CU (V3) or C11440-42U30 (LT+)
Model	Dell Precision™ Tower 5810 Workstation
CPU	Intel Xeon E5-1630 v4
OS	Windows 10 / 8.1 Professional 64-bit
RAM	8 GB or more
Connected interface	On-board USB 3.0 interface connector
Drivers	DCAM-API v17.3 or later

- To achieve full speed recording at max resolution and max 25,000+ fps speed at small regions with frame bundle.
- These BIOS settings may need to be adjusted:
  - Disable (uncheck) SpeedStep and C-State under the Performance section.
  - Enable (check) Turbo Boost and Hyper-Threading under the Performance section.

Recommended DIY PC configuration for Single Camera

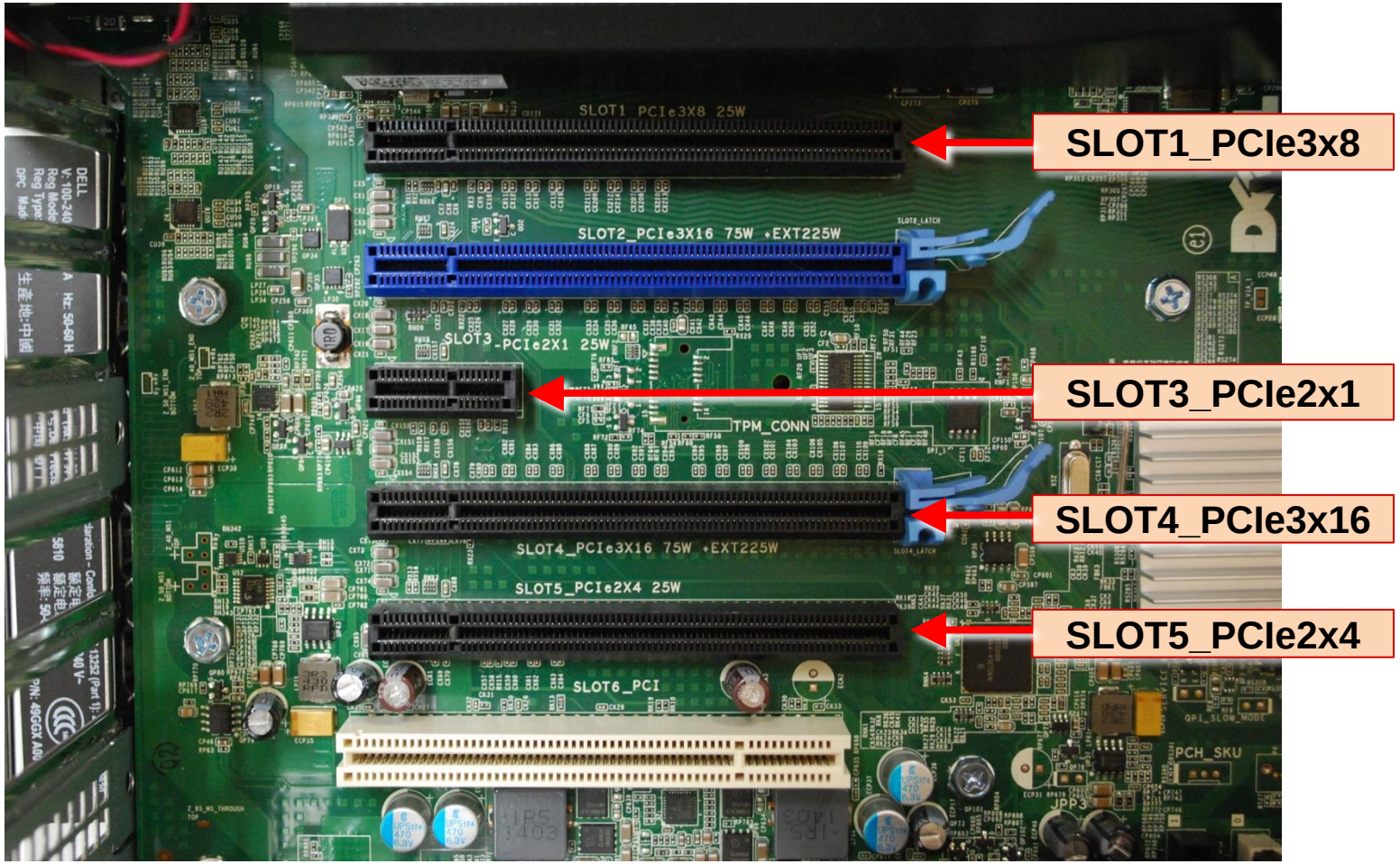
Camera Interface	Camera Link	USB 3.0	Note
CPU	Intel Xeon E5-1630 v4 or better		We recommend you use at least a single 3.2Ghz Quad (or more) Core High End CPU with a CPU Mark equal or higher than the E5-1630 v4 from this benchmark table: High End CPU's - Intel vs AMD Frequency is more important than the number of CPU cores.
OS	Windows 10 / 8.1 Professional 64-bit		32-bit Edition is not good because of performance and memory size.
RAM	32 GB or more	8 GB or more	DDR4 2400MHz or higher-speed
Chipset	Intel 9 series chipset (C612) or newer		
Free Slot	PCIe2(3) x4 wired	PCIe2(3)	PCIe Gen2 is mandatory but Gen3 should cover Gen2.
BIOS	Latest		PCIe slot performance sometimes is improved in the latest BIOS. Configure if applicable / possible: 1. Disable Processor C-state control to force C0 state for all processors. 2. Enable Intel Turbo Boost. 3. Disable Intel SpeedStep if allowed with Turbo Boost Enabled. Enable Turbo Boost may mutually exclude disabling SpeedStep. 4. Enable Intel Hyper-Threading.

Storage Size vs. Number of Recorded Images

Free space	Number of Recorded Images[1]	Time [2] (Approx.)	
		30 fps [3]	100 fps [3]
8 GB	1024	34 sec	10 sec
16 GB	2048	68 sec (~1 min)	20 sec
32 GB	4096	136 sec (~2 min)	40 sec
64 GB	8192	273 sec (~4 min)	81 sec (~1 min)
128 GB	16384	546 sec (~9 min)	163 sec (~2 min)
256 GB	32768	1092 sec (~18 min)	327 sec (~5 min)
512 GB	65536	2184 sec (~36 min)	655 sec (~10 min)
1 TB	131072	4369 sec (~72 min)	1310 sec (~21 min)

1. In case of 1x1 binning, full size.
2. Numbers are rounded down.
3. Depends on storage writing speed and application writing to storage performance. Writing frame rate is sometimes slower than camera capturing speed.

Dell Precision™ Tower 5810 Workstation Slot Configuration



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