A Highspeed Streaming System is built up of various components, including camera, lens and light source. To create a stable system, you need to consider a couple of things, such as a cable, chip set or host adapter. Learn more about AOS recommendations for stable USB 3.0 camera systems in this Tech-Note:

1.   Cables

Low-quality accessories, such as those from the consumer industry, can **lead to problems** throughout the entire Streaming system. If you need new cables or other accessories**, please contact AOS and don't get it in your local electronic store**

2.   Host Adapters

The available USB 3.0 bandwidth depends on the USB 3.0 chipset and motherboard chipset that are used. There is always the option of connecting cameras to motherboards via the integrated USB 3.0 connection (such as found in Intel processors from Ivy Bridge onward). **If you do not have integrated USB 3.0 connections**, then PCI Express cards can be installed. To harness the full bandwidth available, AOS recommends that you use motherboards that **support PCIe 2.0/2.1 at minimum** (for one lane, this provides for maximum data rates of up to 500 MB/s). In the event that the motherboard supports only PCIe 1.0/1.1 connections, then only half of the maximum framerate is achievable and should not been used with our PROMON U Camera. For this situation, AOS recommends PCI Express cards with multiple lanes (**such as PCIex4**). The PCIe slot generally provides power to connected devices such as a USB 3.0 host adapter. AOS camera have been tested and approved for use with the following chipsets host adapters:

„ Fresco Logic FL1100 Host Controller

„ Renesas USB 3.0 Host Controller Chipsets

„ Intel Ivy Bridge/Haswell Chipsets

3.   Chipset, Motherboard and Systems

Motherboards with chipsets from the **Intel 7 series (Ivy Bridge), Intel 8 series (Haswell), the Intel 9 series (Broadwell) or the Intel 100 series (Skylake)** have built-in support for USB 3.0 thanks to the xHCI USB 3.0 host controller that is integrated in the chipset. In order to set up a stable USB 3.0 system, **you should use one of these chipsets**.

4.   Streaming device

Always use a dedicated SSD (separate SSD beside the one with the installed operating system) for the Data stream coming from the Camera. AOS tested and proved the following Types:

-    Kingston KC300 line

-    Samsung PRO line

-    Samsung EVO line

Other vendors may also work but not yet tested in our lab.

AOS Technologies AG
Taefernstrasse 20
CH-5405 Baden-Daettwil

Tel. +41 (0)56 483 34 88
Fax +41 (0)56 483 34 89
info@aostechnologies.com
www.aostechnologies.com

5. **Don't forget**

- Always use the latest drivers for the respective host controllers.

- Choose the shortest suitable cable length.

- Do not twist or bend the cable unnecessarily, as this can diminish transfer performance. Mind the minimum bending radius, even when in fixed installations. In the event that the cable must be moved or twisted as part of the application, ask AOS for a suitable solution.

- Do not use a hub unless it is absolutely necessary

- Use the port that delivers the most stable connection – this can vary between different ports on the PC

- Watch out for electromagnetic compatibility (EMC) issues that can lead to disruptions.