



Icron Technologies
20-meter USB 3.0 Extender
Frequently Asked Questions (FAQs)

Q1: What is Icron's new 20-meter USB 3.0 Extender?

A1: Icron's new 20-meter USB 3.0 Extender was developed through a partnership with Intersil Corporation, utilizing Icron's LionsGate ASIC and Icron's ExtremeUSB® technology, the cable extends USB 3.0, USB 2.0, and USB 1.1 connectivity to 20 meters (66 feet), well beyond the USB 3.0 distance limitation of three meters

Q2: Is Icron's 20-meter USB 3.0 Extender compatible with USB 2.0 and USB 1.1?

A2: Icron's 20-meter USB Extender is fully compatible with the billions of USB 1.1 and 2.0 devices in the market today; as well as new USB 3.0 devices.

Q3: What applications will this new USB 3.0 Extender be used for?

A3: The Extender has consumer, corporate, and industrial uses including connecting printers, hard drives, cameras, USB audio, iPod®/iPhone® syncing stations, touchscreens, card readers, receipt printers, medical imaging machines, industrial automation machines, or any other consumer or industrial device that uses USB as a communications medium.

Consumers can place USB 3.0 devices in different rooms in their home or office, and industrial users can place PCs in a control room with a USB controlled machine located remotely; all communicating at up to 5 Gbps. For consumers and businesses embracing USB connectivity and automation, Icron's USB 3.0 Active Extension Cable supports:

- 5Gbps file transfers via USB 3.0 flash drives located remotely
- Remote placement of external hard drives in hidden locations such as an A/V rack or closet
- Remote placement of security cameras or ultra high resolution webcams
- Remote lossless 1080p high definition video over USB
- Charging/Syncing Smartphones in multiple locations

Q4: Is Icron's 20-meter USB 3.0 Extender shipping now?

A4: Icron's 20-meter USB 3.0 Extender is currently sampling to select OEM's. The Extender is expected to be shipping later in 2011.

Q5: What is the pricing of Icron's 20-meter USB 3.0 Extender?

A5: Official pricing for the Extender has not been announced as of yet.

Q6: What are the engineering details of Icron's 20-meter USB 3.0 Extender?

A6: The 20-meter USB 3.0 Extender assembly consists of a USB connector with embedded circuitry connected by a twinaxial copper cable containing 5 shielded differential pairs. The differential pairs are terminated at each end to the circuit boards, with each circuit board assembly containing two major subsystems, the USB 3.0 Extended Reach system that runs over 2 differential pairs and the USB 2.0 Extended Reach system which also runs over 2 differential pairs.

The USB 3.0 system consists of the Intersil QLx4600-S30 6 Gbps Lane Extender which equalizes and compensates for frequency dependent attenuation of non-return-to-zero data and extends the signal reach to over 3x of that achievable over passive copper cables. The USB 2.0 system consists of Icron's LionsGate silicon which deploys the ExtremeUSB® USB 2.0 proxy engine together with SPI flash and a 24 MHz crystal and 720 Mbps SerDes that overcomes the strict timing restrictions of the turnaround timer in the USB 2.0 specification. The final differential pair is used by the remote power circuitry to boost the 5 volt power from the host computer to compensate for the loss introduced by the long cable.

voltage on the line to cover power drop over the long distance.

Icron's USB 20-meter 3.0 Extender is true "plug and play" and therefore requires no software drivers or setup, and works with all operating systems.

Q7: How can I find out more about Icron's USB 3.0 Active Extension Cable?

A7: For more information about Icron's USB 3.0-Active Extension Cable please contact Icron at ces@icron.com or call at 604-638-3920.

Q8: When do you think USB 3.0 will be widely used?

A8: In-Stat is predicting USB 3.0 to be present on over 500 Million of the 4.5 Billion USB enabled devices by 2012. Advantages of using USB 3.0:

- Speed– USB 3.0 is about 10 times the performance (max.) of USB 2.0. This is achieved because USB 3.0 is essentially an overlay on top of the USB 2.0 D+/D- wires, adding 2 additional sets of wires that carry USB 3.0 data only. With each differential pair taking care of one half of the communications (either host to device or device to host), the system delivers full duplex communications as opposed to the half duplex communications of USB 2.0. There are some efficiencies in this method that help reduce power requirements (e.g. removing the need for polling) although new connectors and cables are obviously required to support all the additional internal wires.
- Power – Additional powering capabilities, namely increased bus power support: 900mA vs. 500mA for powering devices without an external power supply.
- Performance – Early performance of USB 3.0 products seems to be varied from as low as a 3X performance boost to up to the expected 10X. Overall performance is determined by the performance of each individual component in the system, namely the specific host controller (they aren't all created equal!), connector/cable (you need a 3.0 cable and connector to get 3.0 speeds) and the device itself (and its specific USB 3.0 PHY implementation).

While Icron cannot predict the exact adoption rate of USB 3.0 devices, bandwidth-hungry devices such as video and storage devices will greatly benefit from the performance advantages of USB 3.0.

Q9: What are the datarates supported by the 20-meter USB 3.0 Extender?

A9: The Extender supports 5 Gbps USB 3.0 and 480 Mbps USB 2.0 datarates.

Q10: Will Icron have longer distance USB 3.0 Extenders?

A10: Icron is investigating the feasibility and demand for longer distance USB 3.0 Extenders, please contact Icron should you have a need for such a device.

About Icron Technologies

Icron Technologies (TSX-V:IT) is an innovative leader in the development and manufacturing of high performance video and USB extension solutions for commercial and industrial markets worldwide. Icron's patented technology extends PC Video and USB devices over many media types including Cat 5, Fiber, Wireless, DisplayPort, Coax, Powerline, and over a corporate LAN. Icron's extension products are deployed in a wide range of applications such as digital home connectivity, industrial automation, medical imaging, aerospace, interactive digital signage, remote desktop extension, security and surveillance, enterprise computing, isolated USB, and point-of-sale markets, or anywhere where a PC needs to be remotely located from a display or peripheral device.

Icron is a publicly traded corporation and trades under the symbol "IT" on the TSX Venture Exchange. For more information on the company and its products, please visit www.icron.com.

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