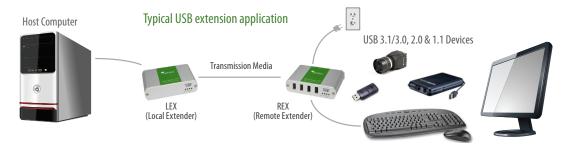# Icron USB and KVM Extender Solutions

All Icron extender solutions include the ExtremeUSB® suite of features such as transparent USB extension, true plug and play (no software drivers), and compatibility with Windows®, macOS™, Linux® and Chrome OS™ operating systems. A complete system includes a LEX (Local Extender), a REX (Remote Extender) and a power adapter if required.

USB Extenders

USB Type	USB Extender Model	Max. Distance	Transmission Media	Power Adapter Location	USB Port(s)
3.1 Gen 1	**USB 3-2-1 Raven™ 3124**	200m	Multimode Fiber	LEX and REX	4
3.2 Gen 1	**USB 3-2-1 Raven™ 3104 Pro**	100m	CAT 6a/7	LEX and REX	4
3.1 Gen 1	**USB 3-2-1 Raven™ 3104**	100m	CAT 6a/7	LEX and REX	4
3.0	**USB 3.0 Spectra™ 3022**[1]	100m[2]	Multimode Fiber	REX	2
3.0	**USB 3.0 Spectra™ 3001-15**[1]	15m	Active Copper Cable	Bus Powered	1
2.0	**USB 2.0 Ranger® 2344**	10km	Singlemode Fiber	REX	4
2.0	**USB 2.0 Ranger® 2324**	500m	Multimode Fiber	REX	4
2.0	**USB 2.0 Ranger® 2312**	100m	CAT 5e/6/7	LEX or REX	2
2.0	**USB 2.0 Ranger® 2311**	100m	CAT 5e/6/7	LEX or REX	1
2.0	**USB 2.0 Ranger® 2304GE-LAN**[3]	100m	CAT 5e/6/7 or LAN	REX	4
2.0	**USB 2.0 Ranger® 2304**	100m	CAT 5e/6/7	REX	4
2.0	**USB 2.0 Ranger® 2301GE-LAN**[3]	100m	CAT 5e/6/7 or LAN	REX	1
2.0	**USB 2.0 Ranger® 2301**	100m	CAT 5e/6/7	REX	1
1.1	**USB 1.1 Rover® 2850**	85m[4]	CAT 5e/6/7	Bus Powered	2
1.1	**USB 1.1 Rover® 1850**	85m[4]	CAT 5e/6/7	Bus Powered	1

Video + USB Extenders

USB Throughput	KVM Extender Model	Max. Distance	Transmission Media	Video Type and Max. Resolution	USB Port(s)
40Mbps	**EL5353 DVI + USB 2.0**	100m	CAT 5e/6/7	DVI Uncompressed 1920 x 1200	3
40Mbps	**EL5363 HDMI + USB 2.0**	100m	CAT 5e/6/7	HDMI Uncompressed 4Kp30, 1080p, 1920 x 1200	3

[1] USB 3.0 Spectra extenders are not backward compatible with USB 2.0 and 1.1 devices.
[2] The maximum distance is 50m with storage type USB 3.0 devices; 100m or more is achievable when using USB 3.0 bulk traffic cameras.
[3] Works over a LAN although does not support SwitchableUSB™ protocol.
[4] Up to 40m is achievable for all USB devices; 85m is achievable for most low-powered HID USB devices.

Host Computer

Typical USB extension application

Transmission Media

USB 3.1/3.0, 2.0 & 1.1 Devices

LEX
(Local Extender)

REX
(Remote Extender)

EXTREME USB®

Market Applications

USB has become the de facto standard for computer peripheral connectivity spanning broad markets and applications. However, many applications are challenged by USB's distance limitation of five meters for USB 2.0 and approximately three meters for USB 3.1/3.0, where the host computer needs to be located beyond these distances from the user. Icron's ExtremeUSB® extender solutions bridge the gap with simple plug and play installation and compatibility with all major operating systems.

Pro AV
Web conferencing and audio extension
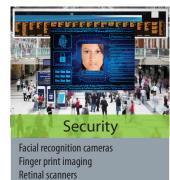Room reservations over corporate LAN
Video matrix switching

Broadcasting
Post production editing
Mobile production truck
Remote storage

Industrial Automation
Machine Vision
Kiosk controls and sensors
Robotics

Digital Signage
Store directories
Interactive menus
Point of purchase displays

Security
Facial recognition cameras
Finger print imaging
Retinal scanners

Education
Interactive whiteboards and touchscreens
Virtual reality learning
USB audio extension

Military/Aerospace
Command and control centers
Remote stations
Device Class Filtering

Medical
CT Scan and MRI machines
Patient monitoring
Remote record access

Oil/Mining/Gas
Well-head flow monitoring
Asset management
Data logging and intrusion alarming

For more information, please contact Icron at IcronSales@MaximIntegrated.com.

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EXTREME USB®