

HB-T-HDMI and HB-R-HDMI

HDMI to HDBaseT Mini Converter

Installation & Operation Guide

Version 1.0r1

Published: October 1, 2015



Because it matters.®

AJA
VIDEO SYSTEMS

Table of Contents

Notices	4
Trademarks	4
Copyright	4
Contacting Support	4
Chapter 1: Introduction	5
Overview	5
Features	5
Block Diagram	6
Audio	6
I/O Connections	6
Installation	7
Pairing HDMI and SDI HDBaseT Converters	8
Appendix A: Specifications	9
HB-T-HDMI & HB-R-HDMI Formats	9
Video Displays	9
VESA Displays	9
Video Input	10
HB-T-HDMI input	10
HB-R-HDMI input	10
Video Output	10
HB-T-HDMI output	10
HB-R-HDMI output	10
HDCP	10
Audio Input	10
Control Data Ports	10
RS-232 Extension	10
RS-232 Cable Option	10
DB9 Pinout	10
IR Extension Input & Output Ports	11
IR/RS-232 Cable Kit Option	11
Physical	11
Power	11
Size	11
Environment	11
Appendix B: Safety and Compliance	12
Federal Communications Commission (FCC) Compliance Notices	12
Class A Interference Statement	12
FCC Caution	12
Canadian ICES Statement	12
European Union and European Free Trade Association (EFTA)	
Regulatory Compliance	13
Declaration of Conformity	13
Recycling Notice	14
Korean KCC Compliance Statement	14
Taiwan Compliance Statement	14
Japanese Compliance Statement	15
Translated Warning and Caution Messages	15

Before Operation Please Read These Instructions 15

Warranty Information21

Limited Warranty 21

Notices

Trademarks

AJA®, Io®, Ki Pro®, KONA®, KUMO®, T-TAP®, Because it matters.® and ROI® are registered trademarks of AJA Video Systems, Inc. in the United States. AJA and Ki Pro are trademarks of AJA Video Systems, Inc. registered in other countries. AJA Control Room™, CION™, Corvid Ultra™, FiDO™, Science of the Beautiful™, TruScale™, TruZoom™, V2Analog™ and V2Digital™ are trademarks of AJA Video Systems, Inc.

AirPort, Apple, Apple logo, AppleShare, AppleTalk, FireWire, iPod, iPod touch, Mac and Macintosh are registered trademarks of Apple Inc. Final Cut Pro, QuickTime and QuickTime logo are trademarks of Apple Inc.

Avid, Avid DNxHD and Media Composer are registered trademarks of Avid Technology, Inc.

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing, LLC.

DVI is a registered trademark of DDWG.

TASCAM is a registered trademark of TEAC Corporation.

Dolby® and the double-D Dolby logo are registered trademarks of Dolby Laboratories Licensing Corporation.

All other trademarks are the property of their respective holders.

Copyright

Copyright © 2015 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 Support

When calling for support, have all information at hand prior to calling.

To contact AJA for sales or support, use any of the following methods:

Telephone: +1.530.271.3190

FAX: +1.530.271.3140

Web: <http://www.aja.com>

Support Email: support@aja.com

Sales Email: sales@aja.com

Chapter 1: Introduction



Overview

The HB-T-HDMI and HB-R-HDMI convert uncompressed HDMI Video/Audio/Control signals up to 4K/UHD for transmission/reception via HDBaseT over CAT type twisted pair cable. These units provide simple and economical video/audio transmission over distances up to 330 feet/ 100 meters. See "[Appendix A: Specifications on page 9](#)" for a complete list of supported formats, frame rates, and CAT cable requirements.

HB-T-HDMI and HB-R-HDMI support bi-directional IR and RS-232 for device control, making them ideal for applications such as:

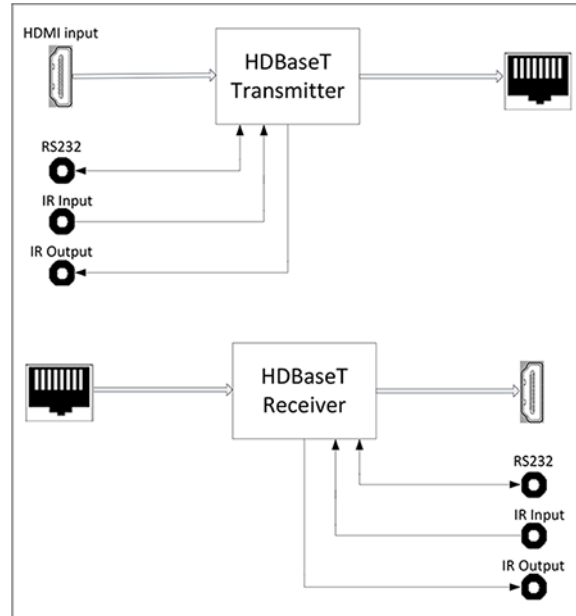
- Fixed installation AV
- Digital signage
- Live events
- Post production/network/studio environments
- On-set environments

Features

- HDBase-T Certified 4K/UHD Signal Extender
- Extend uncompressed 4K or HD HDMI signal up to 100m over Ethernet cable
- Extends bi-directional IR and RS-232 on the same Ethernet cable
- Wide support for VESA (Computer) formats and DVI compatibility (with adapter)
- Support for Deep Color, 3D, EDID, HDCP
- Support for PCM 2 CH, LPCM 5.1, LPCM 7.1
- Support for Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos, DTS Digital Surround and DTS-HD Master Audio
- 5-20VDC power supply (included)
- Optional I/R and RS232 Cable Kit
- 5-year warranty

Block Diagram

Figure 1. HB-T-HDMI & HB-R-HDMI Converter, Simplified Block Diagrams

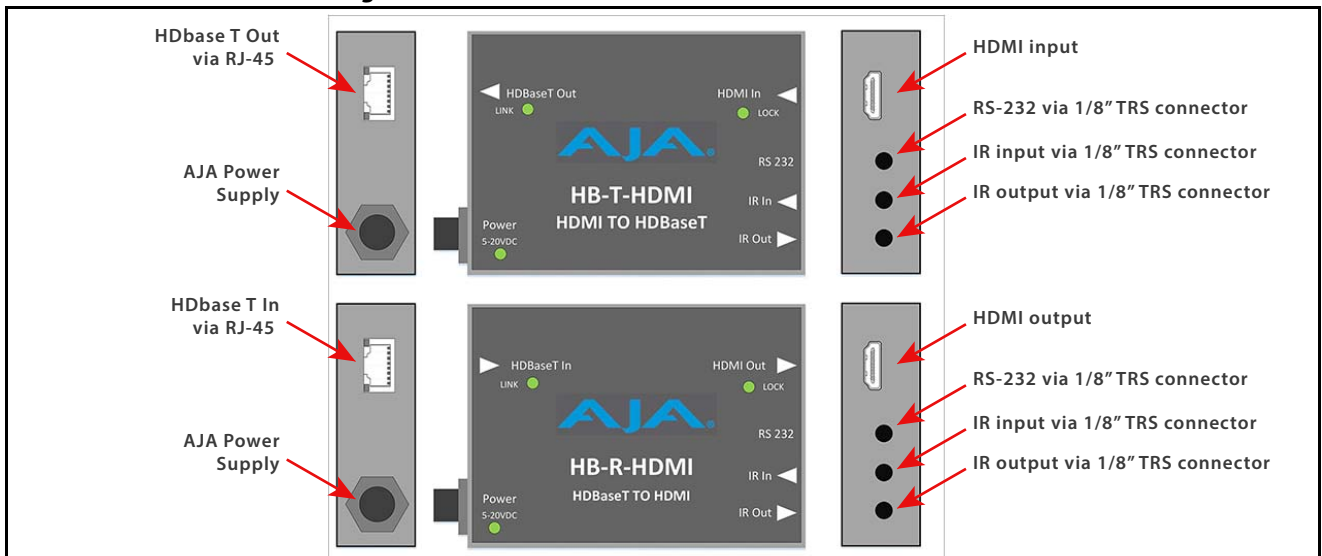


Audio

The HB-T-HDMI and HB-R-HDMI convert up to 8 embedded audio channels (4 stereo pairs) at 24-bit/48 KHz between HDMI and HDBaseT.

I/O Connections

Figure 2. HB-T-HDMI and HB-R-HDMI Converters



NOTE: The Lock LED indicates a lock to a valid video signal when it is Green.

Installation

Typically, HB-T-HDMI & HB-R-HDMI installation consists of the following steps:

1. Ensure the converters are disconnected from power
2. Connect the HDMI source signal to the HDMI input connector of the HB-T-HDMI and the transmission CAT cable to the HDBaseT output connector
3. Connect the other end of the CAT cable to the HDBaseT input connector on the HB-R-HDMI
4. Connect RS-232 and IR input/output extension cables to the 1/8" TRS connectors (optional cable kit is available from AJA)
5. Apply power to the converter (AJA power supply included).

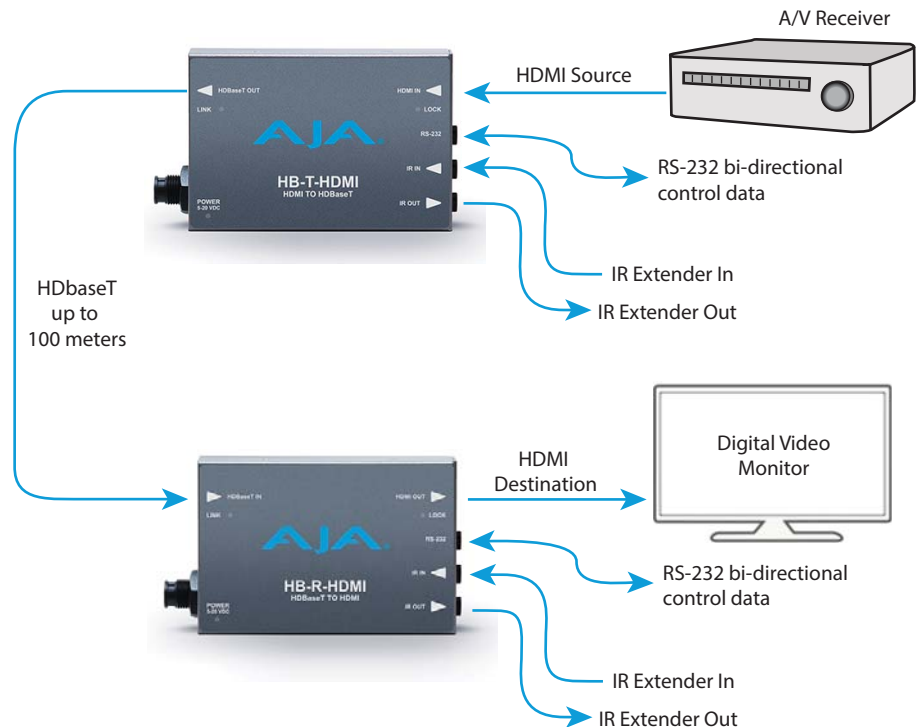
The cable types in the table below are recommended for maximum performance reach and full -capacity by the HDBaseT Alliance.

Table 1. Recommended Cables for Ultra-HD video transmission

Type	Manufacturer	URL
CAT7 S/FTP	Teldor	http://www.teldor.com/
CAT6A H/STP	Teldor	http://www.teldor.com/
CAT.7	Earthline	http://products.lappgroup.com/online-catalogue/data-communication-systems-for-ethernet-technology/

NOTE: For detailed performance specifications of cable types at supported Display Resolutions, see "[HB-T-HDMI & HB-R-HDMI Formats on page 9](#)".

Figure 3. Typical System Interconnect Diagram



Pairing HDMI and SDI HDBaseT Converters

An HB-T-HDMI model Mini-Converter can operate paired with an HB-R-SDI model Mini-Converter, and an HB-T-SDI can pair with an HB-R-HDMI, provided the input and output video formats are compatible. For example, you can transport HD video between these HDMI/SDI pairs, but you cannot transport 4K/UHD video (which SDI models do not support). 4K/UHD video can be transported between a pair of HDMI Model Mini-Converters, however. Mini-Config controls available on the SDI models can be used to match color space and other settings. The HDMI models do not support Mini-Config.

Appendix A: Specifications

HB-T-HDMI & HB-R-HDMI Formats

Video Displays

Table 2. HD/UHD/4K Video Resolutions and Performance

W x H	Frame Rate	Color Sampling	Max. Cable Length		Max. Bit Depth
			Cat 5e/6	Cat 6a/7	
1920x1080	< 30 fps	4:2:2	100 meters	100 meters	16-bit
	>30 fps	4:2:2	100 meters	100 meters	12-bit
		4:2:2	70 meters	100 meters	16-bit
2048x1080	< 30 fps	4:2:2	100 meters	100 meters	16-bit
	>30 fps	4:2:2	100 meters	100 meters	12-bit
		4:2:2	70 meters	100 meters	16-bit
3840x2160	< 30 fps	4:4:4	70 meters	100 meters	8-bit
	>30 fps	4:2:0	70 meters	100 meters	8-bit
4096x2160	< 30 fps	4:4:4	70 meters	100 meters	8-bit
	>30 fps	4:2:0	70 meters	100 meters	8-bit

VESA Displays

Table 3. VESA Display Resolutions and Performance

WxH	Frame Rate	Color Sampling	Max. Cable Length		Bits Per Pixel
			Cat 5e/6	Cat 6a/7	
640x480	to 85 fps	4:4:4	100 meters	100 meters	24-bits
800x600	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1024x768	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1152x768	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1280x768	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1280x800	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1280x1024	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1360x768	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1366x768	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1400x1050	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1440x900	to 120 fps	4:4:4	100 meters	100 meters	24-bits
1600x1200	to 75 fps	4:4:4	100 meters	100 meters	24-bits
	85 to 120 fps	4:4:4	70 meters	100 meters	24-bits
1680x1050	to 85 fps	4:4:4	100 meters	100 meters	24-bits
	120 fps	4:4:4	70 meters	100 meters	24-bits
1920x1200	to 120 fps	4:4:4	70 meters	100 meters	24-bits
1920x1440	to 60 fps	4:4:4	70 meters	100 meters	24-bits
2560x1600	to 60 fps (reduced blanking time)	4:4:4	70 meters	100 meters	24-bits

Video Input

HB-T-HDMI input • HDMI

HB-R-HDMI input • RJ45, 4K/UHD over HDBaseT

Video Output

HB-T-HDMI output • RJ45, 4K/UHD over HDBaseT

HB-R-HDMI output • HDMI

HDCP

• HDCP Compliant

Audio Input

HDMI Audio • Eight channels (4 pairs) of embedded audio supported
 • Rates supported: 32 kHz, 44.1 kHz, 48 kHz, 88.2 kHz, and 96 kHz

Control Data Ports

RS-232 Extension

• 1 x 1/8 inch TRS connector, Extends 2-way serial device control signals up to 115.2k baud

RS-232 Cable Option

The RS-232 pinout diagram provided below pertains to the AJA cable bundle provided as an optional purchase.

DB9 Pinout

This chart depicts the complete RS-232 pinout specification. As noted, only three connections are commonly used today and are supported in the AJA cable option..

DTE Device (Computer)				DB9	DCE Device (Modem)				DB9	
Pin #	DB9	RS-232 Signal Names		Signal Direction	Pin #	DB9	RS-232 Signal Names			
#1	Carrier Detector (DCD)		CD	←	#1	Carrier Detector (DCD)		CD		
#2	Receive Data (Rx)	*	RD	←	#2	Receive Data (Rx)	*	RD		
#3	Transmit Data (Tx)	*	TD	→	#3	Transmit Data (Tx)	*	TD		
#4	Data Terminal Ready		DTR	→	#4	Data Terminal Ready		DTR		
#5	Signal Ground/Common (SG)	*	GND	—	#5	Signal Ground/Common (SG)	*	GND		
#6	Data Set Ready		DSR	←	#6	Data Set Ready		DSR		
#7	Request to Send		RTS	→	#7	Request to Send		RTS		
#8	Clear to Send		CTS	←	#8	Clear to Send		CTS		
#9	Ring Indicator		RI	←	#9	Ring Indicator		RI		
Soldered to DB9 Metal - Shield				F GND	—	Soldered to DB9 Metal - Shield				F GND

* As is common current practice, only these pins and functions are supported.

IR Extension Input & Output Ports

- 1 x 1/8 inch TRS connector, transmit port
- 1 x 1/8 inch TRS connector, receive port

IR/RS-232 Cable Kit Option

Order HB-CABLE-KIT option including:

- 2 x IR 1/8 inch TRS Cable – 1.5 meters
- 2 x RS-232 Cable – .35 meters (for both male and female DB9 connections)

Physical

Power

- +5 to 20V DC regulated, 6 watts max
- AJA external power supply model DWP-U-R1 (included):
 - 100-240V, 50/60Hz universal input

Size

- 4.6" x 2.4" x 1" (109 mm x 78mm x 25mm.)

Environment

Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)

Operating Relative Humidity: 10-90% non-condensing

Operating Altitude: <3,000 meters (<10,000 feet)

Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)

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 and European Free Trade Association (EFTA) Regulatory Compliance

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

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

Declaration of Conformity

Marking by this symbol indicates compliance with the Essential Requirements of the EMC Directive of the European Union 2004/108/EC.



This equipment meets the following conformance standards:

Safety: CB-IEC 60065: 2001 +A1:2005 +A2:2010

NRTL - UL 60065:2003 R9.12, CAN/CSA-C22.2 No. 60065-03 +A1:06 (R2012) +A2:12

GS-EN 60065: 2002 +A1:2006 +A11:2008 +A2:2010 +A12:2011

Additional licenses issued for specific countries available on request.

Emissions: EN 55032: 2012, CISPR 22: 2008

EN 61000-3-2:2006 +A1:2009 +A2:2009, EN 61000-3-3:2008

Immunity: EN 55103-2: 2009,

EN 61000-4-2:2009, EN 61000-4-3:2006 +A1:2008 +A2:2010,

EN 61000-4-4:2004 +A1:2010, EN 61000-4-5: 2005, EN 61000-4-6:2009

EN 61000-4-8:2010, EN 61000-4-11:2004

The product is also licensed for additional country specific standards as required for the International Marketplace.




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

	<p>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.</p>
---	---


Korean KCC Compliance Statement

<p>A급 기기 (업무용 방송통신기자재)</p> <p>Class A (Broadcasting Communication Equipment for Office Use)</p>	<p>이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.</p> <p>As an electromagnetic wave equipment for office use (Class A), this equipment is intended to use in other than home area. Sellers or users need to take note of this.</p>
---	---

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.

	<p>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.</p>
---	---

Japanese Compliance Statement

1. Class A ITE

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 V-3/2008.04). 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



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 éclairso 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!**

Do not open the chassis. There are no user-serviceable parts inside. Opening the chassis will void the warranty unless performed by an AJA service center or licensed facility.

Avertissement! Ne pas ouvrir le châssis. Aucun élément à l'intérieur du châssis ne peut être réparé par l'utilisateur. La garantie sera annulée si le châssis est ouvert par toute autre personne qu'un technicien d'un centre de service ou d'un établissement agréé AJA.

Warnung! Öffnen Sie das Gehäuse nicht. Keine der Geräteteile können vom Benutzer gewartet werden. Durch das Öffnen des Gehäuses wird die Garantie hinfällig, es sei denn, solche Wartungsarbeiten werden in einem AJA-Service-Center oder einem lizenzierten Betrieb vorgenommen.

¡Advertencia! No abra el chasis. El interior no contiene piezas reparables por el usuario. El abrir el chasis anulará la garantía a menos que se lo haga en un centro de servicio AJA o en un local autorizado.

Advertência! Não abra o chassi. Não há internamente nenhuma peça que permita manutenção pelo usuário. Abrir o chassi anula a garantia, a menos que a abertura seja realizada por uma central de serviços da AJA ou por um local autorizado.

Avvertenza! Non aprire lo chassis. All'interno non ci sono parti riparabili dall'utente. L'apertura dello chassis invaliderà la garanzia se non viene effettuata da un centro ufficiale o autorizzato AJA.

**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!**

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 ! Référéz-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.

Warranty 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 five 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.