ADI Icron™
AN ANALOG DEVICES BRAND

Arbutus™ 63301

1-Port USB-C 4K Video and USB 3 5Gbps, 100m CAT 6a Extender System

EXTREME USB-C™

Thank you for purchasing the Icron Arbutus 63301.

Please read this user guide thoroughly.

This document applies to the following part numbers:

Model	North American System	European System	United Kingdom System	Australia System	Japan System
Icron Arbutus 63301 LEX	00-00491	00-00492	00-00493	00-00494	00-00495
Icron Arbutus 63301 REX	00-00496	00-00497	00-00498	00-00499	00-00500

NOTE: A matching Arbutus LEX or REX must be purchased separately to complete the system.

FCC Radio Frequency Interference Statement Warning

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

CE Statement

We, Icron, an Analog Devices brand, declare under our sole responsibility that the Arbutus 63301, to which this declaration relates, is in conformity with European Standards EN 55032, EN 55035, EMC Directive: 2014/30/EU, EN 62368-1, RoHS Directive 2011/65/EU + 2015/863/EU, EMC Directive 2014/30/EU, LVD Directive 2014/35/EU, and ErP Directive 2009/125/EC.

Industry Canada Statement

This Class A digital apparatus complies with Canadian ICES-003. CAN ICES-3 (A) / NMB-3 (A)

WEEE Statement

The European Union has established regulations for the collection and recycling of all waste electrical and electronic equipment (WEEE). Implementation of WEEE regulations may vary slightly by individual EU member states. Please check with your local and state government guidelines for safe disposal and recycling or contact your national WEEE recycling agency for more information.

Product Operation and Storage

Please read and follow all instructions provided with this product and operate for intended use only. Do not attempt to open the product casing as this may cause damage and will void the warranty. Use only the power supply provided with this product. When not in use, this product should be stored in a dry location between -20°C and 70°C.

Table of Contents

Introduction

This guide provides product information for the Arbutus 63301, installation instructions and troubleshooting guidelines. The instructions in this guide assume a general knowledge of computer installation procedures, familiarity with cabling requirements and some understanding of USB-C devices.

NOTE: Notes provide additional useful information.

CAUTION: Cautions provide important information about an operational requirement.

Product Contents

Your Arbutus 63301 extender system contains:

- Arbutus 63301 LEX (Local Extender) **or** Arbutus 63301 REX (Remote Extender)
- 5V DC 3A Power Adapter if LEX **or** 5V DC 5A Power Adapter if REX
- 1x Country Specific Power Cord
- Warranty and Compliance Insert

Features

The Arbutus 63301 incorporates ExtremeUSB-C™ technology, enabling users to extend USB 3 5Gbps and DisplayPort Alt mode up to 4Kp60 beyond the standard 1m cable limit for USB-C peripheral devices. This extender system is composed of two units, the LEX and the REX (sold individually), with the following key features:

- Extends 4Kp60 4:4:4 Video via DisplayPort Alt mode and USB 3 5Gbps on the USB-C connector up to 100m either over CAT 6a cable in (default) 10Gbps mode
- Extends 4Kp60 4:4:4 Video via DisplayPort Alt mode and USB 2 on the USB-C connector up to 100m over CAT 5e cable in 5Gbps mode
- Support for all USB 4 and older Gen 1/2 host controllers and devices (up to 5Gbps)
- Supports all USB transaction types (Control, Interrupt, Bulk, and Isochronous)
- The REX (Remote Extender) can power a single USB device up to 15W (5V 3A)
- Compatible with all major Unified Communications conferencing applications

The Arbutus 63301 includes the ExtremeUSB-C™ suite of features:

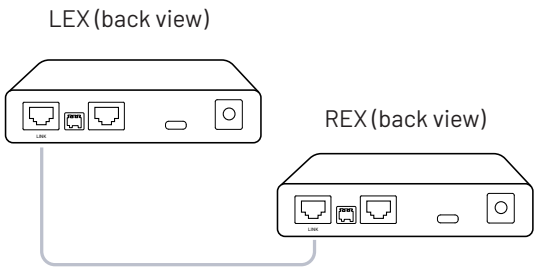
- Transparent USB and Video extension
- True plug and play; no software drivers required
- Works with all major operating systems; Windows®, macOS™, Linux® and ChromeOS™

NOTE: For best performance install the Arbutus 63301 using Shielded or Foiled CAT 6a cable.

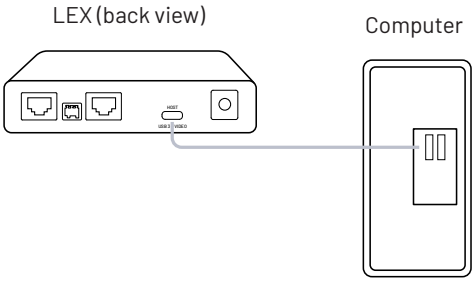
Quick Start Guide

Before you get started, ensure that all the drivers required for your USB device(s) are installed.

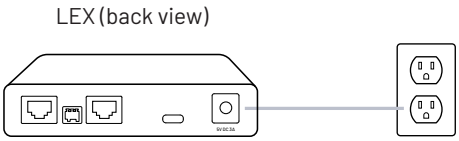
1. Place extenders where desired and connect the CAT 6a cable to the Link ports on the LEX and REX.



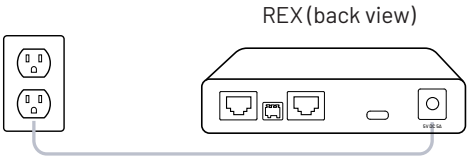
2. Connect the LEX to the computer using a USB-C cable.



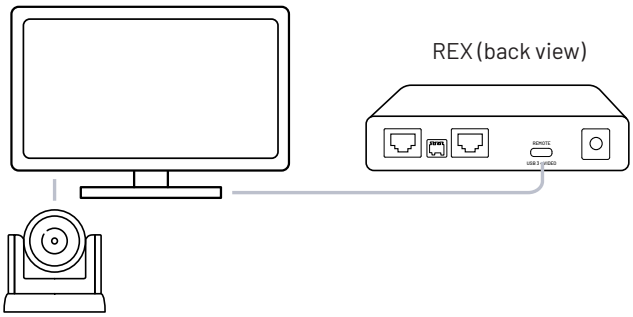
3. Power the LEX with the included 5V DC 3A adapter.



4. Power the REX with the included 5V DC 5A adapter.



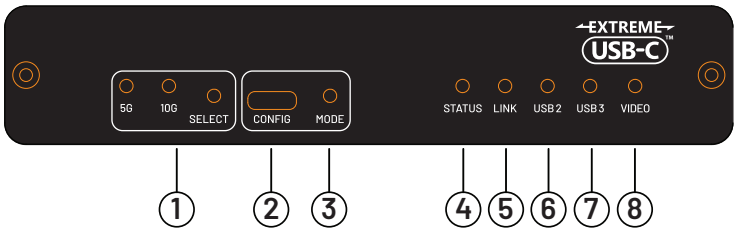
5. Attach USB-C device(s) to the REX.



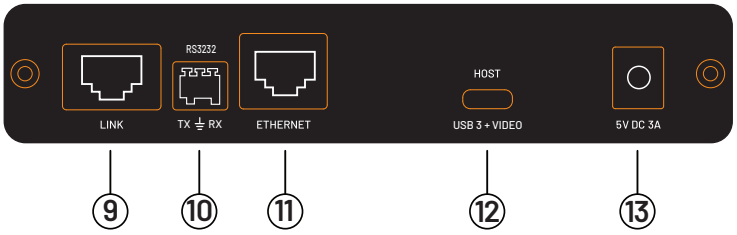
The LEX Unit

The LEX (Local Extender) unit connects to the computer using a standard USB-C cable (not included). Alternatively, power for this unit can be provided by the included 5V 3A adapter.

Front Faceplate



Back Faceplate

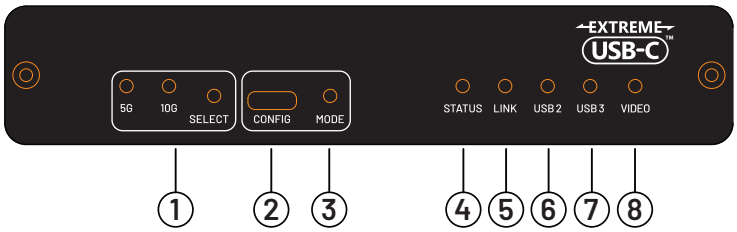


Item	Type	Description
1	5G/10G LEDs and Select Button	LED is **SOLID ON** for 5G or 10G depending on the selected mode of operation. Refer to page 8 for more information about "Link Mode Selection".
2	Config	Reserved for manufacturer use.
3	Mode	Reserved for manufacturer use.
4	Status LED	LED is **SOLID ON** when system is functioning normally. LED is **SOLID AMBER** when system is not connected to DC power and does not have sufficient power from the upstream USB-C port. LED **BLINKS** when system is booting or to indicate a temperature warning in unison with the LINK, USB 2, USB 3, and Video LEDs.
5	Link LED	LED is **SOLID ON** when LEX is linked to an opposite REX. LED is **OFF** when there is no connection between the LEX and REX units.
6	USB 2 LED	LED is **SOLID ON** when an active USB 2 connection is established through the extender system. LED **BLINKS** when the USB 2 connection is suspended/asleep. LED is **OFF** when no USB 2 connection is detected.
7	USB 3 LED	LED is **SOLID ON** when an active USB 3 connection is established through the extender system. LED **BLINKS** when the USB 3 connection is suspended/asleep. LED is **OFF** when no USB 3 connection is detected.
8	Video LED	LED is **SOLID ON** when video is actively streaming across the extender. LED **BLINKS** when HDCP secure video is streaming across the extender. LED is **OFF** when no video is detected.
9	Link Port (RJ45)	Accepts RJ45 connector for CAT 6a cabling to connect the LEX to the REX.
10	RS232 Port	3-pin RS232 port pass-through.
11	Ethernet Port	100/1000Mbps LAN pass-through channel connects to an Ethernet device.
12	USB-C Host Port	USB 3 and DP Alt mode USB-C receptacle used to connect LEX to the USB-C host.
13	DC Power Port	Connector for the included power adapter — accepts 5V DC 3A.

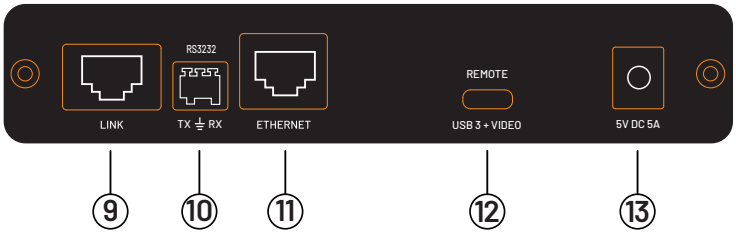
The REX Unit

The REX unit provides a single USB 3 5Gbps and DP Alt mode USB-C port for for connecting standard USB-C devices. Up to 31 USB devices may be connected by attaching USB hubs to the REX. Powered by an external 5V DC 5A adapter. The REX supplies 3A at 5V at the USB-C port.

Front Faceplate



Back Faceplate



Item	Type	Description
1	5G/10G LEDs and Select Button	LED is **SOLID ON** for 5G or 10G depending on the selected mode of operation. Refer to page 8 for more information about "Link Mode Selection".
2	Config	Reserved for manufacturer use.
3	Mode	Reserved for manufacturer use.
4	Status LED	LED is **SOLID ON** when system is functioning normally. LED **BLINKS** when system is booting or to indicate a temperature warning in unison with the LINK, USB 2, and USB 3 LEDs.
5	Link LED	LED is **SOLID ON** when REX is linked to an opposite LEX. LED is **OFF** when there is no connection between the LEX and REX units.
6	USB 2 LED	LED is **SOLID ON** when an active USB 2 connection is established through the extender system. LED **BLINKS** when the USB 2 connection is suspended/asleep. LED is **OFF** when no USB 2 connection is detected.
7	USB 3 LED	LED is **SOLID ON** when an active USB 3 connection is established through the extender system. LED **BLINKS** when the USB 3 connection is suspended/asleep. LED is **OFF** when no USB 3 connection is detected.
8	Video LED	LED is **SOLID ON** when video is actively streaming across the extender. LED **BLINKS** when HDCP secure video is streaming across the extender. LED is **OFF** when no video is detected.
9	Link Port (RJ45)	Accepts RJ45 connector for CAT 6a cabling to connect the LEX to the REX.
10	RS232 Port	3-pin RS232 port pass-through.
11	Ethernet Port	100/1000Mbps LAN pass-through channel connects to an Ethernet device.
12	USB-C Remote Port	USB 3 and DP Alt mode USB-C receptacle used to connect REX to the USB-C device(s).
13	DC Power Port	Connector for the included power adapter — accepts 5V DC 5A.

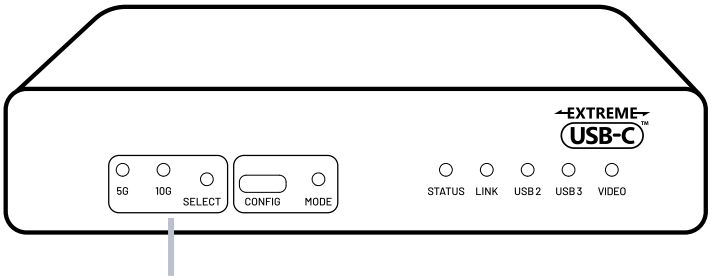
Installation Guide

Link Mode Selection

The Arbutus 63301 can operate its link at two different data rates or modes: 10Gbps (default) and 5Gbps.

When operating at 10Gbps, the Arbutus 63301 supports 4Kp60 4:4:4 and USB 3 5Gbps up to 100m. CAT 6a cable is required to reach 100m. When in 10Gbps mode, the 10G LED is Solid ON.

When operating at 5Gbps, the Arbutus 63301 supports 4Kp60 4:4:4 and USB 2 up to 100m. CAT 5e is the minimum cable requirement to reach 100m. When in 5Gbps mode the 5G LED is Solid ON.



Select link mode

To change link mode, while the unit is powered on, hold the "Select" button for 5 seconds. The status LED will turn off and when the "Select" button is released the unit will then restart in the opposite mode. For example, if the 63301 starts in 10Gbps mode, after pressing the "Select" button for 5 seconds the unit will reboot into 5Gbps mode.

NOTE: For the remainder of this document, wherever CAT 6a cabling requirements are mentioned, CAT 5e also applies if the Arbutus 63301 is in 5Gbps mode.

Arbutus Series Category Cabling Guidelines

The Arbutus Series requires a minimum grade of Category 6a cabling to be used in order to reach 100m (330 ft) of extension distance.

NOTE: The total distance of 100m also includes the length of the patch cable should one be required. Up to 10m of patch cable can be used, Although the remaining 90m distance must consist of solid core premise cabling.

Furthermore, depending upon specific application requirements, it is recommended that installers keep in mind how they intend to pull/route the link cable and whether to use Shielded or Foiled cable where appropriate.

When installing this product, it is appropriate to use Unshielded (UTP) cabling if the cable run installation meets the following requirements:

- The cable is not bundled with other cables
- The cable is run loosely with other Category cables
- The cable is not placed close to sources of interference such as power lines and radios
- The cable is not looped or coiled

When installing this product, Foiled (FTP) or Shielded (STP) cabling must be used if the cable run installation requires the following cable run installation:

- The cable is bundled with other cables
- The cable is run tight against other Category cables
- The cable is placed near sources of interference like power lines and radios
- The cable is looped or coiled

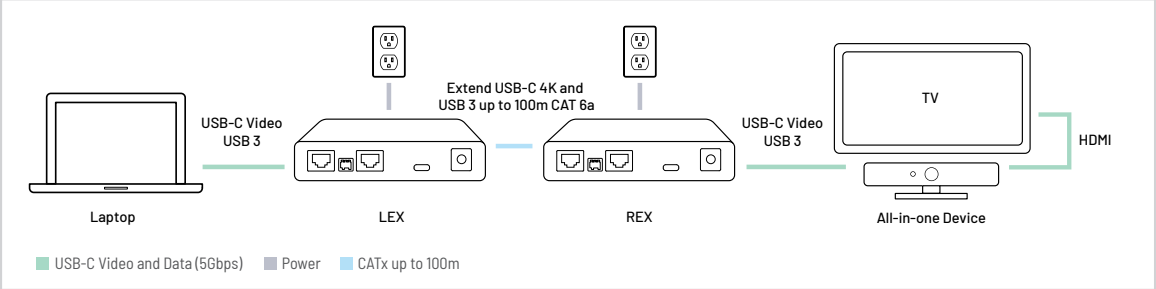
NOTE: For best performance install Arbutus 63301 using Shielded or Foiled CAT 6a cable.

Installing the Arbutus 63301

Requirements

To complete the installation, you will also require the following items that are not included with this system:

- USB-C compatible computer (host computer) with a USB compliant operating system and support for DP Alt mode
- USB compatible device(s)
- CAT 6a cabling with two information outlets and two CAT 6a patch cords with RJ45 connectors (if using premise cabling), ensuring the total cable length does not exceed 100m



Preparing Your Site

Before installing this system, you will need to prepare your site:

1. Position your computer in the desired location and complete the setup.
2. Ensure to locate your USB device(s) within the 100m range of your CAT 6a cable. If not adjust the location of your device(s) and/or computer accordingly.

NOTE: If you are using surface cabling, the Arbutus 63301 supports a maximum distance of 100m. Install the CAT 6a cabling as desired and terminate it with the appropriate RJ45 ends. If using premise cabling, (in-building network infrastructure), ensure your cabling is installed between the two locations and does not exceed 100m and that it meets CAT 6a specification.

CAUTION: Cable installation is important, particularly if high throughput applications are used. Ensure the cable is installed away from, or isolated from potential sources of interference such as electrical wiring, fluorescent lighting, etc.

NOTE: When terminating cables, ensure the matching RJ45 connector is used for the cable type. For example, if CAT 6a cable is used, then CAT 6a compatible RJ45 connectors must be used. Otherwise, the benefits of using higher grade cabling may not be realized.

Installing the LEX Unit

1. Place the LEX unit near the computer.
2. Assemble the 5V 3A power adapter and country specific power cord together and connect them into a suitable AC outlet.
3. Connect a USB-C cable between the LEX host port and to a USB-C port on your host computer that supports USB 3 and DP Alt mode.

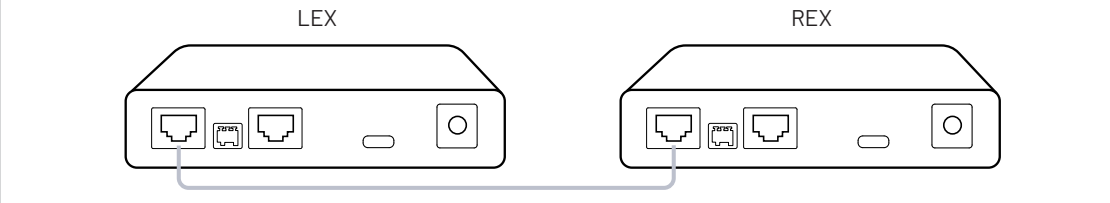
Installing the REX Unit

1. Place the REX near the USB device(s).
2. Assemble the 5V 5A power adapter and country specific power cord together and connect them into a suitable AC outlet.
3. Connect the power adapter to the REX.

Connecting the LEX to the REX

With Surface Cabling:

1. Plug one end of the CAT 6a cable (not included) into the Link port (outermost RJ45 connector) on the LEX.
2. Plug the other end of the CAT 6a cable into the Link port (outermost RJ45 connector) on the REX.



With Premise Cabling:

1. Plug one end of a CAT 6a patch cord (not included) into the Link port (outermost RJ45 connector) on the LEX.
2. Plug the other end of the patch cord into the CAT 6a information outlet near the host computer.
3. Plug one end of the second CAT 6a patch cord (not included) into the Link port (outermost RJ45 connector) on the REX.
4. Plug the other end of the patch cord into the CAT 6a information outlet near the USB-C device.

NOTE: Do not exceed more than 10m total of patch cable when using premise cabling.

Checking the Installation

1. On the LEX and REX units, check that the Status, Link, USB 2, USB 3 and Video LEDs are on. If the Link LEDs are permanently off, then the cabling between the LEX and REX units may not be installed properly or is defective.

2. If the Arbutus 63301 is not detected correctly or fails to detect, please consult the Troubleshooting section in this guide.

Connecting a USB Device

1. Install any software required to operate your USB-C device(s). Refer to the documentation for the USB-C device(s), as required.
2. Connect the USB-C device to the device port on the REX.
3. Check that the device is detected and installed properly in the operating system.

Compatibility

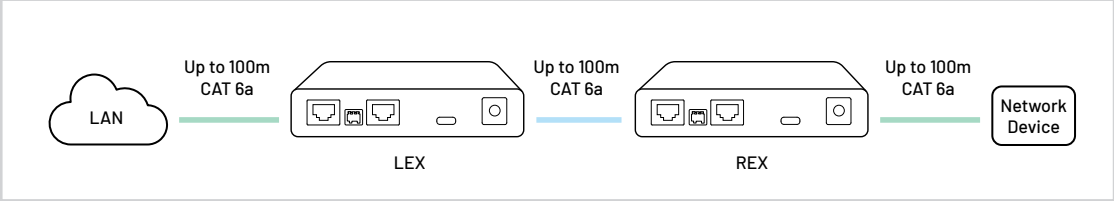
The Arbutus 63301 complies with USB 2.0, USB 3 5Gbps and DisplayPort 1.4 and USB-C specifications governing the design of USB and USB-C devices. However, there is no guarantee that all USB or USB-C devices or hosts will be compatible as there are a number of different characteristics that may impact the operation of USB-C devices over extended distances.

Optional 1Gb Ethernet Pass-Through Connection

The Arbutus 63301 offers a 100/1000Mbps Ethernet pass-through connection that can be used for a variety of purposes including:

- Connecting network devices
- Providing remote network access to the same location as the LEX or REX unit

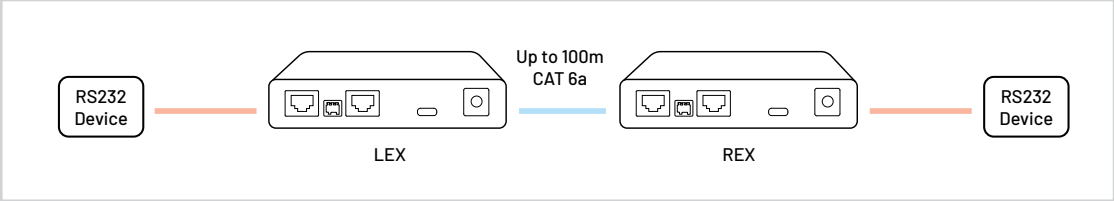
Connect any network device or access port into the RJ45 port labeled “Ethernet” using up to 100 meters of standard CAT 6a cabling.



Optional RS232 Pass-Through Connection

Arbutus 63301 offers and RS232 pass-through connection that can be used for a variety of purposes including:

- Connecting separate RS232 Devices
- Connecting to RS232 based control interfaces



USB Extender Mounting Options

The bottom of the Arbutus 63301 enclosures features four convenient pre-drilled holes for optional mounting. Based on your requirements, choose from two available mounting options:

1. USB Extender Mounting Kit (purchased separately)
   Order Part #10-00536 USB Mounting Kit - Black
2. USB Extender Direct Surface Mounting
   (Use your own hardware and follow instructions listed on the next page)

Option 1: USB Extender Mounting Kit

Each kit includes:

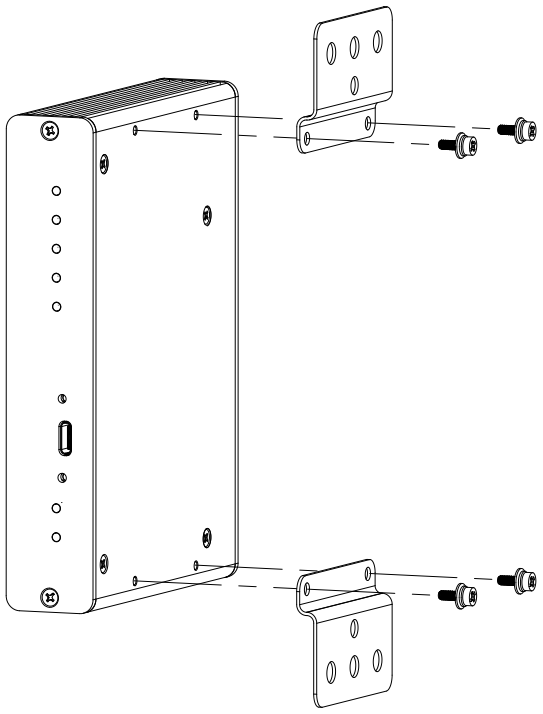
- 2 mounting brackets
- 4 (M2.5x8mm) Philips raised cheese head screws with split locking washers
- Mounting bracket installation guide (pictured below)

NOTE: 1 kit required to mount LEX or REX unit, 2 kits per system.

Use a Phillips screwdriver to fasten and secure the mounting bracket into place using the provided screws as illustrated to the right.

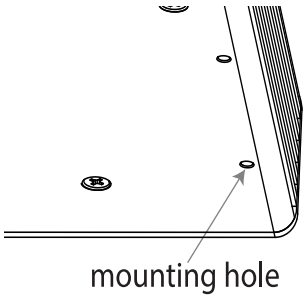
Once both mounting brackets are secured onto the extender, it is ready for mounting onto a surface.

NOTE: You will need to provide your own screws to secure the extender onto the desired surface using the available slots on each bracket.



Option 2: USB Extender Direct Surface Mounting

The bottom of the Arbutus enclosure features four pre-drilled holes for optional surface mounting.



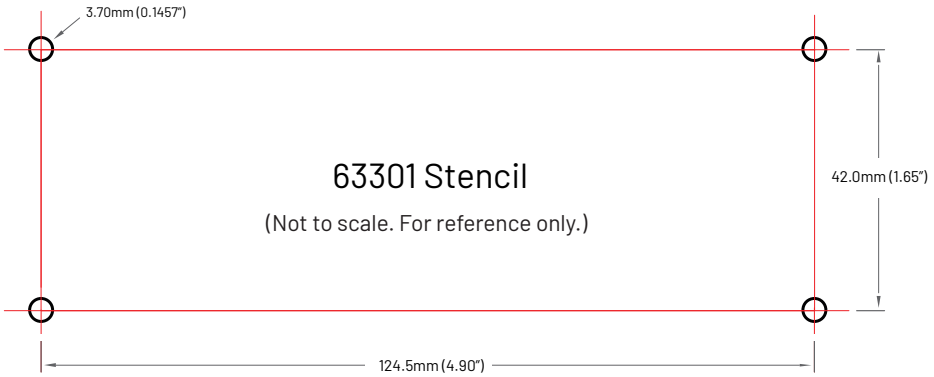
Distance between the enclosure mounting holes:
42.0mm x 124.5mm

1. Mark the center point of each of the four holes on your mounting surface either by directly measuring or printing the full-size stencil found in the Appendix on page 23.
2. Hardware recommendation: M2.5 locking washers and M2.5 screws (4 of each per extender) noting screw length will depend upon thickness of mounting surface.
3. Drill through each of the four-hole markings on the mounting surface using a 3.70mm (0.1457") drill bit.
4. Align the bottom enclosure holes to the newly drilled holes on the mounting surface.
5. Place a locking washer on each of the four screws and using a screwdriver, fasten the extender into place.

CAUTION: Do not exceed a screw depth of 10mm (0.4") into the unit or damage may occur.

Direct Surface Mounting Measurement Stencils

The stencil illustration below is not to scale and for reference only. Full size, printable stencil is provided in the Appendix on page 25.



Troubleshooting

The following table provides troubleshooting tips. The topics are arranged in the order in which they should be executed in most situations. If you are unable to resolve the problems after following these instructions, please contact Icron Technical Support by visiting icron.com/support to create an online Support Ticket for further assistance.

Problem	Cause	Solution
All the LEDs are **OFF** on the LEX and/or REX.	The LEX is not receiving power from the host or receiving power from the AC adapter. The REX unit is not receiving power from the AC power adapter.	1. Ensure that the AC power adapter is properly connected to the LEX and/or REX. 2. Ensure the LEX is plugged into the host with a USB Cable. 3. Check that the AC adapter is properly connected to a live source of AC power. 4. Check if the LEX and/or REX Status LED is illuminated.
Status LED is **OFF** on the LEX and/or REX.	The unit has malfunctioned and requires re-programming.	1. For assistance, contact Technical Support at icron.com/support.
Link LEDs on the LEX and the REX are **OFF**.	There is no connection between the LEX and REX.	1. Ensure no more than 100m of CAT 6a cabling is connected between the LEX and REX. 2. Connect a short patch cable between the LEX and REX. Recheck the Link status. If the Link LED is now **SOLID ON**, the previous cable is defective or not capable of supporting the link.
Link LEDs on the LEX and REX are **SOLID ON**, but the USB 2, USB 3, and VIDEO LEDs are **OFF**.	The host computer is not powered on. The LEX is not connected to a computer. The unit is malfunctioning.	1. Disconnect all USB devices from the REX. 2. Disconnect LEX from the host computer. 3. Disconnect AC adapters the REX. 4. Reconnect the LEX to the host computer. 5. Reconnect the AC adapters to the REX. 6. Replace the USB-C cable with a different cable. 7. If the problem is not resolved, contact Technical Support at icron.com/support.
If, the USB 2 LED is **SOLID ON**, but the USB 3 LED is **OFF**.	The unit is in 5G mode. The LEX is not connected to a USB 3 capable port. The LEX is connected to the host using only a USB 2 capable cable. The USB-C cable connecting the LEX to the host computer is defective. The host computer's USB 3 controller has malfunctioned. The USB device connected to the REX does not support USB 3 or did not enumerate at USB 3 speeds.	1. Ensure the unit is in 10G mode. 2. Ensure the LEX is connected to a USB 3 capable port on the host computer. 3. Cold boot the host computer. 4. Replace the USB-C cable with a different one. 5. The USB device connected to the REX does not support USB 3 or did not enumerate at USB 3 speeds. Try verifying the connection by using another USB 3 capable device. 6. If the problem is not resolved, contact Technical Support at icron.com/support.

Problem	Cause	Solution
On the LEX, if USB 3 LED is **SOLID ON,** but the USB 2 LED is **OFF**.	The USB-C cable connecting the LEX to the host computer is defective. The host computer's USB 2 controller has malfunctioned. The host computer does not support USB 2. The USB-C device connected to the REX does not support or did not enumerate at USB 2 speeds.	1. Ensure that USB-C cable used between the host computer is capable of USB 2. 2. Cold boot the host computer. 3. Replace the USB-C cable with a different cable. 4. The USB device connected to the REX does not support or did not enumerate at USB 2 speeds. Try verifying the connection by using another USB 2 capable device. 5. If the problem persists, contact Technical Support at icron.com/support.
Both the LEX and REX extenders are working but the USB 2 or USB 3 LEDs on the LEX and REX are blinking.	The LEX and/or REX is in suspend mode. For a variety of reasons, the host computer may place the LEX/REX into suspend mode. Typically, it is because there are no USB devices attached, the USB device is asleep, or the host computer is in a sleep state or hibernating.	1. Recover/resume the operating system from sleep or hibernate modes (refer to your operating system's documentation). 2. Connect a USB device to the REX. 3. Use the connected device. 4. If the problem persists, contact Technical Support at icron.com/support.
All LEDs on both the LEX and REX units are **SOLID ON**, but the USB device is not operating correctly, or is detected as an "Unknown Device" in the operating system.	The USB device is malfunctioning. The computer does not recognize the USB device. The application software for the USB device is not operating. The USB extender is malfunctioning.	1. Disconnect the extender from the computer 2. Connect the USB device directly to the host computer. 3. If the device does not operate as expected, consult the user documentation for the device. 4. Update the host computer BIOS, chipset, or USB controller drivers from the manufacturer's website. 5. If the device operates as expected when directly connected to the computer, connect another device to the extender and reconnect it to the host computer. 6. If the second device does not operate, the extender may be malfunctioning. Contact Technical Support at icron.com/support. 7. If the second device operates as expected, then the first device may not be compatible with this extender. Contact icron.com/support.

Problem	Cause	Solution
A USB 3 device is not enumerating as USB 3, or the operating system is notifying the user that the device can "Perform Faster if connected to a USB 3 port."	The USB device is malfunctioning. The computer does not recognize the USB device. The application software for the USB device is not operating. The USB 3 port on the computer is malfunctioning. The unit is in 5G mode. The USB extender is malfunctioning.	1. Ensure the unit is in 10G mode. 2. Disconnect the extender from the computer. 3. Connect the USB-C device directly to the host computer. 4. If the device does not operate as expected as a USB 3 device, consult the user documentation for that device or try a different USB port on the host computer. 5. Update the host computer BIOS, chipset or USB controller drivers from the manufacturer's website. 6. If the device operates as a USB 3 device when directly connected to the computer, connect another USB 3 device to the extender and reconnect it to the host computer. 7. If the second device does not operate as a USB 3 device, the extender may be malfunctioning. Contact Technical Support at icron.com/support. 8. If the second device operates as a USB 3 device as expected, then the first device may not be compatible with this extender. Contact icron.com/support.
The Link LEDs on the LEX and REX are solid **ON**, but the VIDEO LED is **OFF**.	The source device is not powered on or asleep. The LEX is not connected to a USB-C source. The REX is not connected to a USB-C sink, or the sink is turned off. The source and sink have negotiated an unsupported resolution or refresh rate. The extender system is malfunctioning.	1. Disconnect the USB-C connections from the sink and source. 2. Disconnect the AC adapters from the LEX and REX. 3. Cold boot the host computer/USB-C source. 4. Reconnect the USB-C connection from the LEX to the USB-C source. 5. Reconnect the USB-C connection from the REX to the USB-C sink. Ensure the sink is on. 6. Reconnect the AC adapters to the LEX and REX. 7. If the problem is not solved, contact Technical Support at icron.com/support.

Problem	Cause	Solution
The Link and Video LEDs are solid **ON**, but there is no video on the USB-C sink.	The USB-C sink device is malfunctioning. The USB-C source is malfunctioning. The REX is not connected to a USB-C sink. HDCP failed to negotiate. The specific timing of the video source is not supported.	1. Disconnect the USB-C connections from the sink and source. 2. Disconnect the AC adapters from the LEX and REX. 3. Restart the host computer/USB-C source. 4. Connect the sink directly to the source using USB-C cables and ensure it operates properly. 5. If the sink does operate directly connected to the source, try connecting another sink device through the extender system. 6. Reconnect the USB-C connection from the LEX to the USB-C source. 7. Reconnect the USB-C connection from the REX to the USB-C sink. 8. Reconnect the AC adapters to the LEX and REX. 9. Contact Technical Support at icron.com/support for access to the ExCOM tool to configure HDCP and EDID timing settings. 10. If the problem persists, contact icron.com/support.
All LEDs are flashing and the system is operational.	Unit is or was operating at an unsafe temperature.	1. Check ambient temperature. Ensure temperature does not exceed 40°C (104°F). 2. Power cycle the unit to remove LED status.
All LEDs are flashing and the system is NOT operational.	Unit has exceeded safe operating temperature.	1. Remove external sources of heat or change location of the unit. 2. Power cycle the unit to return toz operation.
LEDs are scrolling LEFT to RIGHT, starting with Status.	Unit is programming.	1. Wait for the unit to finish programming.

Specifications

Range	
Point-to-Point	100m (330 ft) over CAT 6a UTP Cable or better

USB Device Support	
USB Bandwidth	Up to 5Gbps
Device Compatibility	All Device Types and Classes (Control, Interrupt, Bulk, and Isochronous)
Host Compatibility	OHCI, UHCI, EHCI, xHCI
Available Current at REX	Supplies 3A (5V, 15W)
Maximum Devices	Supports up to 31 devices
USB Hub/Tier Consumed	0

Video Support	
Interfaces	DisplayPort Alt mode on USB-C
DisplayPort Version	1.4
Maximum Resolution	4096x2160
Maximum Refresh Rate	60Hz
Color	RGB 8/10b, YCbCr 4:4:4, 4:4:2
Lane Count	Up to 4 Lanes
Lane Rate	Up to HBR3 8.1Gbps
Control	MCCS
EDID	EDID Override Supported
HDCP	2.2

Local Extender (LEX)	
USB Connector	1 x USB-C Receptacle
Link Connector	1 x RJ45 "Link" Port
Network Pass-Through	1 x RJ45 "Ethernet" 100/1000 Port
Dimensions (W x D x H) and Weight	137mm x 100mm x 26mm (5.4"x3.9"x 1.0") | 300g (0.7lbs.)
Power Supply	100-240V AC Input, 5V DC 3A DC Output Jack
Enclosure Material	Black Anodized Aluminum

Remote Extender (REX)	
USB Connector	1x USB-C Receptacle
Link Connector	1 x RJ45 "Link" Port
Network Pass-Through	1 x RJ45 "Ethernet" 100/1000 Port
Dimensions (W x D x H) and Weight	137mm x 100mm x 26mm /5.4" x 3.9" x 1.0" | 300g (0.7lbs.)
Power Supply	100-240V AC Input, 5V DC 5A Output Jack
Enclosure Material	Black Anodized Aluminum

Box Measurements (LEX or REX Package)	
Package Dimensions (W x D x H)	199mm x 171mm x 57mm (7.8"x 6.7" x 2.2")
Package Weight	803g (1.8lbs)

Environmental	
Temperature Range	0°C – 40°C (32°F – 104°F) Operating / -20°C – 70°C (-4°F – 158°F) Storage
Relative Humidity	20% to 80% Operating / 10% to 90% Storage (Non-condensing)

Compliance	
Certifications	FCC (Class A), CE, RCM, UKCA, IEC/UL/cUL, ICES-003 Issue 7

Support	
Warranty	2-year

Warranty Information

Limited Hardware Warranty

Icron, an Analog Devices brand, warrants that any hardware products accompanying this documentation shall be free from significant defects in material and workmanship for a period of two years from the date of purchase. Icron's hardware warranty extends to Licensee, its customers and end users. The Warranty does not include repair of failures caused by misuse, neglect, accident, modification, operation outside a normal operating environment, failure caused by service of the device by non-authorized servicers or a product for which Icron is not responsible. Opening the enclosures will void warranty.

Hardware Remedies

Icron's entire liability and the Licensee's exclusive remedy for any breach of warranty shall be, at Icron's option, either (a) return of the price paid, or (b) repair or replacement of hardware, which will be warranted for the remainder of the original warranty period or 30 days, whichever is longer. These remedies are void if failure of the hardware has resulted from accident, abuse, or misapplication.

Limitation of Liability

The hardware warranty set forth in this agreement replaces all other warranties. Icron expressly disclaims all other merchantability and fitness for a particular purpose and noninfringement of third-party rights with respect to the hardware.

Icron dealer, agent, or employee is not authorized to make any modification extension or addition to this warranty. Under no circumstances will Icron, its suppliers or licensors be liable for any costs of procurement or substitute products or services, lost profits, loss of information or data, or any other special, indirect, consequential, or incidental damages arising in any way out of the sale of, use of, or inability to use Icron product or service, even if Icron, its suppliers or licensors have been advised of the possibility of such damages. In no case shall Icron, its suppliers and licensors' liability exceed the actual money paid for the products at issue.

Since some jurisdictions do not allow the limitation of implied warranties of liability for incidental, consequential, special or indirect damages, the above limitation may not always apply. The above limitations will not apply in case of personal injury where and to the extent that applicable law requires such liability.

Obtaining Warranty Service

To obtain warranty service, contact the Icron technical support team within the warranty period to obtain a Return Material Authorization (RMA) number as returns cannot be accepted without one. Prior to contacting Icron, be sure you have recorded the serial number. To begin the warranty process, record your product serial number and fill out the short online form located at icron.com/support. To complete the return process, please follow the instructions listed on the next page.

Contacting Technical Support

For technical support, visit icron.com/support.

Please include the following information when reaching out for technical support:

- Description of the problem
- Part number and serial numbers for LEX and/or REX unit(s)
- Host computer(s) make and model
- Type of Operating System installed (e.g. Windows 10, macOS 11.1, etc.)
- Make and model of any USB device(s) attached to this extension system
- Description of the installation such as host computer model, transmission media used and information about the USB device(s)

Product Return Shipping Instructions:

Package your product appropriately for safe shipment and mark the RMA number on the outside of the package. The package must be sent prepaid to Icron to the address listed below. We recommend that you insure your shipment or ensure your shipping method provides package tracking. The repaired or replaced item will be shipped to you, at Icron's expense, not later than thirty days after Icron receives the defective product.

Address to Return Product:

RMA Coordinator
Icron | An Analog Devices Brand
4664 Lougheed Hwy., Suite 221
Burnaby, BC, V5C 5T5, Canada

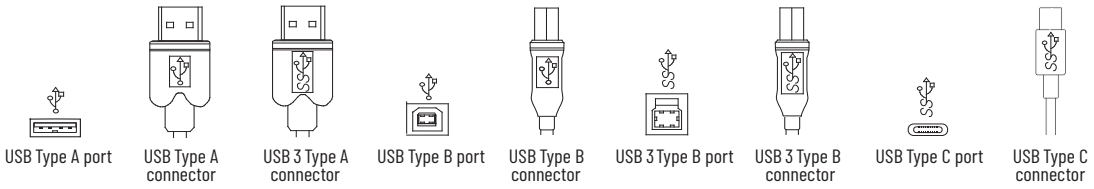
Technical Glossary

Category 6a (CAT 6a) Network Cabling

Category 6a cable is commonly also referred to as CAT 6a. This cabling is available in either solid or stranded twisted pair copper wire variants and as UTP (Unshielded Twisted Pair) or STP (Shielded Twisted Pair). UTP cables are not surrounded by any shielding making them more susceptible to Electromagnetic Interference (EMI). STP cables include shielding the copper wires and provides better protection against EMI.

USB 3, USB 2.0 and USB-C Cables

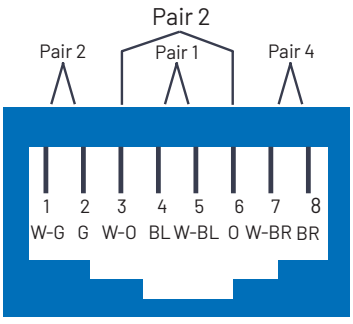
USB cables have two distinct full-sized connectors. The Type A connector is used to connect the cable from a USB device to the Type A port on a computer or hub. The Type B connector is used to attach the USB cable to a USB device. The Type-C connector is used to connect to both USB hosts and devices.



RJ45

The Registered Jack (RJ) physical interface is what connects the network cabling (CAT 6a) to the LEX and REX units. You may use either the T568A scheme (Table 1) or the T568B scheme (Table 2) for cable termination as this extender system requires all four pairs of the cable. RJ45 connectors are sometimes also referred to as 8P8C connectors. Note that any given cable must be terminated using the same T568 scheme on both ends to operate correctly.

RJ45 Pin Positioning



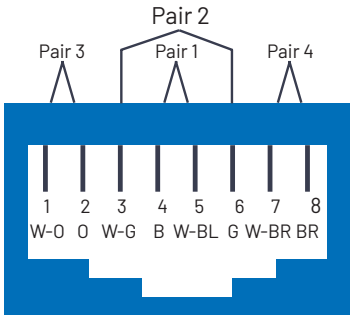


Table 1 - T568A Wiring

Pin	Pair	Wire	Cable / Color
1	3	1	White / Green
2	3	2	Green
3	2	1	White / Orange
4	1	2	Blue
5	1	1	White / Blue
6	2	2	Orange
7	4	1	White / Brown
8	4	2	Brown

Table 2 - T568B Wiring

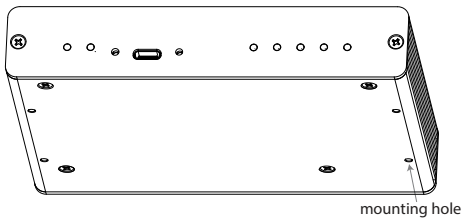
Pin	Pair	Wire	Cable / Color
1	2	1	White / Orange
2	2	2	Orange
3	3	1	White / Green
4	1	2	Blue
5	1	1	White / Blue
6	3	2	Green
7	4	1	White / Brown
8	4	2	Brown

Appendix A

63301 Direct Surface Mounting Stencil

Use your own hardware.

The bottom of the enclosure has four pre-drilled holes for surface mounting.
Distance between the enclosure mounting holes:
42.0mm x 124.5mm



1. Mark the center point of each of the four holes on your mounting surface either by directly measuring or using this stencil.
2. Hardware recommendation: M2.5 locking washers and M2.5 screws (4 of each per extender) noting screw length will depend upon thickness of mounting surface.
3. Drill through each of the four hole markings on the mounting surface using a 3.70mm (0.1457") drill bit.
4. Align the bottom enclosure holes to the newly drilled out holes on the mounting surface.
5. Place a locking washer on each of the four screws and using a screwdriver, fasten the extender into place.
   To print this stencil to scale, either select the print dialogue box to "actual size" or set page scaling to "none".

NOTE: Do not exceed a screw depth of 10mm (0.4") into the unit or damage may occur.

NOTE: To print this stencil to scale, either select the print dialogue box to "actual size" or set page scaling to "none".

AN ANALOG DEVICES BRAND

Icron | An Analog Devices Brand
4664 Lougheed Hwy., Suite 221
Burnaby, BC, V5C 5T5, Canada

+1 604 638 3920 | icron.com

For sales/general inquiries, visit icron.com/contact.

For technical support, visit icron.com/support.

Document #90-02044-A01