

Io-Xpand

Thunderbolt Chassis



KONA | 5



KONA | 4



KONA | 1

Installation and Operation Guide

Notices

Trademarks

AJA® and Because it matters.® are registered trademarks of AJA Video Systems, Inc. for use with most AJA products. AJA™ is a trademark of AJA Video Systems, Inc. for use with recorder, router, software and camera products. Because it matters.™ is a trademark of AJA Video Systems, Inc. for use with camera products.

Corvid Ultra®, Io®, Ki Pro®, KONA®, KUMO®, ROI® and T-Tap® are registered trademarks of AJA Video Systems, Inc.

AJA Control Room™, KiStor™, Science of the Beautiful™, TruScale™, V2Analog™ and V2Digital™ are trademarks of AJA Video Systems, Inc.

All other trademarks are the property of their respective owners.

Copyright

Copyright © 2026 AJA Video Systems, Inc. All rights reserved. All information in this manual is subject to change without notice. No part of the document may be reproduced or transmitted in any form, or by any means, electronic or mechanical, including photocopying or recording, without the express written permission of AJA Video Systems, Inc.

Contacting AJA Technical Support or Sales

Please have all pertinent information at hand prior to contacting AJA support or sales. Include product name, computer model, and PCIe card(s) model(s). Also helpful would be a System Report (macOS) or a Microsoft System Information MSINFO32 (Windows) report (Windows).

Support Telephone: +1.530.271.3190

Support Website: <https://www.aja.com/support/contact>

Support Email: support@aja.com

Sales Email: sales@aja.com

Shipping Address: AJA Video Systems
180 Litton Drive
Grass Valley, CA 95945, USA

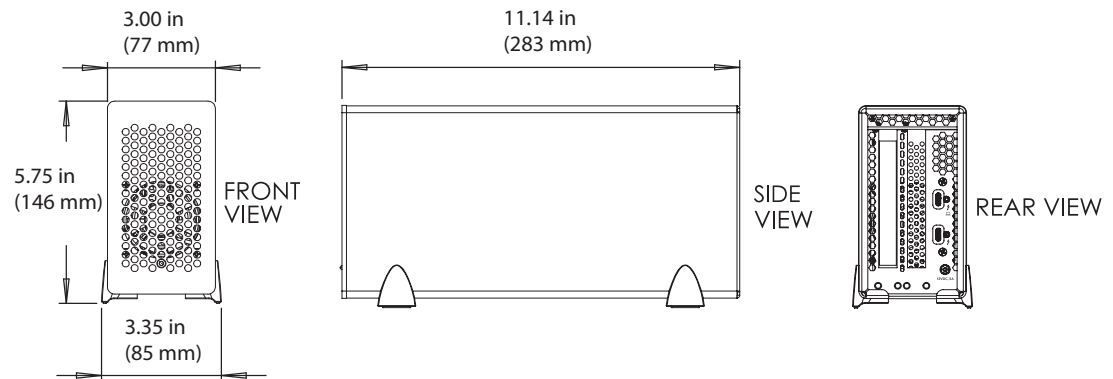
Contents

Notices	2
Trademarks	2
Copyright	2
Contacting AJA Technical Support or Sales	2
Chapter 1 – Introduction	4
Thunderbolt Expansion System for PCIe Cards.	4
Mac Compatibility	4
Windows Compatibility	4
Linux Compatibility	4
System Requirements	4
Preparing to Use the Io-Xpand	5
Chapter 2 – Description	6
Io-Xpand Exterior	6
Front	6
Rear	7
Inner Assembly	8
Power Adapter	9
Thunderbolt 5 Cable.	9
Thunderbolt Connector Retainer Clip.	9
6-Pin Auxiliary Power Cable	10
Chapter 3 – PCIe Card Installation.	11
Step-by-Step Installation.	11
Chapter 4 – Complete Setup & Configuration	15
Setup and Configuration Steps: macOS Users	15
A - Confirm Io-Xpand is Recognized	15
B - Confirm the Installed Card is Recognized	15
C - Install Card Drivers (If Necessary).	15
Chapter 5 – Tips, General Information, and Known Issues	16
Tips, General Information	16
Known Issues	16
Chapter 6 – Precautions, Safety & Support Information	18
Safety Precautions.	18
General Usage.	18
Power & Electrical Safety	18
Physical Safety & Placement	18
FCC Compliance.	18
EU Compliance	18
Ordering Configurations.	19
Io-Xpand-01	19
Io-Xpand-02, -03 and -04 (KONA Card Bundles).	19
Included in the Box	20
Appendix A – Specifications.	21
Io-Xpand Tech Specs	21
Appendix B – Safety and Compliance	23
Warranty and Liability Information	31
Index.	32

Chapter 1 – Introduction

Thunderbolt Expansion System for PCIe Cards

Io-Xpand is a Thunderbolt™ expansion system for AJA KONA and Corvid PCIe cards. Through its PCIe slot, you may connect one half-length+ (up to 7.75 inches long), single- or double-width non-GPU expansion card to your computer with Thunderbolt ports to expand its connectivity and capabilities. Additional space is provided inside the enclosure to install a daughter card when a single-width PCIe card is installed.



Mac Compatibility

- Mac (M series)
- Mac (Intel) with Thunderbolt 3 ports
- macOS 15+

Windows Compatibility

- Windows computer with Thunderbolt 5 or 4 ports
- Windows computer with USB4 or USB4 V2 ports*
- Windows 11

Linux Compatibility

- Linux computer with Thunderbolt 5 or 4 ports
- Linux Kernel 6.1, 6.12+

System Requirements

While Io-Xpand expansion systems require no drivers, AJA KONA and Corvid cards require installation of AJA Desktop Software drivers and applications. Refer to the user guide for your specific AJA card for details on how to obtain and install this software.

More information on which cards are compatible with Io-Xpand is available at:

<https://www.aja.com/products/io-xpand#support>

Preparing to Use the Io-Xpand

The drivers required to support the Io-Xpand expansion system are installed as part of supported operating systems; there are no preparation steps beyond updating your computer to a compatible OS.

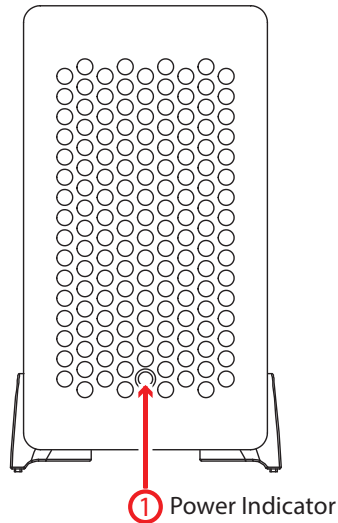
Below we show an example simple setup: an Io-Xpand together with an Apple MacBook Pro computer (with no other Thunderbolt devices in the chain.)



Chapter 2 – Description

Io-Xpand Exterior

Front

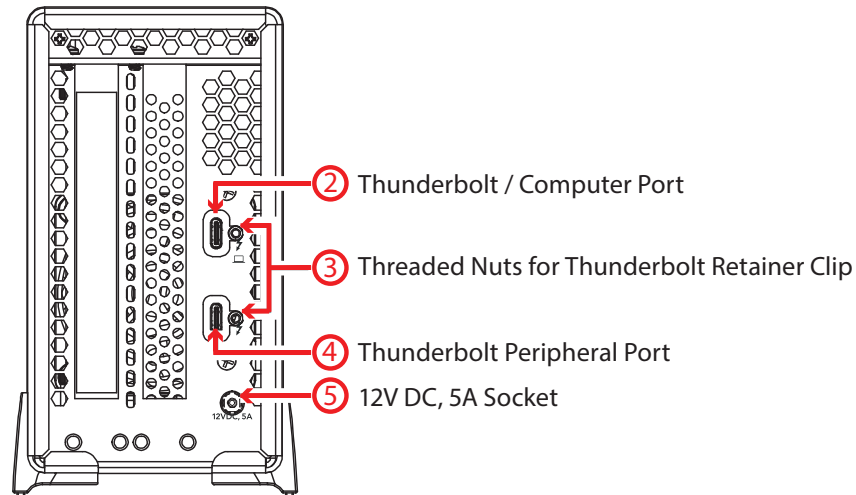


(1) - Power Indicator

This lights when Io-Xpand is powered, the Thunderbolt cable between the chassis and your computer is plugged in securely, and the computer powered on.

NOTE: *If the Io-Xpand system is connected to another Thunderbolt device instead of directly to the computer, any other Thunderbolt device connected between the computer and Io-Xpand system must also be powered on before the Io-Xpand chassis' power indicator will light up.*

Rear



(2) - Thunderbolt / Computer Port

Connect included (or other certified) Thunderbolt 5 cable between this port and your computer's Thunderbolt port (or other Thunderbolt device in the chain connected to the computer).

(3) - Threaded Nuts for Thunderbolt Retainer Clip

Attach the included Thunderbolt connector retainer clip here.

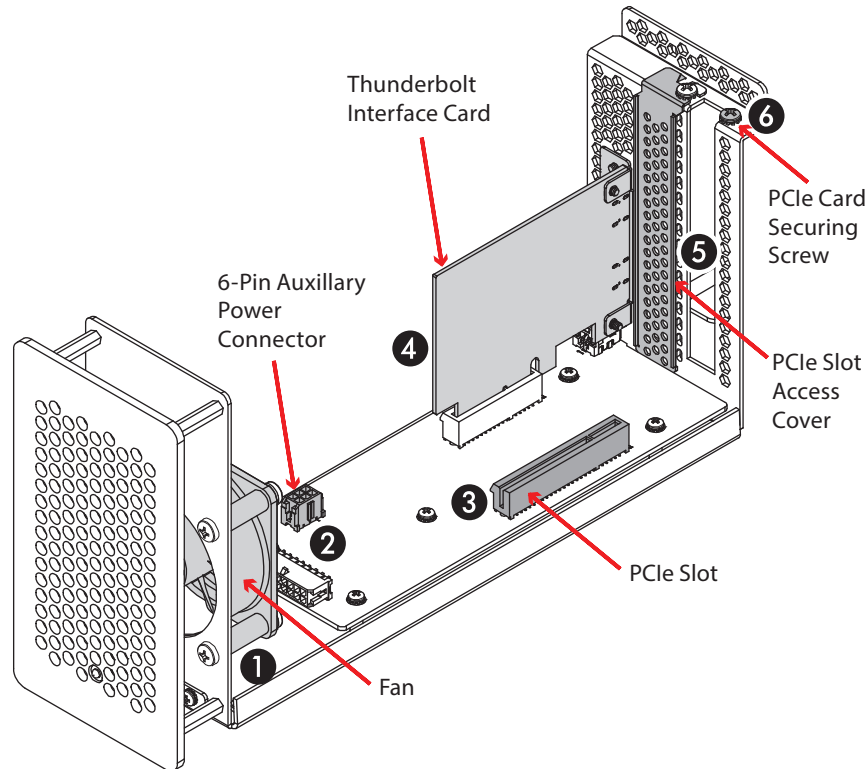
(4) - Thunderbolt Peripheral Port

This port may be used to connect to another Thunderbolt peripheral device, display(s), or a USB device (when connected with the proper cable or adapter).

(5) - 12V DC, 5A Socket

Connect the included DC power adapter to this connector.

Inner Assembly



(1) - Fan

The temperature-controlled fan provides cooling for the installed PCIe card and the chassis' supporting Thunderbolt circuitry. It operates at a whisper when the card is running cool, and speeds up when the temperature rises. Do not block the fan or the vent holes on the back of the chassis to prevent overheating.

(2) - 6-Pin Auxiliary Power Connector

Plug the included auxiliary power cable into this connector to support an adapter card requiring extra power.

(3) - PCIe Slot

This is an x8 mechanical (x4 electrical) PCIe 4.0 slot. It is compatible with AJA KONA and most Corvid cards.

(4) - Thunderbolt Interface Card

This is installed into its own slot and may not be moved to the PCIe slot.

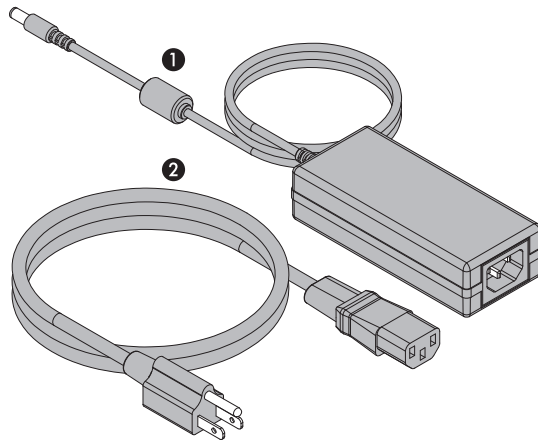
(5) – PCIe Slot Access Cover

This covers the opening in the chassis when a single-width PCIe card (with no daughtercard) is installed in the PCIe slot.

(6) – PCIe Card Securing Screw

This secures the AJA KONA or Corvid card you install.

Power Adapter



(1) - Power Adapter

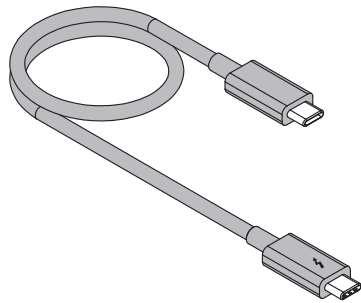
Connect this to the lo-Xpand chassis' power port.

(2) - Power Cord

Connect this between a power outlet and the power adapter.

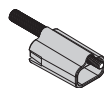
NOTE: The power cord included with your product may appear different than the one pictured here, depending on where the product was purchased.

Thunderbolt 5 Cable



Connect this cable between the lo-Xpand chassis and one of your computer's Thunderbolt ports (often indicated by a logo), or other Thunderbolt peripheral device in the chain connected to the computer. Connecting the lo-Xpand chassis to a computer port marked with a generic USB icon (•⇄) or USB Charging Port icon (⚡) is NOT supported.

Thunderbolt Connector Retainer Clip



This clip secures the Thunderbolt connector plugged into one of the lo-Xpand expansion system's Thunderbolt ports to prevent accidental cable disconnection. This clip is compatible with the included cable and may work with other Thunderbolt cables.

6-Pin Auxiliary Power Cable

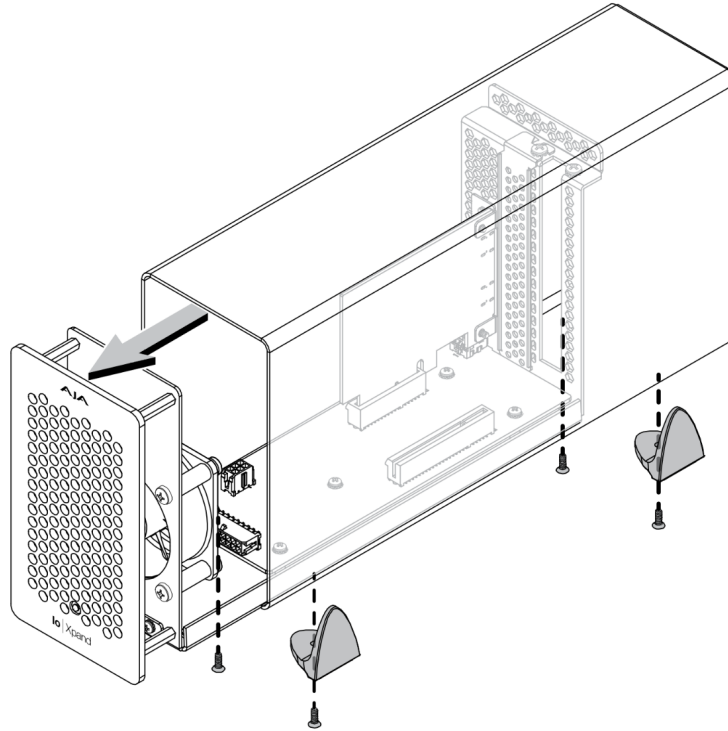
NOTE: (Not shown)

This cable provides additional power to certain AJA KONA or Corvid cards that are equipped with their own 6-pin auxiliary power..

Chapter 3 – PCIe Card Installation

Step-by-Step Installation

Figure 1. Installation Steps 1 through 4



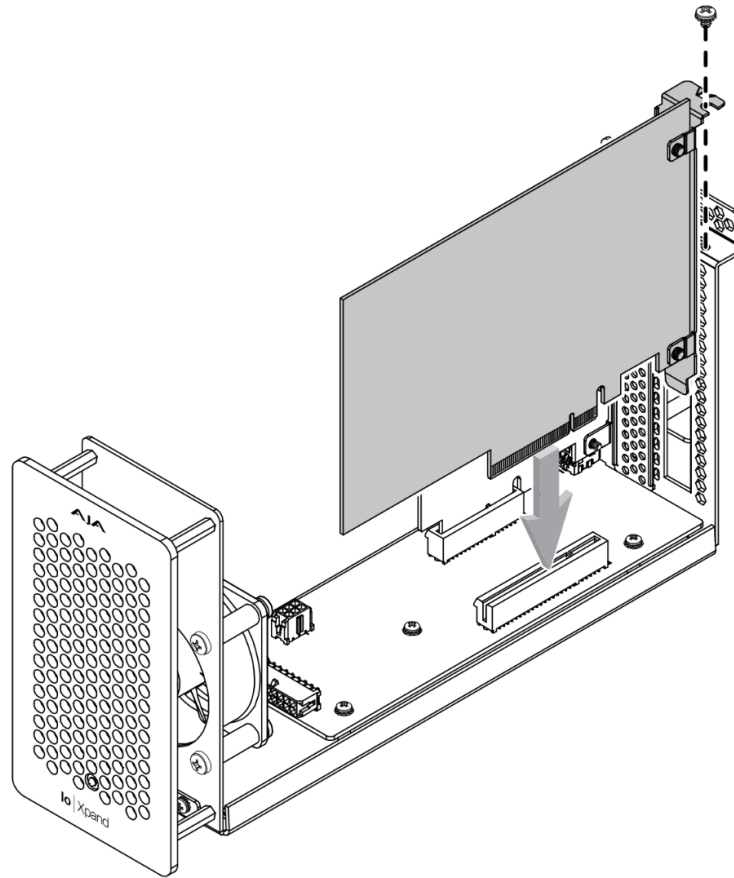
1. Remove lo-Expand from its packaging, and then set it upside-down on a soft, flat, level surface.
2. Remove and set aside the four screws securing the feet to the bottom of the outer case (Figure 1). Set aside the screws and feet.
3. Turn the lo-Expand system right-side up.

IMPORTANT: To avoid damaging components due to static electricity discharge, wear an antistatic wrist strap while working inside the lo-Xpand.

4. Place one hand on top of the enclosure. Remove the inner assembly by gently grasping its faceplate by the edges and pulling (Figure 1). Set aside the enclosure.
5. Remove and set aside the screw used to secure a PCIe card from the lo-Expand system's inner assembly (Figure 7). If you are installing a double-width card, or an additional daughter card, remove and set aside the screw securing the PCIe slot access cover, and then remove and set aside the cover.

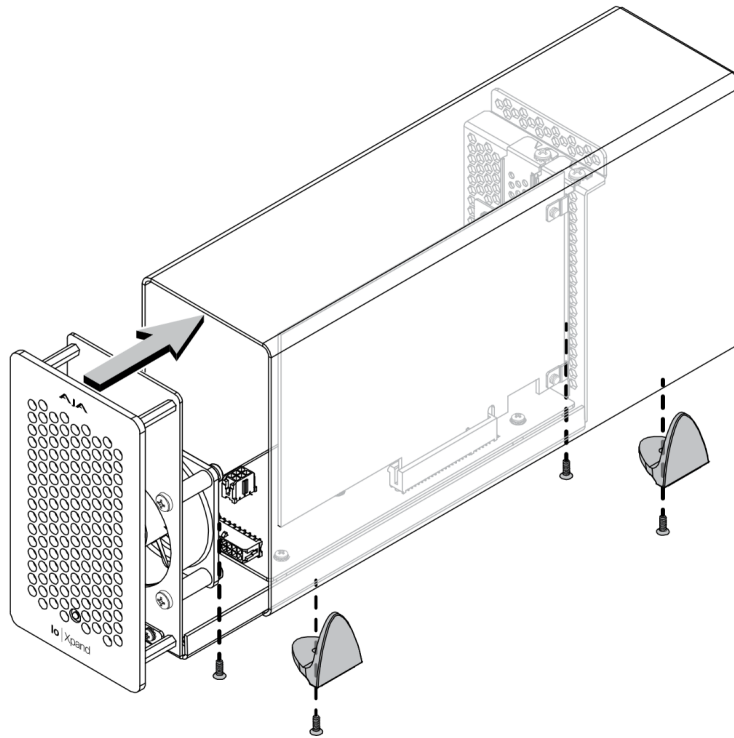
WARNING: When handling computer products, take care to prevent components from being damaged by static electricity; avoid working in carpeted areas. Handle expansion cards only by their edges and avoid touching connector traces and component pins. Also, avoid touching the lo-Expand inner assembly's circuit boards and any of its components.

Figure 2. Inserting PCIe Card (Steps 6 & 7)



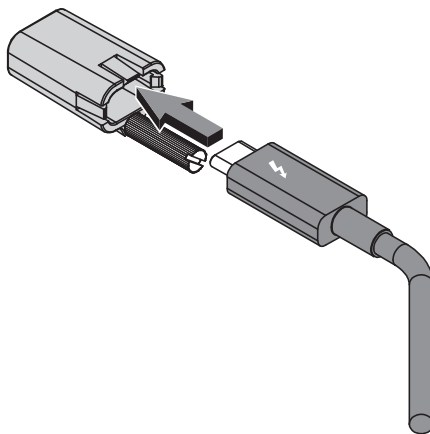
6. Remove your AJA KONA or Corvid card from its packaging, handling the card by its edges and without touching any components or gold connector pins.
7. Line up its connector with the slot, and then gently but firmly insert the card straight into the slot; do not rock the card or force it into the slot. If you encounter excessive resistance, check the card's connector and the slot for damage, and then try inserting the card again (Figure 2). Secure the card with the screw you removed previously. If you installed a card that includes a daughter card, install it in the space next to the main card.

Figure 3. Reassembling the Enclosure



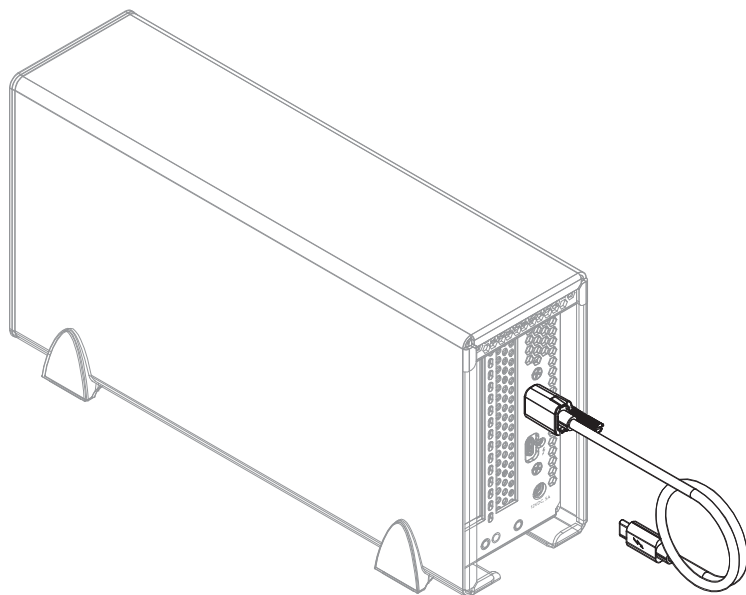
8. If you installed an AJA KONA or Corvid card that requires auxiliary power, plug in the 6-pin Auxiliary Power Cable between the lo-Expand system's auxiliary power connector and the card's auxiliary power connector (not shown).
9. Place one hand on top of the enclosure. Insert the inner assembly gently grasping its faceplate by the edges and pushing the assembly in until it stops (Figure 3).
10. Turn the lo-Expand system upside-down, and secure the enclosure and the inner assembly together by reattaching the four feet; do not over-tighten the screws (Figure 3).

Figure 4. Thunderlok Thunderbolt connector



NOTE: The Thunderbolt connector retainer clip secures the included Thunderbolt cable to the lo-Expand expansion system to prevent accidental disconnects. To attach the clip to the cable, remove both items from their packaging, and then insert the connector through the connector clip as shown (Figure 4). Note that the connector will pass all the way through the clip; when you connect the cable to the chassis, the clip will secure the connector.

Figure 5. Thunderbolt Cable Connection



11. Turn lo-Expand right-side-up.
12. Connect the included (or other certified) Thunderbolt 5 cable between a Thunderbolt port on the lo-Expand system and a Thunderbolt port on your computer, or other Thunderbolt device in the chain connected to the computer (Figure 8). Note that cables or computer ports marked with a generic USB icon () or USB Charging Port icon () are NOT compatible. Secure the retainer clip to the threaded hole beneath the Thunderbolt port on lo-Expand chassis if you attached it. If you are daisy chaining additional Thunderbolt devices, connect another Thunderbolt cable between the downstream device and the open Thunderbolt port on the lo-Expand chassis.
13. Connect the included power cord between a wall outlet or power strip and the power adapter; verify the connector is plugged in securely. Note that, if present, the power adapter's power indicator will light at this time.
14. Connect interface cables between devices, the PCIe card, daughter card (if installed), and the computer as necessary.
15. Connect the power adapter cable to the lo-Expand system's 12V power socket. Note that the power indicator on the lo-Expand expansion system will not light until the computer, and any other Thunderbolt device connected between it and the lo-Expand system, is powered on.

Chapter 4 – Complete Setup & Configuration

Setup and Configuration Steps: macOS Users

A - Confirm lo-Expand is Recognized

1. With the lo-Expand expansion system powered and connected to the computer, turn on the computer. If you haven't enabled Thunderbolt and USB accessories to always connect (System Settings: Privacy & Security: Allow accessories to connect), an alert will appear on startup asking you to allow the lo-Expand to connect; click Allow.

NOTE: Note that if there are any other Thunderbolt devices connected between the AJA lo-Expand system and your computer, they must also be powered for you to perform the following steps.

2. Press and hold down the Option key, and then from the Apple menu, select System Information; a System Information window will open.
3. In the System Information window, click Thunderbolt... under the Hardware header in the left column.
4. In the top right column under the Thunderbolt... Device Tree header, you will see the computer, followed by Thunderbolt Bus, and then "AJA Thunderbolt 5 PCIe Expansion".

IMPORTANT: If you do not see "AJA Thunderbolt 5 PCIe Expansion" listed, disconnect and reconnect the Thunderbolt cable between the computer and lo-Expand. Note that it is not necessary to shut down the computer before disconnecting and reconnecting the cable, so long as the installed card is Thunderbolt-compatible.

B - Confirm the Installed Card is Recognized

1. In the System Information window click PCI under the Hardware header in the left column.
2. At the top of the right column, the installed card is listed. You should see "Yes" next to Driver Installed and Tunnel Compatible.

IMPORTANT: While the lo-Expand expansion system requires no drivers of its own, the installed AJA KONA or Corvid card requires the AJA desktop Software (if not already installed.).

C - Install Card Drivers (If Necessary)

1. Follow the instructions in your AJA KONA or Corvid card's user manual or online SDK documentation for installing drivers and/or AJA Desktop Software, which is free to download from the AJA web site.
2. Restart your computer; your lo-Expand chassis is ready to use!

Chapter 5 – Tips, General Information, and Known Issues

Tips, General Information

Keeping the AJA KONA or Corvid Card Cool - With its optimized airflow design and temperature-controlled fan providing cooling at all times, this lo-Expand expansion system provides adequate cooling for the installed card. Do not operate the lo-Expand system with its cover off, and do not block any of the vents! Otherwise, the installed card and lo-Expand chassis' components may overheat. We do not recommend the use of passive AJA KONA or Corvid cards in this expansion chassis.

Hot Plugging the lo-Expand Expansion System- When a certified Thunderbolt-compatible card (used with Thunderbolt-compatible drivers) is installed in the lo-Expand system, you may connect and disconnect the chassis while the computer is on. Of course, if you have anything connected to the AJA KONA or Corvid card, such as storage devices, cameras, etc., follow proper procedures for disconnecting those devices before unplugging the lo-Expand chassis.

There's No Need to Unplug the Power Adapter - Because an lo-Expand expansion system automatically powers on and off with the computer to which it's connected, there's no power switch, nor is there any need to disconnect the power cable under normal use.

Power Indicator LED Operation - The lo-Expand system's power indicator only lights when the computer to which it's connected is on, and turns off when the computer is sleeping or powered off.

Connecting Additional Thunderbolt - Peripheral Devices The lo-Expand expansion system includes two Thunderbolt ports; the first is reserved for connection to your computer, while the second supports daisy-chaining of up to five additional Thunderbolt peripheral devices.

Replacing an AJA KONA or Corvid Card After Initial Installation - Shut down the computer, and then disconnect all cables from lo-Expand before opening the chassis and replacing the card; AJA KONA and Corvid cards are not hot-pluggable! lo-Expand can provide up to 15 watts to bus-powered Thunderbolt peripheral devices, enabling them to operate without connecting an additional power adapter.

Known Issues

Certain AJA cards, like the Corvid 88 may not perform at 100% - Thunderbolt 5 PCIe bandwidth is limited to about 6,000 MB/s. While most AJA cards will operate at full performance, some may not because they require more bandwidth than Thunderbolt can provide.

Not All Thunderbolt Cables Deliver Full Performance - When used with a Thunderbolt 5 computer, full performance from the lo-Expand chassis requires the use of the included (or other certified) Thunderbolt 5 cable; use of a Thunderbolt 4 or 3 cable limits PCIe bandwidth to about 2,880 MB/s.

Operating System (OS) Updates May Break Compatibility - Specific device drivers that work under one OS version may not work under a later version. Before updating your computer to the latest OS, we recommend that you verify that the existing AJA Desktop Software and drivers work. Note that other computer software updates may also break compatibility.

Some Devices' Performance May be Affected by Where They Are Connected in a Thunderbolt Chain - However small, Thunderbolt introduces latency to a additional Thunderbolt expansion chassis.

Chapter 6 – Precautions, Safety & Support Information

Safety Precautions

These precautions explain the correct and safe use of this device, thereby helping to prevent injury to you or others, and also help you to minimize the risk of damaging the device.

General Usage

Use Only Provided Power Adapter - Use only the provided power supply to prevent overheating or electrical damage.

Keep Away from Liquids - Avoid exposing the chassis to water, moisture, or extreme humidity to prevent short circuits or electrical hazards.

Do Not Block Ventilation - This system has cooling vents; ensure proper airflow to prevent overheating.

Handle Cables with Care - Do not force cables into ports; align connectors properly before inserting to avoid damage.

Do Not Modify the Enclosure - If this device appears to be malfunctioning, contact your reseller or local distributor.

Power & Electrical Safety

Disconnect During Storms - Unplug the chassis during electrical storms to prevent damage from power surges.

Protection Recommended - Use a surge protector or UPS (Uninterruptible Power Supply) to safeguard against sudden voltage spikes.

Physical Safety & Placement

Avoid Extreme Temperatures - Do not place on or near heat sources (e.g., radiators) or in direct sunlight.

FCC Compliance

Io-Xpand complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: This device may not cause harmful interference, AND this device must accept any interference received, including interference that may cause undesired operation.

EU Compliance

AJA Video Systems, Inc. hereby declares that this device is in compliance with Directive 2014/30/EU.

Ordering Configurations

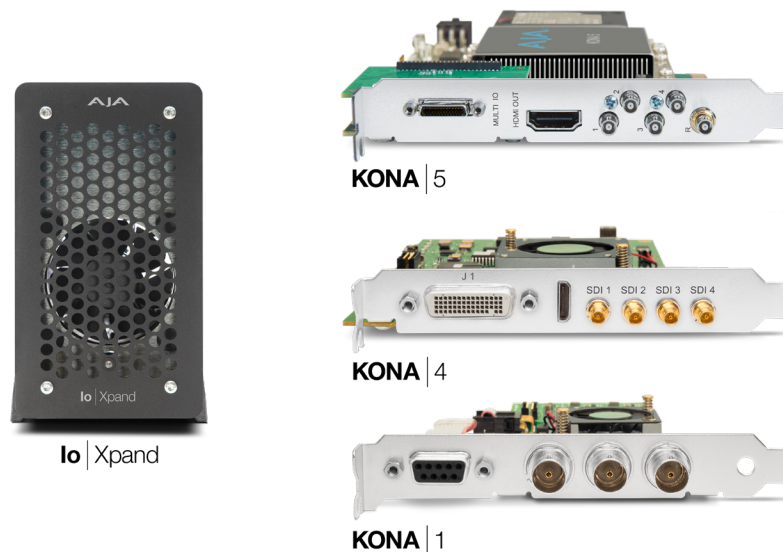
Io-Xpand-01

- AJA Io Xpand Thunderbolt 5 Expansion Dock
- AC Power Supply
- AC Cable
- Thunderbolt Cable
- Thunderbolt cable Clip

NOTE: An AJA KONA or Corvid PCIe card is not included and sold separately and is required for functionality. The Io Xpand is recommended for use only with AJA KONA and Corvid PCIe cards.

Io-Xpand-02, -03 and -04 (KONA Card Bundles)

Figure 6. Io-Xpand showing KONA card bundles Io-Xpand-02, -03 and -04



Io-Xpand-02

- AJA Io Xpand Thunderbolt 5 Expansion Dock
- AC Power Supply
- AC Cable
- Thunderbolt Cable
- Thunderbolt cable Clip
- KONA-5 IO Card and cables

Io-Xpand-03

- AJA Io Xpand Thunderbolt 5 Expansion Dock
- AC Power Supply
- AC Cable
- Thunderbolt Cable

- Thunderbolt cable Clip
- KONA-4 IO Card and cables

Io-Xpand-04

- AJA Io Xpand Thunderbolt 5 Expansion Dock
- AC Power Supply
- AC Cable
- Thunderbolt Cable
- Thunderbolt cable Clip
- KONA-1 IO Card and cables

Included in the Box

Table 1. Shipping Contents for Io-Xpand (including model variations)

Item	Quantity
Io-Xpand Thunderbolt Expansion System	1
Universal Power Adapter	1
North American Power Cable	1
6-pin to 6-pin auxiliary power cable	1
0.8 meter Thunderbolt 5 cable	1
Mini-Converter bottom mounting screws	1
Thunderbolt connector lock	1

NOTE: AJA KONA or Corvid card included (or not) depending upon order version:
*Io-Xpand-01 (no PCIe card included); Io-Xpand-02 (KONA-5 IO Card and cable);
 Io-Xpand-03 (KONA-4 IO Card and cable); or Io-Xpand-04 (KONA-1 IO Card and cable)*

Appendix A – Specifications

Io-Xpand Tech Specs

Thunderbolt Compatibility

- Thunderbolt 5, 4, 3

IO Card Compatibility

- Compatible with KONA 5, KONA 4, KONA 1, Corvid 44, Corvid 44 BNC

NOTE: Corvid 88 and other AJA IO cards may also work but due to limited Thunderbolt bandwidth, performance may not be 100%.

External Connectors

- Two Thunderbolt ports
- 12V power port

Internal Connector

- 6-pin Mini-Fit provides power for AJA cards that require supplemental power

Expansion Slot

- One 8-lane mechanical (4-lane electrical) PCIe 4.0 [Thunderbolt 5 spec]

Operating System Support

- Windows 10, Windows 11
- mac OS 14, mac OS Sonoma and all subsequent versions; including mac OS 15 Sequoia and mac OS 26 Tahoe, and later
- Rocky Linux versions 8.10, 9.5 and later
- Ubuntu Linux 20.04 LTS, Ubuntu 22.04 LTS and later

Noise

- <50dBA (A-weighted at 1m in free air)

Regulatory Compliance

- RoHS 3
- IEC 62368-1: 2014 2nd Edition safety standard

Size (w x d x h)

- 3.0" x 11.125" x 5.75" (77.0 x 283.0 x 146 mm)

Weight

- 2.5 lb. (1.13kg)

Power

- Universal 60W, 100-240V, 50-60 Hz
- NRTL Certified

Environment

- Safe Operating Temperature: 0 to 35 C (32 to 95 F)

Compliance

- RoHS 3 (Directive 2015/863)

- IEC 62368-1 and IEC 62368-2

Package Contents

- Io Xpand Thunderbolt Expansion System
- Universal power adapter
- North American power cable
- 6-pin to 6-pin auxiliary power cable
- 0.8 meter Thunderbolt 5 cable
- Thunderbolt connector lock
- Documentation

Appendix B – Safety and Compliance

Federal Communications Commission (FCC) Compliance Notices

Class A Interference Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15, Subpart B of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution

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.

Canadian ICES Statement

Canadian Department of Communications Radio Interference Regulations

This digital apparatus does not exceed the Class A limits for radio-noise emissions from a digital apparatus as set out in the Radio Interference Regulations of the Canadian Department of Communications. This Class A digital apparatus complies with Canadian ICES-003.

Règlement sur le brouillage radioélectrique du ministère des Communications

Cet appareil numérique respecte les limites de bruits radioélectriques visant les appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique du ministère des Communications du Canada. Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.

European Union, European Free Trade Association (EFTA) and United Kingdom Regulatory Compliance

This equipment may be operated in the countries that comprise the member countries of the European Union, European Free Trade Association and the United Kingdom. These countries, listed in the following paragraph, are referred to as The European Community throughout this document:

AUSTRIA, BELGIUM, BULGARIA, CROATIA, CZECH REPUBLIC, DENMARK, ESTONIA, FINLAND, FRANCE, GERMANY, GREECE, HUNGARY, ICELAND, IRELAND, ITALY, LATVIA, LIECHTENSTEIN, LITHUANIA, LUXEMBOURG, MALTA, NETHERLANDS, NORWAY, POLAND, PORTUGAL, REPUBLIC OF CYPRUS, ROMANIA, SLOVAK REPUBLIC, SLOVENIA, SPAIN, SWEDEN, SWITZERLAND, UNITED KINGDOM

Declaration of Conformity

Marking by these symbols indicates compliance with the Essential Requirements of the EMC Directive of the European Union 2014/30/EU.



AJA Video Systems, Inc. declares that the following series of product

Product Names: Thunderbolt Expansion Chassis for AJA Kona and Corvid Cards

Model Numbers: IO-XPAND-01, IO-XPAND-02, IO-XPAND-03, IO-XPAND-04

conforms to the following European Directives

EMC Directive 2014/30/EU

Low Voltage Directive 2014/35/EU

Environmental Directives: WEEE 2012/19/EU, RoHS Directive EU 2015/863 amending Annex II to Directive 2011/65/EU

This equipment meets the following conformance standards:

Safety

EN 62368-1: 2014 + A11 (T-Mark License), IEC 62368-1: 2014 (CB Scheme Report/Certificates)

Emissions

EN 55032: 2015 + A11: 2020, CISPR 32: 2015 + AMD1: 2019, EN 61000-3-2: 2019, EN 61000-3-3: 2013 + A2: 2021 + AC: 2022

Immunity

EN 55035: 2017 + A11: 2020, CISPR 35 : 2016, EN 61000-4-2: 2009, EN 61000-4-3: 2006 + A1: 2008 + A2: 2010, EN 61000-4-4: 2012, EN 61000-4-5: 2014 + A1: 2017, EN 61000-4-6: 2014, EN 61000-4-8: 2010, EN 61000-4-11: 2020

The product is also licensed, as required, for additional country specific standards for the International Marketplace. Additional issued licenses available upon request.



Warning! This is a Class A product. In a domestic environment, this product may cause radio interference, in which case, the user may be required to take appropriate measures.

Achtung! Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten, in welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

Attention! Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.

Recycling Notice



This symbol on the product or its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste for recycling, please contact your local authority, or where you purchased your product.

Korea KCC Compliance Statement

사 용 자 안 내 문

이 기기는 업무용 환경에서 사용할 목적으로 적합성평가를 받은 기기로서 가정용 환경에서 사용하는 경우 전파간섭의 우려가 있습니다.

Taiwan Compliance Statement

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

This is a Class A product based on the standard of the Bureau of Standards, Metrology and Inspection (BSMI) CNS 13438, Class A. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Japan Compliance Statement

この装置は、クラスA情報技術装置です。この装置を家庭環境で使用する
と電波妨害を引き起こすことがあります。この場合には使用者が適切な
対策を講ずるよう要求されることがあります。 VCCI-A

This is a Class A product based on the standard of the VCCI Council (VCCI 32: 2016). If this equipment is used in a domestic environment, radio interference may occur, in which case, the user may be required to take corrective actions.

Translated Warning and Caution Messages

The following caution statements, warning conventions, and warning messages apply to this product and manual.



Warning Symbol



Hazard Symbol



Caution Symbol

Before Operation Please Read These Instructions



Warning! Read and follow all warning notices and instructions marked on the product or included in the documentation.

Avertissement! Lisez et conformez-vous à tous les avis et instructions d'avertissement indiqués sur le produit ou dans la documentation.

Warnung! Lesen und befolgen Sie die Warnhinweise und Anweisungen, die auf dem Produkt angebracht oder in der Dokumentation enthalten sind.

¡Advertencia! Lea y siga todas las instrucciones y advertencias marcadas en el producto o incluidas en la documentación.

Aviso! Leia e siga todos os avisos e instruções assinalados no produto ou incluídos na documentação.

Avviso! Leggere e seguire tutti gli avvisi e le istruzioni presenti sul prodotto o inclusi nella documentazione.



Warning! Do not use this device near water and clean only with a dry cloth.

Avertissement! N'utilisez pas cet appareil près de l'eau et nettoyez-le seulement avec un tissu sec.

Warnung! Das Gerät nicht in der Nähe von Wasser verwenden und nur mit einem trockenen Tuch säubern.

¡Advertencia! No utilice este dispositivo cerca del agua y límpielo solamente con un paño seco.

Aviso! Não utilize este dispositivo perto da água e limpe-o somente com um pano seco.

Avviso! Non utilizzare questo dispositivo vicino all'acqua e pulirlo soltanto con un panno asciutto.



Warning! Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.

Avertissement! Ne bloquez aucune ouverture de ventilation. Suivez les instructions du fabricant lors de l'installation.

Warnung! Die Lüftungsöffnungen dürfen nicht blockiert werden. Nur gemäß den Anweisungen des Herstellers installieren.

¡Advertencia! No bloquee ninguna de las aberturas de la ventilación. Instale de acuerdo con las instrucciones del fabricante.

Aviso! Não obstrua nenhuma das aberturas de ventilação. Instale de acordo com as instruções do fabricante.

Avviso! Non ostruire le aperture di ventilazione. Installare in conformità con le istruzioni del fornitore.



Warning! Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

Avertissement! N'installez pas l'appareil près d'une source de chaleur telle que des radiateurs, des bouches d'air de chauffage, des fourneaux ou d'autres appareils (amplificateurs compris) qui produisent de la chaleur.

Warnung! Nicht in der Nähe von Wärmequellen wie Heizkörpern, Heizregistern, Öfen oder anderen Wärme erzeugenden Geräten (einschließlich Verstärkern) aufstellen.

¡Advertencia! No instale cerca de fuentes de calor tales como radiadores, registros de calor, estufas u otros aparatos (incluidos amplificadores) que generan calor.

Aviso! Não instale perto de nenhuma fonte de calor tal como radiadores, saídas de calor, fogões ou outros aparelhos (incluindo amplificadores) que produzam calor.

Avviso! Non installare vicino a fonti di calore come termosifoni, diffusori di aria calda, stufe o altri apparecchi (amplificatori compresi) che emettono calore.



Warning! Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Avertissement! La sécurité de la prise polarisée ou de la prise de type mise à la terre ne doit en aucun cas être empêchée de fonctionner. Une prise polarisée a deux broches, l'une étant plus large que l'autre. Une prise de type mise à la terre a deux broches et une troisième broche pour la mise à la terre. La broche large ou la troisième broche sont fournies pour votre sécurité. Si la prise fournie ne s'insère pas dans votre prise femelle, consultez un électricien pour le remplacement de la prise femelle obsolète.

Warnung! Der Sicherheitszweck des gepolten bzw. Schukosteckers ist zu berücksichtigen. Ein gepolter Stecker verfügt über zwei Pole, von denen einer breiter als der andere ist. Ein Schukostecker verfügt neben den zwei Polen noch über einen dritten Pol zur Erdung. Der breite Pol bzw. der Erdungspol dienen der Sicherheit. Wenn der zur Verfügung gestellte Stecker nicht in Ihren Anschluss passt, konsultieren Sie einen Elektriker, um den veralteten Anschluss zu ersetzen.

¡Advertencia! No eche por tierra la finalidad del tipo de enchufe polarizado con conexión a tierra. Un enchufe polarizado tiene dos espigas, una más ancha que la otra. Un enchufe con conexión a tierra tiene dos espigas iguales y una tercera espiga que sirve para la conexión a tierra. La espiga ancha, o la tercera espiga, sirven para su seguridad. Si el enchufe suministrado no encaja en el tomacorriente, consulte con un electricista para reemplazar el tomacorriente obsoleto.

Aviso! Não anule a finalidade da segurança da ficha polarizada ou do tipo ligação terra. Uma ficha polarizada tem duas lâminas sendo uma mais larga do que a outra. Uma ficha do tipo de ligação à terra tem duas lâminas e um terceiro terminal de ligação à terra. A lâmina larga ou o terceiro terminal são fornecidos para sua segurança. Se a ficha fornecida não couber na sua tomada, consulte um electricista para a substituição da tomada obsoleta.

Avviso! Non compromettere la sicurezza della spina polarizzata o con messa a terra. Una spina polarizzata ha due spinotti, di cui uno più largo. Una spina con messa a terra ha due spinotti e un terzo polo per la messa a terra. Lo spinotto largo o il terzo polo sono forniti per motivi di sicurezza. Se la spina fornita non si inserisce nella presa di corrente, contattare un elettricista per la sostituzione della presa obsoleta.



Warning! Since the Mains plug is used as the disconnection for the device, it must remain readily accessible and operable.

Avertissement! Puisque la prise principale est utilisée pour débrancher l'appareil, elle doit rester aisément accessible et fonctionnelle.

Warnung! Da der Netzstecker als Trennvorrichtung dient, muss er stets zugänglich und funktionsfähig sein.

¡Advertencia! Puesto que el enchufe de la red eléctrica se utiliza como dispositivo de desconexión, debe seguir siendo fácilmente accesible y operable.

Aviso! Dado que a ficha principal é utilizada como a desconexão para o dispositivo, esta deve manter-se prontamente acessível e funcional.

Avviso! Poiché il cavo di alimentazione viene usato come dispositivo di sconnessione, deve rimanere prontamente accessibile e operabile.



Warning! Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device.

Avertissement! Protégez le cordon d'alimentation pour que l'on ne marche pas dessus ou qu'on le pince, en particulier au niveau des prises mâles, des réceptacles de convenance, et à l'endroit où il sort de l'appareil.

Warnung! Vermeiden Sie, dass auf das Netzkabel getreten oder das Kabel geknickt wird, insbesondere an den Steckern, den Steckdosen und am Kabelausgang am Gerät.

¡Advertencia! Proteja el cable de energía para que no se le pise ni apriete, en especial cerca del enchufe, los receptáculos de conveniencia y el punto del que salen del equipo.

Aviso! Proteja o cabo de alimentação de ser pisado ou de ser comprimido particularmente nas fichas, em tomadas de parede de conveniência e no ponto de onde sai do dispositivo.

Avviso! Proteggere il cavo di alimentazione in modo che nessuno ci cammini sopra e che non venga schiacciato soprattutto in corrispondenza delle spine e del punto in cui esce dal dispositivo.



Warning! Unplug this device during lightning storms or when unused for long periods of time.

Avertissement! Débranchez cet appareil pendant les orages avec éclairs ou s'il est inutilisé pendant de longues périodes.

Warnung! Das Gerät ist bei Gewitterstürmen oder wenn es über lange Zeiträume ungenutzt bleibt vom Netz zu trennen.

¡Advertencia! Desenchufe este dispositivo durante tormentas eléctricas o cuando no se lo utilice por largos periodos del tiempo.

Aviso! Desconecte este dispositivo da tomada durante trovoadas ou quando não é utilizado durante longos períodos de tempo.

Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore, quali il treppiedi e l'esoscheletro.



Warning! Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device, the device has been exposed to rain or moisture, does not operate normally, or has been dropped.

Avertissement! Référez-vous au personnel de service qualifié pour tout entretien. L'entretien est exigé quand l'appareil a été endommagé de quelque manière que ce soit, par exemple lorsque le cordon d'alimentation ou la prise sont endommagés, que du liquide a été versé ou des objets sont tombés dans l'appareil, que l'appareil a été exposé à la pluie ou à l'humidité, ne fonctionne pas normalement ou est tombé.

Warnung! Das Gerät sollte nur von qualifizierten Fachkräften gewartet werden. Eine Wartung ist fällig, wenn das Gerät in irgendeiner Weise beschädigt wurde, wie bei beschädigtem Netzkabel oder Netzstecker, falls Flüssigkeiten oder Objekte in das Gerät gelangen, das Gerät Regen oder Feuchtigkeit ausgesetzt wurde, nicht ordnungsgemäß funktioniert oder fallen gelassen wurde.

¡Advertencia! Consulte al personal calificado por cuestiones de reparación. El servicio de reparación se requiere cuando el dispositivo ha recibido cualquier tipo de daño, por ejemplo cable o espigas dañadas, se ha derramado líquido o se han caído objetos dentro del dispositivo, el dispositivo ha sido expuesto a la lluvia o humedad, o no funciona de modo normal, o se ha caído.

Aviso! Remeta todos os serviços de manutenção para o pessoal de assistência qualificado. A prestação de serviços de manutenção é exigida quando o dispositivo foi danificado mediante qualquer forma, como um cabo de alimentação ou ficha que se encontra danificado/a, quando foi derramado líquido ou caíram objectos sobre o dispositivo, quando o dispositivo foi exposto à chuva ou à humidade, quando não funciona normalmente ou quando foi deixado cair.

Avviso! Fare riferimento al personale qualificato per tutti gli interventi di assistenza. L'assistenza è necessaria quando il dispositivo è stato danneggiato in qualche modo, ad esempio se il cavo di alimentazione o la spina sono danneggiati, è stato rovesciato del liquido è stato rovesciato o qualche oggetto è caduto nel dispositivo, il dispositivo è stato esposto a pioggia o umidità, non funziona correttamente o è caduto.



Warning! Disconnect the external AC power supply line cord(s) from the mains power before moving the unit.

Avertissement! Retirez le ou les cordons d'alimentation en CA de la source d'alimentation principale lorsque vous déplacez l'appareil.

Warnung! Trennen Sie die Wechselstrom-Versorgungskabel vom Netzstrom, bevor Sie das Gerät verschieben.

¡Advertencia! Cuando mueva la unidad desenchufe de la red eléctrica el/los cable(s) de la fuente de alimentación CA tipo brick.

Advertência! Remova os cabos CA de alimentação brick da rede elétrica ao mover a unidade.

Avvertenza! Scollegare il cavo dell'alimentatore quando si sposta l'unità.



Warning! Only use attachments and accessories specified and/or sold by the manufacturer.

Avertissement! Utilisez seulement les attaches et accessoires spécifiés et/ou vendus par le fabricant.

Warnung! Verwenden Sie nur Zusatzgeräte und Zubehör angegeben und / oder verkauft wurde durch den Hersteller.

¡Advertencia! Utilice solamente los accesorios y conexiones especificados y/o vendidos por el fabricante.

Aviso! Utilize apenas equipamentos/acessórios especificados e/ou vendidos pelo fabricante.

Avviso! Utilizzare soltanto i collegamenti e gli accessori specificati e/o venduti dal produttore.



Hazard! High Voltage. This situation or condition **can** cause injury due to electric shock.

Avertissement! Tension élevée. Cette situation ou condition peut causer des blessures dues à un choc électrique.

Warnung! Hochspannung. Diese Situation oder Bedingung kann zu Verletzungen durch Stromschlag führen.

¡Advertencia! Alto voltaje. Esta situación o condición puede causar lesiones debidas a una descarga eléctrica.

Aviso! Alta Tensão. Esta situação ou condição pode causar danos devido a choques elétricos.

Avviso! Alta tensione. Questa situazione o condizione può causare lesioni a causa di scosse elettriche.

Warranty and Liability Information

Limited Warranty

AJA Video Systems, Inc. (AJA Video) warrants that this product will be free from defects in materials and workmanship for a period of two years from the date of purchase. If a product proves to be defective during this warranty period, AJA Video, at its option, will either repair the defective product without charge for parts and labor, or will provide a replacement in exchange for the defective product.

In order to obtain service under this warranty, you the Customer, must notify AJA Video of the defect before the expiration of the warranty period and make suitable arrangements for the performance of service. The Customer shall be responsible for packaging and shipping the defective product to a designated service center nominated by AJA Video, with shipping charges prepaid. AJA Video shall pay for the return of the product to the Customer if the shipment is to a location within the country in which the AJA Video service center is located. Customer shall be responsible for paying all shipping charges, insurance, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or improper or inadequate maintenance and care. AJA Video shall not be obligated to furnish service under this warranty a) to repair damage resulting from attempts by personnel other than AJA Video representatives to install, repair or service the product, b) to repair damage resulting from improper use or connection to incompatible equipment, c) to repair any damage or malfunction caused by the use of non-AJA Video parts or supplies, or d) to service a product that has been modified or integrated with other products when the effect of such a modification or integration increases the time or difficulty of servicing the product.

THIS WARRANTY IS GIVEN BY AJA VIDEO IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED. AJA VIDEO AND ITS VENDORS DISCLAIM ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. AJA VIDEO'S RESPONSIBILITY TO REPAIR OR REPLACE DEFECTIVE PRODUCTS IS THE WHOLE AND EXCLUSIVE REMEDY PROVIDED TO THE CUSTOMER FOR ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES IRRESPECTIVE OF WHETHER AJA VIDEO OR THE VENDOR HAS ADVANCE NOTICE OF THE POSSIBILITY OF SUCH DAMAGES.

Index

Symbols

- 6-Pin Auxiliary Power Cable 10
- 6-Pin Auxiliary Power Connector 8
- 12V DC, 5A Socket 7

A

- AJA Support 2

C

- Confirm it is Recognized 15
- Confirm the Installed Card is Recognized 15

D

- Description 6

E

- Exterior 6

F

- Fan 8
- Front 6

G

- General Usage 18

I

- Included in the Box 20
- Inner Assembly 8
- Install Card Drivers (If Necessary) 15
- Introduction 4
- Io-Xpand-01 19
- Io-Xpand-02 19
- Io-Xpand-02, -03 and -04 (KONA Card Bundles) 19
- Io-Xpand-03 19
- Io-Xpand-04 20
- Io-Xpand and KONA Card Bundles 19

K

- Known Issues 16

L

- Linux Compatibility 4

M

- Mac Compatibility 4

O

- Ordering Configurations 19
- Overview 4

P

- PCIe Card Installation 11
- PCIe Card Securing Screw 8
- PCIe Slot 8
- PCIe Slot Access Cover 8
- Physical Safety & Placement 18
- Power Adapter 9
- Power Cord 9
- Power & Electrical Safety 18
- Power Indicator 6
- Precautions, FCC Compliance, & Support Information 18
- Preparing to Use the 5

R

- Rear 7

S

- Safety and Compliance 23
- Safety Precautions 18
- Setup and Configuration Steps: macOS 15
- Specifications 21
- Step-by-Step Installation 11
- System Requirements 4

T

- Threaded Nuts for ThunderLok 7
- Thunderbolt 5 Cable 9
- Thunderbolt / Computer Port 7
- Thunderbolt Connector Retainer Clip 9
- Thunderbolt Expansion System for PCIe Cards 4
- Thunderbolt Interface Card 8
- Thunderbolt Peripheral Port 7
- Tips, General Information 16

W

- Warranty and Liability 31
- Windows Compatibility 4