

# FiDO Series

**SDI/Optical Fiber Mini Converters**

**FiDO-R**

**FiDO-2R**

**FiDO-T**

**FiDO-2T**

**FiDO-TR**

Published: 4/27/2010

## Installation and Operation Guide

Because it matters.

**AJA**<sup>®</sup>  
VIDEO SYSTEMS

## Trademarks

---

AJA®, KONA®, Ki Pro®, and XENA® are registered trademarks of AJA Video, Inc. FiDO™, Io HD™ and Io™ are trademarks of AJA Video, 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. All other trademarks are the property of their respective holders.

## Notice

---

Copyright © 2010 AJA Video, 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 Inc.

## FCC Emission Information

---

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. Changes or modifications not expressly approved by AJA Video can effect emission compliance and could void the user's authority to operate this equipment.

## Contacting Support

---

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

180 Litton Drive, Grass Valley, CA. 95945 USA

Telephone: 800.251.4224 or 530.274.2048

Fax: 530.274.9442

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

Support Email: [support@aja.com](mailto:support@aja.com)

Sales Email: [sales@aja.com](mailto:sales@aja.com)

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

## Limited Warranty

---

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.

## Introduction

---

FiDO is a family of SDI/Optical Fiber converters. FiDO allows the transport of SDI, HD-SDI, and 3G SDI over distances up to 10km using standard single-mode fiber optic cable with LC connectors. FiDO converters meet all relevant SMPTE specifications and are rugged, versatile, and suitable for indoor or outdoor use.

With 5 models, FiDO offers unmatched flexibility and cost efficiency. FiDO dual channel models allow the conversion of 2 channels – perfect for 3D, dual-link SDI, or 2 completely independent SDI channels (for example, SD, HD, and 3G can be mixed in any combination). Also, FiDO converters offer electrical isolation useful for eliminating ground loop problems.

FiDO converters come in a compact, low-profile enclosure for use in tight spaces around and behind equipment racks, trucks and crowded facilities.

## Features

---

- Transport of SDI, HD-SDI, and 3G HD-SDI over single mode optical fiber
- Auto-detection of video format
- LC fiber connectors
- Simplex or duplex models available
- All inputs, either SDI or fiber, are equalized and re-clocked
- ASI compatible
- Useful for eliminating ground loop problems
- 5-20VDC power supply (supply sold separately)
- 5 year warranty

## FiDO models

---

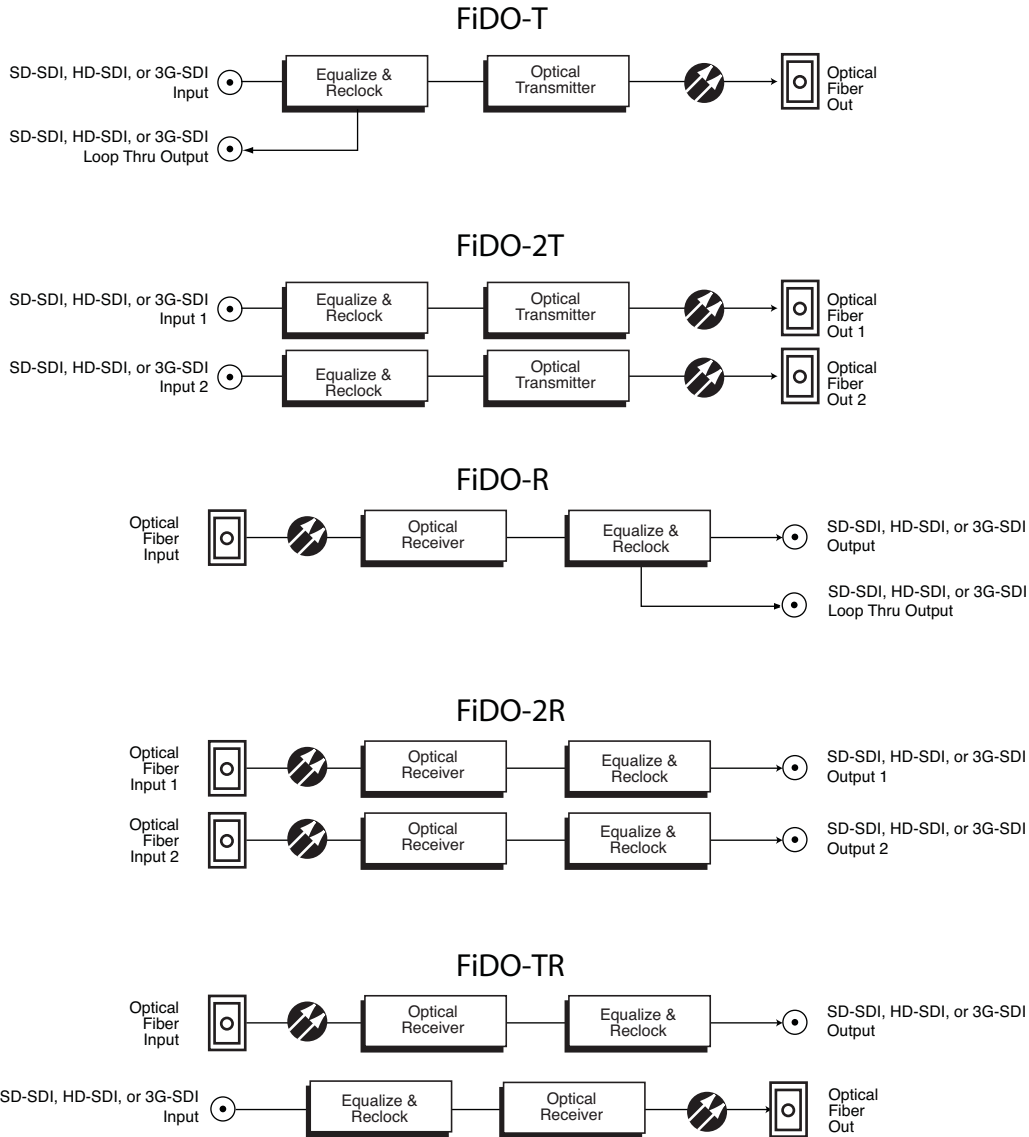
- FiDO-R: Single channel Fiber to SDI converter with dual SDI outputs
- FiDO-2R: Dual channel Fiber to SDI converter
- FiDO-T: Single channel SDI to Fiber converter with looping SDI output
- FiDO-2T: Dual channel SDI to Fiber converter
- FiDO-TR: SDI/Fiber transceiver

## Accessories

---

- DWP: Universal power supply (North American connector)
- DWP-U: Universal power supply (International power cord socket, IEC-320)
- Rack mount bracket
- 4 pin XLR power cable

## Block Diagrams



***FiDO Converters, Simplified Block Diagram***

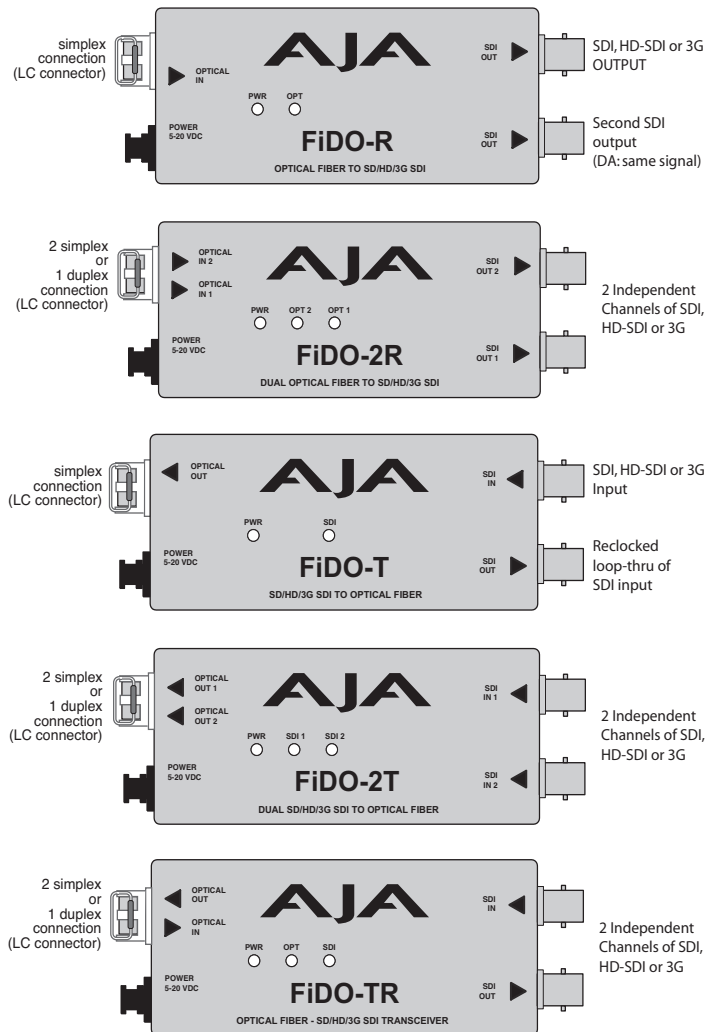
## I/O Connections

### LED Legend (when lit)

PWR: Power ON

OPT <n>: Optical input detected and locked

SDI <n>: SDI input detected and locked



### FiDO Converter Inputs/Outputs

#### Notes:

1. FiDO requires the use of "single mode, 1310nm compatible" fiber optic cable.
2. The "lock" indicator for optical receivers (R, 2R, and TR) may flicker or glow dim with the optical input disconnected.

## Installation

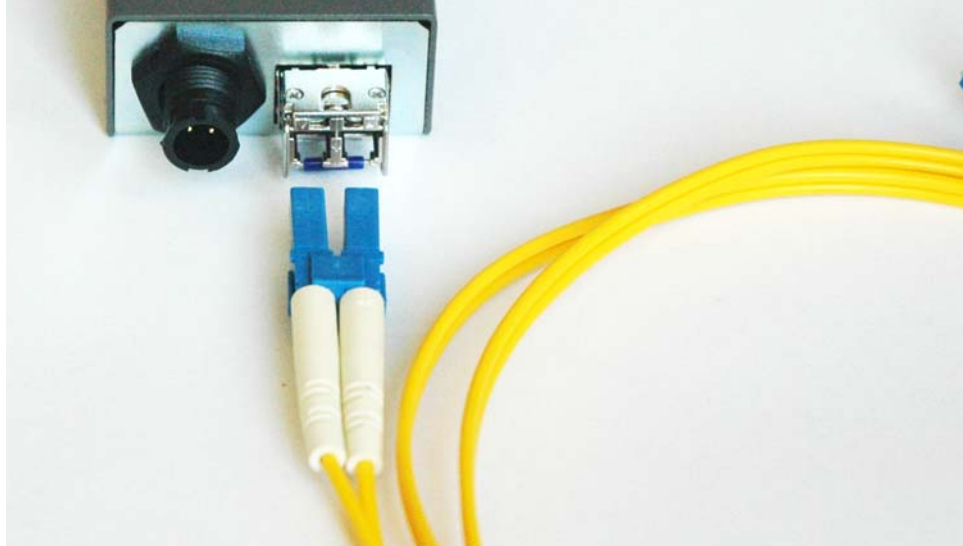
Typically, installation consists of the following steps:

1. Connect video equipment to the FiDO converter Optical LC fiber connector and BNCs. On dual units, or the transceiver, either two "Simplex" (single) LC cables can be used, or a single "Duplex" LC cable.
2. Apply +5 to 20VDC power to the converter (AJA power supply model DWP or DWP-U recommended).

No configuration or settings are required. Once powered, the FiDO converters will begin converting applied fiber/SDI signals.


**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 a FiDO-TR, FiDO-T, or FiDO-2T; these three models are Class 1 Laser Products.



Shown above: FiDO to Duplex LC connection. Insert cable connector until it latches.

FiDO-TR, FiDO-2T, and FiDO-2R all require either a duplex cable or two simplex cables. FiDO-T and FiDO-R only require a single simplex cable connected to the optical port on the converter pointed to by the arrow (Optical In on FiDO-R or Optical Out on FiDO-T). FiDO requires "single mode, 1310nm compatible" fiber optic cable.

## Specifications

Item	Specification
Formats	3Gb, 1.5Gb, 270Mb, Auto Select
Video Inputs/Outputs	SDI (SMPTE 259/292/296/424), 2x BNC 1 x Single mode optical fiber, LC connector (FiDO-R, FiDO-T) 2x Single mode optical fiber, LC connectors (FiDO-2R, FiDO-2T, FiDO-TR)
Cable Equalization (BNC inputs, 1694 coax)	270mb, 400m 1.5Gb, 200m 3Gb, 140m
Input/Output Return Loss (BNC)	>15db, 270Mb - 3Gb
Optical Outputs	Wavelength: 1310 nm Output Power: -2dBm typical
Size	4.6" x 1.71" x.85" (117 x 43.5 x 21.6mm)
Power	+5-20 VDC 1.5 watts (FiDO-T, FiDO-R) 2.5 watts (FiDO-2R, FiDO-2T, FiDO-TR) Requires Power Supply (AJA power supply model DWP or DWP-U recommended)