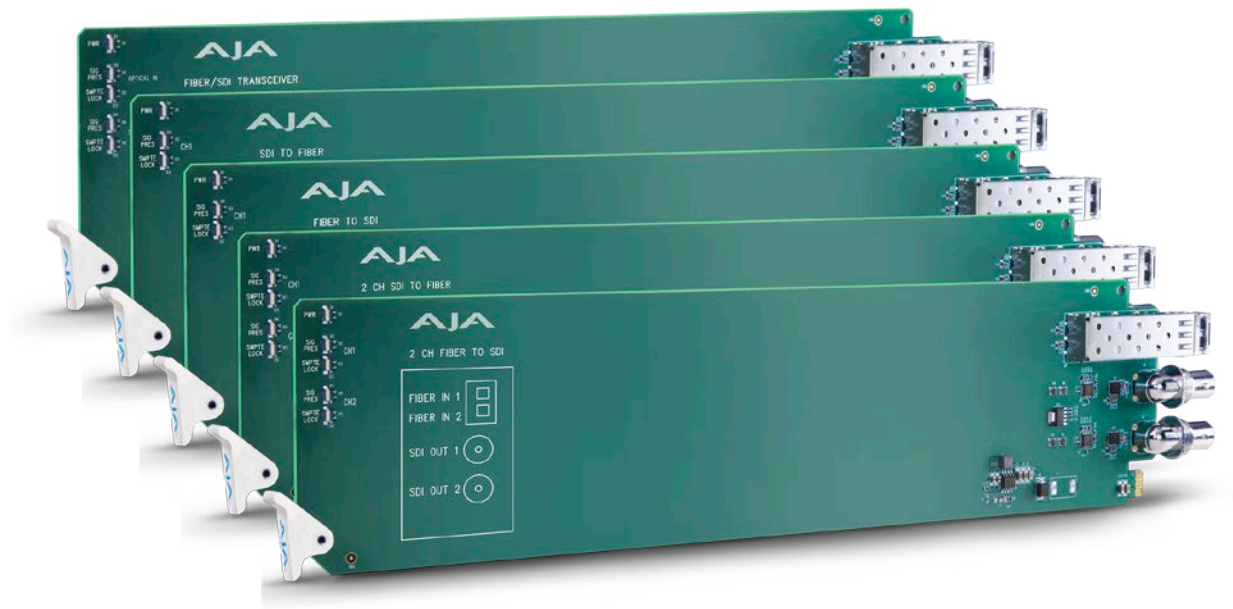


OG-Fiber-Series

openGear Card



Installation and Operation Guide

Version 1.0
Published September 15, 2017



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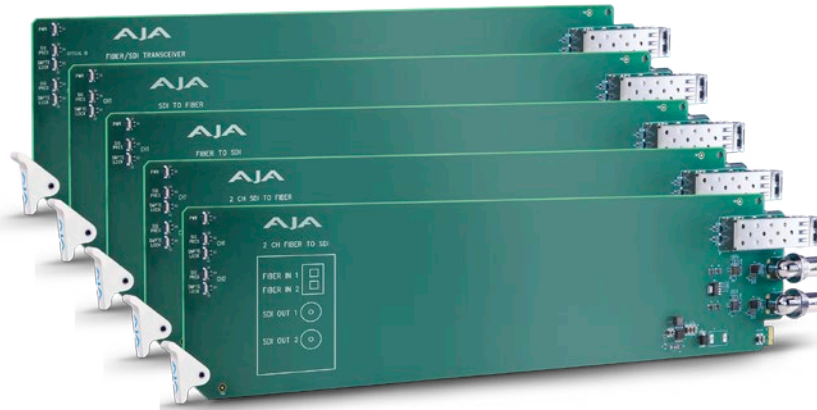
When calling for support, have all information at hand prior to calling. To contact AJA for sales or support, use any of the following methods:

Telephone	+1.530.271.3190
FAX	+1.530.271.3140
Web	https://www.aja.com
Support Email	support@aja.com
Sales Email	sales@aja.com

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Chapter 1 – OG-FIBER-Series



Card Overview

The OG-FIBER-Series cards are state-of-the-art, openGear-compatible, 3G-SDI to/from Fiber converter cards, enabling SDI signals to be extended up to 10km over standard Single-Mode fiber optic cable or 700 m (2296 ft) for OM4 and 300 m (984 ft) for OM3 for Multi-Mode fiber optic cable.

Ten AJA cards are available:

- OG-FIBER TR, 1-Channel 3G-SDI/LC Single-Mode LC Fiber Transceiver
- OG-FIBER-T, 1-Channel 3G-SDI to Single-Mode LC Fiber Transmitter
- OG-FIBER-R, 1-Channel Single-Mode LC Fiber to 3G-SDI Receiver
- OG-FIBER-2T, 2-Channel 3G-SDI to Single-Mode LC Fiber Transmitter
- OG-FIBER-2R, 2-Channel Single-Mode LC Fiber to 3G-SDI Receiver
- OG-FIBER-TR-MM, 1-Channel 3G-SDI/LC Multi-Mode LC Fiber Transceiver
- OG-FIBER-T-MM, 1-Channel 3G-SDI to Multi-Mode LC Fiber Transmitter
- OG-FIBER-R-MM, 1-Channel Multi-Mode LC Fiber to 3G-SDI Receiver
- OG-FIBER-2T-MM, 2-Channel 3G-SDI to Multi-Mode LC Fiber Transmitter
- OG-FIBER-2R-MM, 2-Channel Multi-Mode LC Fiber to 3G-SDI Receiver

The inputs are re-clocked with best-in-class input jitter tolerance. The two channel cards have completely independent paths, allowing different SDI rates to be carried on each channel.

The fiber connector is attached to the main card for added reliability and cost savings.

NOTE: In order to allow direct fiber connection to the card, and avoid problematic optical couplers, AJA Fiber openGear cards have the rear connectors attached to the front card. This means that the card cannot be removed from the frame with the SFP module, cables, and/or BNC retaining nuts installed.

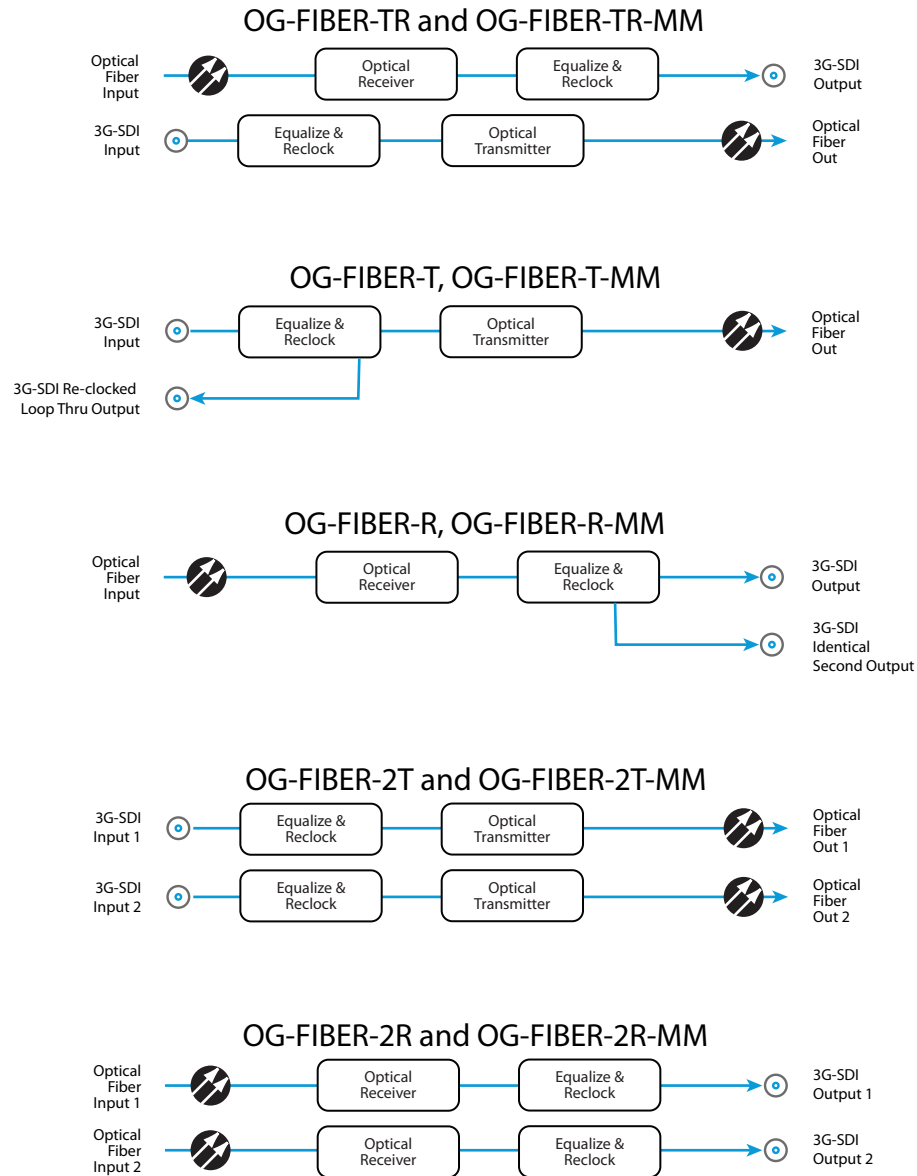
Features

- Automatic detection and re-clocking of 270Mb, 1.5Gb, and 3Gb SDI data rates
- LC Fiber connectors
- Input Present and Input SMPTE Lock LEDs
- Hot-swap capable

- All SDI or fiber inputs are re-clocked, and SDI inputs are also equalized.
- ASI compatible
- Compatible with DFR-8321 and OG3 openGear frames
- Five-year international warranty with unlimited technical support

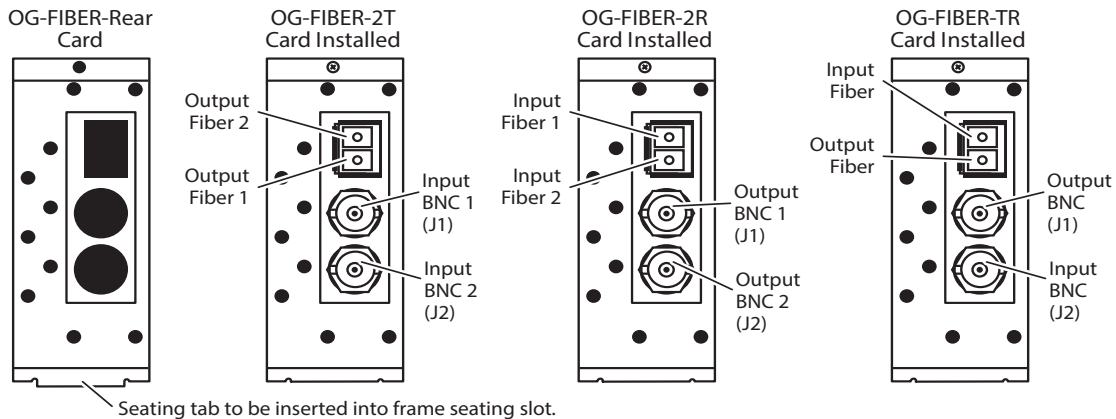
NOTE: OG-FIBER-Series cards do not communicate with the DashBoard Control System.

Block Diagram



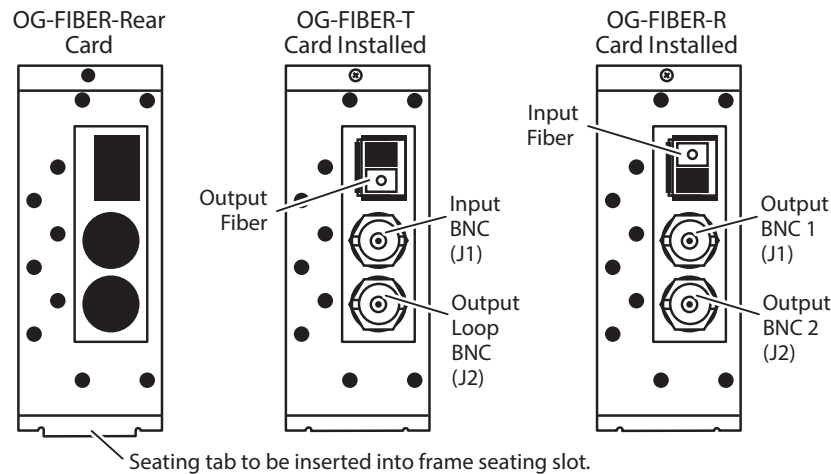
Connectors

Figure 1. Rear View of Empty Rear Card and Installed Dual Channel Fiber Cards



NOTE: On the OG-Fiber-2T card, Output Fiber 2 is located above Output Fiber 1.

Figure 2. Rear View of Empty Rear Card and Installed Single Channel Fiber Cards



Indicators

LEDs on the front (near door) of each card indicate, from top to bottom:

2T and 2R Cards

- DC power detected (green)
- Input 1 signal present (green)
- Input 1 SMPTE locked (green)
- Input 2 signal present (green)
- Input 2 SMPTE locked (green)

TR Cards

- DC power detected (green)
- Optical input signal present (green)
- Optical input SMPTE locked (green)
- SDI input signal present (green)

- SDI input SMPTE locked (green)

Single Channel Cards

- DC power detected (green)
- Signal present (green)
- SMPTE locked (green)

openGear and AJA

openGear is an open-architecture, modular frame system designed by Ross Video and supported by a diverse range of terminal equipment manufacturers, including AJA. Ross Video manufactures the frames, power supplies and network cards for openGear.

AJA Video is a leading manufacturer of video interface technologies, converters, digital video recording solutions and professional cameras, bringing high-quality, cost-effective products to the professional, broadcast and post-production markets. AJA products, including openGear cards, are designed and manufactured at our facilities in Grass Valley, California.

Parts Supplied

Each OG-FIBER card is shipped with:

- OG-FIBER card in an ESD bag
- Fiber Rear Card
- SFP module in ESD bag
- BNC nuts and star washers

Installation



Warning! Active fiber-optic cables emit radiation invisible to the human eye. Do not look directly at the end of an active fiber-optic cable or the fiber connector on an OG-FIBER-2T, OG-FIBER-2T-MM, OG-FIBER-TR, OG-FIBER-TR-MM, OG-FIBER-T, OG-FIBER-T-MM; these models are Class 1 Laser Products.

Summary

Installing an OG-FIBER card into a DFR-8321 or OG3 openGear frame consists of the following steps:

1. Install a Rear Fiber Card into the frame.
2. Ensure the SFP module is removed from the Front Fiber Card.
3. Insert the Front Fiber card in the left (odd numbered) slot of the pair.
4. Install BNC connector retaining nuts and washers.
5. Insert the SFP module into the card from the rear of the frame.
6. Connect the BNC and Fiber cabling.



ESD Susceptibility - Static discharge can cause serious damage to sensitive semiconductor devices. Avoid handling circuit boards in high static environments such as carpeted areas, and when wearing synthetic fiber clothing. Always exercise proper grounding precautions when working on circuit boards and related equipment.

Unpacking

Unpack each openGear product you received from the shipping container and ensure that all items are included. If any items are missing or damaged, contact your sales representative or AJA directly.

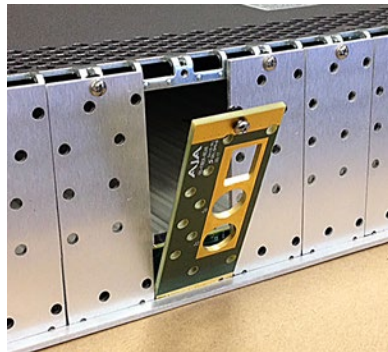
Rear Fiber Card Installation

1. Power down the openGear frame.
2. Ensure that the frame is properly installed.
3. Locate the card frame slot on the rear of the openGear frame into which you wish to install the openGear card.

NOTE: An OG-FIBER card occupies two slots in the frame.

4. Using a Phillips screwdriver, unscrew the top screw from the desired blank rear plate and remove the rear plate.
5. Seat the bottom of the Rear Card in the seating slot at the base of the frame back plane ([Figure 3](#)).

Figure 3. Rear Card Inserted Into Frame Seating Slot



6. Align the top screw of the Rear Card with the screw hole on the top edge of the frame back plane.
7. Ensure the Rear Card aligns with the desired card slot before tightening the screw.
8. Using a Phillips screwdriver, fasten the Rear Card to the frame back plane. Do not over tighten.
9. Ensure proper frame cooling and ventilation by having all rear frame slots covered with rear modules or blank metal plates if plates are not pre-installed.

Front Fiber Card Installation



Caution! The SFP module must be removed from an OG-FIBER card before inserting the card into or removing the card from an openGear frame.

1. If necessary, remove the SFP module from the Front Card by lifting the lever and pulling out the module.

2. If nuts and washers are pre-installed on the BNC connectors, they must be removed before inserting the card in the frame.
3. Open the openGear frame door as follows:
 - A. Gently pull the side door tabs towards the center of the door, releasing the door from the frame.
 - B. Using both hands, pull the door towards you. The door extender arms prevent the door from falling.
4. Locate the Rear Card you installed as described above. The interior slot number is dependent on the slot combinations into which you installed the Rear Card. This allows adequate spacing to avoid damaging the card, the cards installed in the neighboring slots, or both.
5. Hold the card by the edges and carefully align the card edges with the rails inside the frame. The slots are numbered starting from the left-most slot when facing the frame front.

NOTE: OG-FIBER cards are installed into the left (odd numbered) slot of the pair.

6. Fully insert the card into the frame until the card is properly seated in the Rear Card. ([Figure 4](#)).

Figure 4. OG-FIBER Card Inserted Into Left Slot



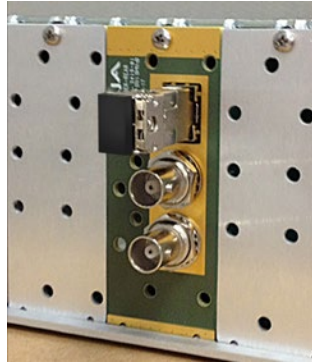
7. Secure the card in the frame by the BNC connectors using the star washers and nuts provided ([Figure 5](#)).

Figure 5. BNC Star Washer and Nut Installation



8. Insert the SFP fiber module into the socket until it clicks and locks. The lever handle is on the left ([Figure 6](#)).

Figure 6. Fiber SFP Installation



NOTE: The SFP module must match the card's capabilities for proper operation. Input and output triangles next to the fiber ports identify which are inputs and which are outputs.

Figure 7. An SFP Module



9. Close the frame door as follows:
 - A. Slide the door into the frame.
 - B. Pull and release the door tabs to ensure the frame door is securely locked to the frame.

Cabling

Refer to [Figure 1 on page 6](#) and [Figure 2 on page 6](#) to identify the input and output signal connectors.

NOTE: Keep the protective rubber plug in the SFP module until the fiber cabling is actually connected to the module.

Appendix A – Specifications

OG-FIBER-TR

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 1-Channel independent 3G-SDI, SMPTE-259/292/424
- 1-Channel Single Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 1310 nm
- Optical Sensitivity: -18dBm (min)
- Optical Power: -5dBm (min), 0dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Video Output Digital

- 1-Channel independent 3G-SDI, SMPTE-259/292/424
- 1-Channel Single Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 1310 nm
- Optical Sensitivity: -18dBm (min)
- Optical Power: -5dBm (min), 0dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-T

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 1-Channel independent 3G-SDI with SDI Loop out, SMPTE-259/292/424

Video Output Digital

- 1-Channel independent 3G-SDI Loop out, SMPTE-259/292/424
- 1-Channel Single Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 1310 nm
- Optical Power: -5dBm (min), 0dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-R

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 1-Channel Single Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 1260 - 1620 nm
- Optical Sensitivity: -18dBm (min)

Video Output Digital

- 1-Channel Dual matching 3G-SDI Outputs, SMPTE-259/292/424

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-2T

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 2-Channel independent 3G-SDI Inputs, SMPTE-259/292/424

Video Output Digital

- 2-Channel independent Single Mode LC Fiber Outputs, SMPTE-297
- Nominal Wavelength: 1310 nm
- Optical Power: -5dBm (min), 0dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-2R

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 2-Channel independent Single Mode LC Fiber Outputs, SMPTE-297
- Nominal Wavelength: 1260 - 1620 nm
- Optical Sensitivity: -18dBm (min)

Video Output Digital

- 2-Channel independent 3G-SDI Outputs, SMPTE-259/292/424

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-TR-MM

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 1-Channel independent 3G-SDI, SMPTE-259/292/424
- 1-Channel Multi-Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 850 nm
- Optical Sensitivity: -15dBm (min)
- Optical Power: -7dBm (min), -2dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Video Output Digital

- 1-Channel independent 3G-SDI, SMPTE-259/292/424
- 1-Channel Multi-Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 850 nm
- Optical Sensitivity: -15dBm (min)
- Optical Power: -7dBm (min), -2dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-T-MM

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 1-Channel independent 3G-SDI, SMPTE-259/292/424

Video Output Digital

- 1-Channel independent 3G-SDI Loop out, SMPTE-259/292/424
- 1-Channel Multi-Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 850 nm
- Optical Power: -7dBm (min), -2dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-R-MM

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 1-Channel independent 3G-SDI, SMPTE-259/292/424
- 1-Channel Multi-Mode LC Fiber connector, SMPTE-297
- Nominal Wavelength: 850 nm
- Optical Sensitivity: -15dBm (min)

Video Output Digital

- 1-Channel Dual matching 3G-SDI Outputs, SMPTE-259/292/424

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-2T-MM

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 2-Channel independent 3G-SDI Inputs, SMPTE-259/292/424

Video Output Digital

- 2-Channel independent Multi-Mode LC Fiber Outputs, SMPTE-297
- Nominal Wavelength: 850 nm
- Optical Power: -7dBm (min), -2dBm (max)
- Extinction Ratio: 7.5dB (Typ)

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

OG-FIBER-2R-MM

Video Formats

- 100 Mbps - 3 Gbps, format agnostic

Video Input Digital

- 2-Channel independent Multi-Mode LC Fiber Outputs, SMPTE-297
- Nominal Wavelength: 850 nm
- Optical Sensitivity: -15dBm (min)

Video Output Digital

- 2-Channel independent 3G-SDI Outputs, SMPTE-259/292/424

Reclocking

- 270 Mbps, 1.483 Gbps, 1.485 Gbps, 2.966 Gbps, 2.970 Gbps - Auto Select
- All other rates are passed through and not reclocked

Size (w x d x h)

- openGear standard form factor, front slot and rear card
- Two slots required for each card

Power

- openGear frame compatible, 2.5 watts max per card

Environment

- Safe Operating Temperature: 0 to 40 degrees C (32 to 104 degrees F)
- Safe Storage Temperature (Power OFF): -40 to 60 degrees C (-40 to 140 degrees F)
- Operating Relative Humidity: 10-90% noncondensing
- Operating Altitude: <3,000 meters (<10,000 feet)

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, LICHTEINSTEIN, 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:

EN 60065: 2014 (T-Mark License),

IEC 60065: 2014 (CB Scheme Report/Certificate)

Additional licenses issued for specific countries available on request.

Emissions

EN 55032: 2012, CISPR 32: 2015,

EN 61000-3-2: 2014, EN 61000-3-3: 2013

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 61000-4-5:2006, EN 61000-4-6:2009,

EN 61000-4-11:2004

Environments: E2, E3 and E4

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

Laser

EN 60825-1: 2007 and EN 60825-2: 2004 +A2: 2010,

CDRH Compliant Class 1 (TUV Cert No. 50135086)

Also Licensed for Standards: FDA 21 CFR 1040.10 and 1040.11



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

A급 기기 (업무용 방송통신기자재)	이 기기는 업무용(A급) 전자파적합기기로서 판매자 또는 사용자는 이 점을 주의하시기 바라며, 가정외의 지역에서 사용하는 것을 목적으로 합니다.
Class A (Broadcasting Communication Equipment for Office Use)	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.

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.

Japanese 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.

Chinese Compliance Statement

This product has been tested to the following Chinese standards:

GB13837-2012, GB8898-2011, and GB17625.1-2012

This product meets the requirements of implementation rules for compulsory certification (REF NO. CNCA-01C-17:2014) under certificate number 2016010805841604.

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 éclairsou 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! 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! 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.



Warning! Active fiber-optic cables emit radiation invisible to the human eye. Do not look directly at the end of an active fiber-optic cable or the fiber connector on an OG-FIBER-2T, OG-FIBER-TR, OG-FIBER-T, OG-FIBER-2T-MM, OG-FIBER-TR-MM, OG-FIBER-T-MM; these models are Class 1 Laser Products.

Avertissement! Les câbles fibre optique émettent des radiations invisibles à l'oeil humain. Ne regardez pas directement l'extrémité d'un câble fibre optique ou d'un connecteur de fibre d'un OG-FIBER-2T, OG-FIBER-TR, OG-FIBER-T, OG-FIBER-2T-MM, OG-FIBER-TR-MM, OG-FIBER-T-MM; ces modèles sont des produits laser de Classe 1.

Warnung! Glasfaserkabel emittieren im Betrieb Strahlung, die für das menschliche Auge unsichtbar ist. Nicht direkt in das Ende eines im Betrieb befindlichen Glasfaserkabels bzw. den Glasfaserkabelanschluss am OG-FIBER-2T, OG-FIBER-TR, OG-FIBER-T, OG-FIBER-2T-MM, OG-FIBER-TR-MM, OG-FIBER-T-MM schauen; diese Modelle sind Lasergeräte der Klasse 1.

¡Advertencia! Los cables de fibra óptica activos emiten radiación invisible al ojo humano. No mire directamente hacia el extremo de un cable de fibra óptica activo o hacia el conector de fibra óptica del OG-FIBER-2T, OG-FIBER-TR, OG-FIBER-T, OG-FIBER-2T-MM, OG-FIBER-TR-MM, OG-FIBER-T-MM; estos modelos están clasificados como Productos Láser Clase 1.

Advertência! Os cabos de fibra óptica emitem radiação invisível para o olho humano. Não olhe diretamente para a extremidade de um cabo de fibra óptica ativo ou para o conector da fibra em um OG-FIBER-2T, OG-FIBER-TR, OG-FIBER-T, OG-FIBER-2T-MM, OG-FIBER-TR-MM, OG-FIBER-T-MM; esses modelos são Produtos de Laser Classe 1.

Avvertenza! I cavi a fibre ottiche emettono radiazioni invisibili all'occhio umano. Non guardare direttamente l'estremità di un cavo in fibra ottica attivo o il connettore in fibra su un OG-FIBER-2T, OG-FIBER-TR, OG-FIBER-T, OG-FIBER-2T-MM, OG-FIBER-TR-MM, OG-FIBER-T-MM; questi modelli sono prodotti laser di classe 1.

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.

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