

# Oupiin America Inc.

## PRODUCT UPDATE

### In This Issue

[USB 3.0 Speed](#)

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[Email specification](#)

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## USB 3.0 vs USB 2.0

USB 3.0 (4.8 Gbps) provides TEN TIMES the capability of USB 2.0 (480 Mbps); it also provides up to 900 mA power instead of the 500 mA available with USB 2.0. Type A connections are backwards compatible to USB 2.0 and even USB 1.1. Finally, while USB 2.0 cables will work with USB 3.0 devices (at the lower USB 2.0 transmission speed and power), you won't enjoy the SuperSpeed of USB 3.0 without connecting with USB 3.0 cables! Unlike older connection standards such as RS-232 or Parallel port, USB connectors also supply electric power, so many devices connected by USB do not need a power source of their own.

## How does USB 3.0 attain this speed ?

USB 3.0 achieves the much higher performance by way of a number of technical changes. Perhaps the most obvious change is an additional physical bus that is added in parallel with the existing USB 2.0 bus. This means that where USB 2.0 previously had 4 wires (power, ground, and a pair for differential data), USB 3.0 adds 4 more for two pairs of differential signals (receive and transmit) for a combined total of 8 connections in the connectors and cabling. These extra two pairs were necessary to support the SuperSpeed USB target bandwidth requirements, because the two wire differential signals of USB 2.0 were not enough.

Furthermore, the signaling method, while still host-directed, is now asynchronous instead of polling. USB 3.0 utilizes a bi-directional data interface rather than USB 2.0's half-duplex

arrangement, where data can only flow in one direction at a time. Without getting into any more technical mumbo jumbo, this all combines to give a ten-fold increase in theoretical bandwidth, and a welcome improvement noticeable by anyone when using SuperSpeed USB products.

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With two manufacturing facilities in Asia as well as warehouses and distribution available from around the world, we can ship to any location you require.

**Sincerely,**  
Randy Ryan  
Oupin America Inc.