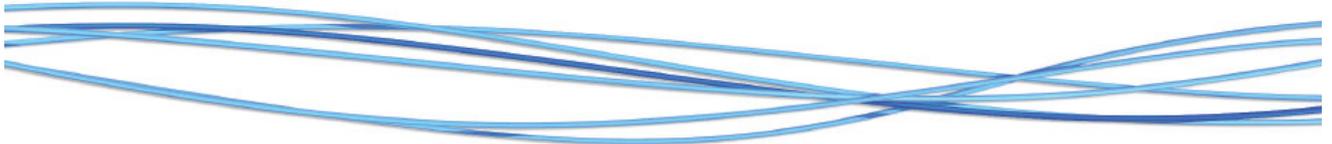


# VDA Series DVI Splitters

Single-Link and Dual-Link Video  
Distribution Amplifiers/DVI Splitters



## PRODUCT MANUAL



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***thinklogical***®

*Trust Our Proven Ingenuity*



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**Subject:** VDA Series DVI Splitters  
**Revision:** Rev C, May, 2014



VDA Series  
DVI Splitters



**thinklogical**<sup>®</sup>



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**Thinklogical Innovation Leads the Way.**  
 Performance • Security • Continuous Operation • Ease of Integration

[www.thinklogical.com](http://www.thinklogical.com)

# 1. Introduction

## *About Thinklogical*



Thinklogical is the leading manufacturer and provider of fiber optic KVM, video, audio, and peripheral extension and switching solutions used in video-rich, big-data computing environments.

Thinklogical offers the only fiber optic KVM matrix switches and routers in the world that are accredited to The Common Criteria, EAL4 and TEMPEST.

Governments, entertainment, scientific and industrial customers worldwide rely on Thinklogical's products and solutions for security, high performance, continuous operation and ease of integration. Thinklogical products are designed and manufactured in the USA and are certified to the ISO 9001-2008 standard.



Thinklogical is headquartered in Milford, Connecticut and is privately held by Riverside Partners, LLC, Boston, MA (<http://www.riversidepartners.com>). For more information about Thinklogical products and services, please visit [www.thinklogical.com](http://www.thinklogical.com).

Follow Thinklogical on LinkedIn at <http://www.linkedin.com/company/thinklogical> and on Facebook at <http://www.facebook.com/ThinklogicalUSA>



## 1.1.Contents

When you receive your Thinklogical® **VDA Series DVI Splitter**, depending on your order, you should find the following items:

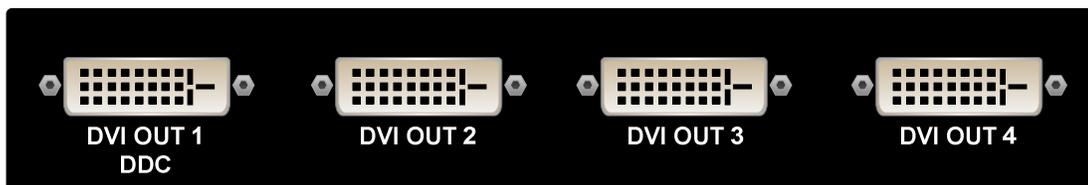
### VDA-000001

- 1 Single-Link DVI In to 2 Single-Link DVI Out (VDA-000001)
- DVI-D (M) TO DVI-D (M), 2M Cable (CBL000009-002MR) Qty 1
- +5VDC Power Supply (PWR-000022-R)



### VDA-000002

- 1 Single-Link DVI In to 4 Single-Link DVI Out (VDA-000002)
- DVI-D (M) TO DVI-D (M), 2M Cable (CBL000009-002MR) Qty 1
- +5VDC Power Supply (PWR-000022-R)



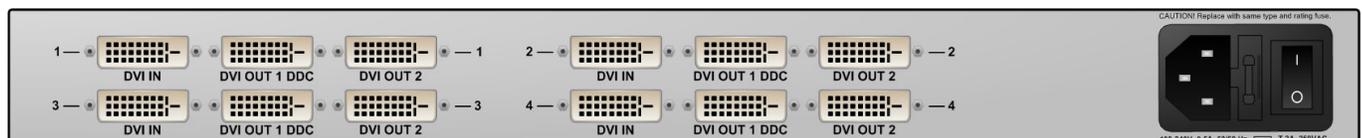
### VDA-000003

- 1 Dual-Link DVI In to 2 Dual-Link DVI Out (VDA-000003)
- DVI-D DUAL LINK, 2M Cable (CBL000023-002MR) Qty 1
- +5VDC Power Supply (PWR-000022-R)



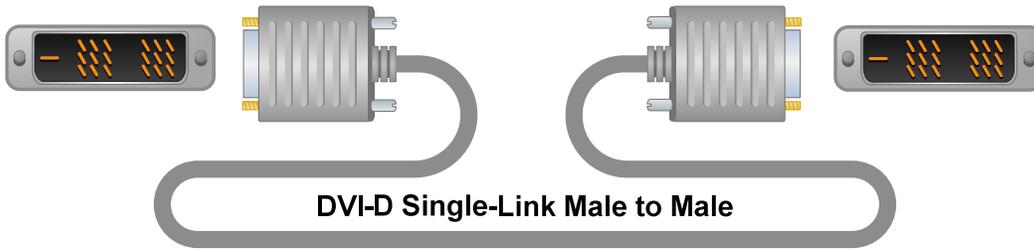
### VDA-000005

- 4 DVI Splitters: 1 Single-Link DVI In to 2 Single-Link DVI Out (VDA-000005)
- DVI-D (M) TO DVI-D (M), 2M Cable (CBL000009-002MR) Qty 4
- AC Line Cord (PWR-000006-R)

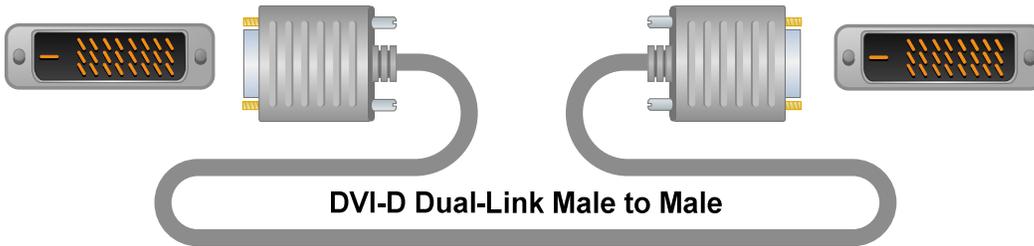


**Cords & Cables Supplied as Required:**

**DVI (CBL000009-002MR)**



**DVI (CBL000023-002MR)**

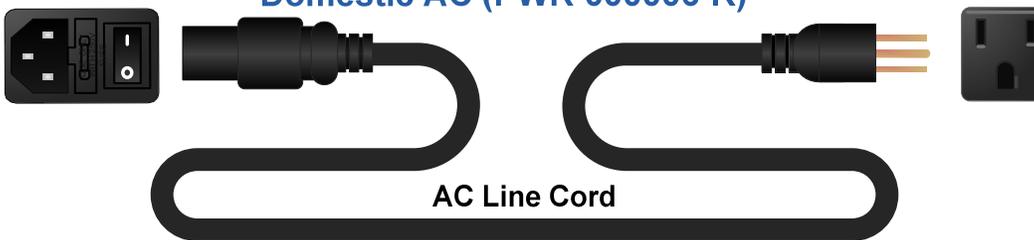


**+5VDC (PWR-000022-R)**



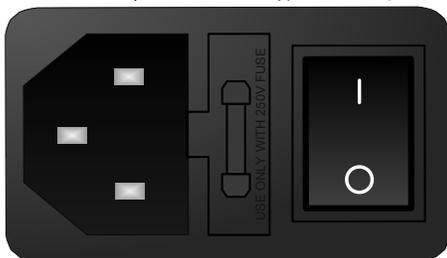
**VDA-5 Only:**

**Domestic AC (PWR-000006-R)\***



**\*International variations available upon request**

CAUTION! Replace with same type and rating fuse.



100-240V~, 0.5A, 50/60 Hz T 2A, 250VAC

- = ON
- = OFF
- 100-240V~ = 100 to 240 Volts AC
- T 2A = Two amp, slow blow fuse
- = Earth ground

## 1.2. Product Overview

Thinklogical's **VDA-1** DVI Splitter sends a single-link DVI video source to 2 single-link DVI displays, while the **VDA-2** sends a single-link DVI video source to 4 single-link DVI displays, each without any signal loss.

The **VDA-3** sends one dual-link DVI video source to 2 dual-link DVI displays, also without loss of signal.

The **VDA-5** houses four splitters (1 single-link DVI In to 2 single-link DVI Out) in one 19" rack-mountable, AC powered chassis. Installation for all models is plug-and-play and no adjustments are necessary.

## 2. System Features

### 2.1. General System Features

The VDA Series DVI Splitters consist of the four splitter types described above. Each single unit is supplied with a DC power supply and all required cabling. The rack-mountable chassis is supplied with an AC line cord and all required cabling.

*The VDA Splitter system includes the following features:*

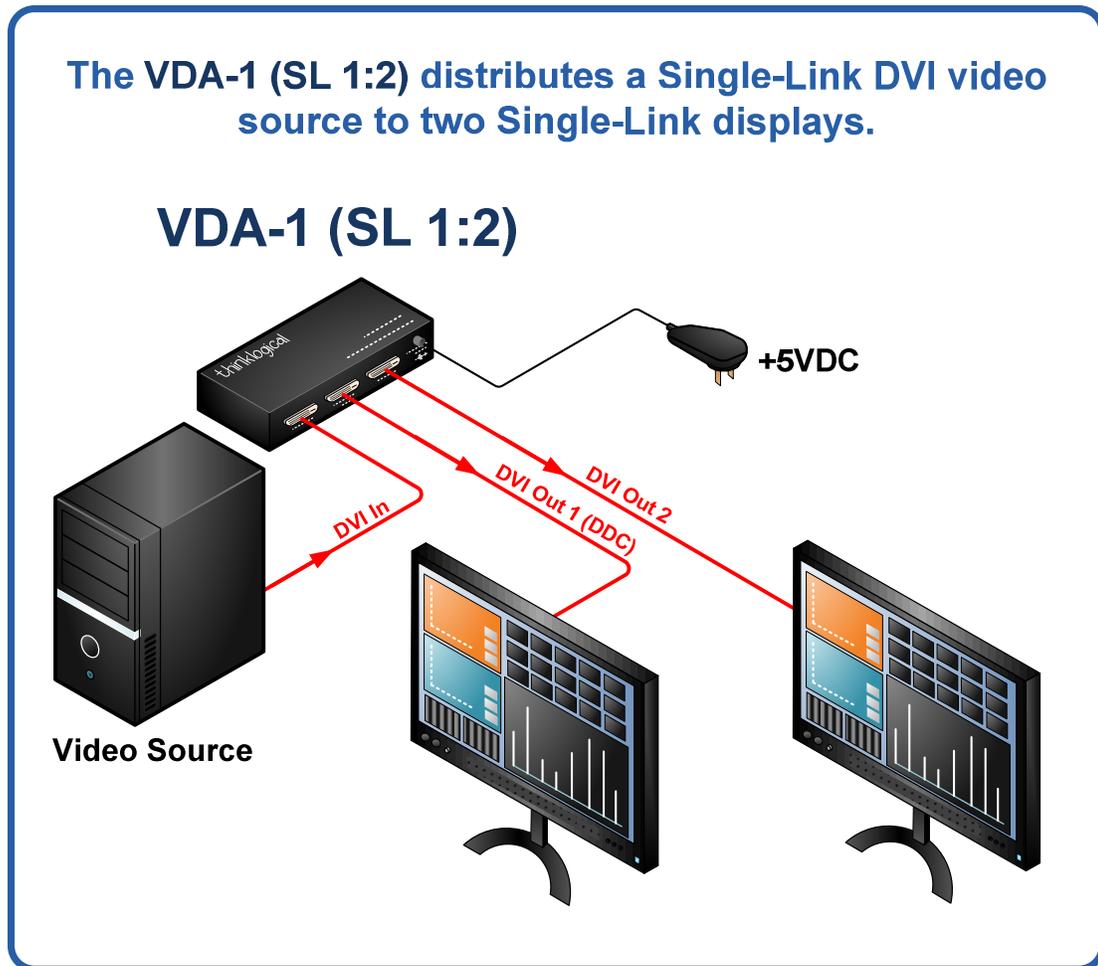
- Single-Link 1 In - 2 Out (VDA-1)
- Single-Link 1 In - 4 Out (VDA-2)
- Dual-Link 1 In - 2 Out (VDA-3)
- Four splitters in one 19" rack-mountable chassis each send 1 Single-Link DVI In to 2 Single-Link DVI Out (VDA-5)
- Flawless image quality with no frame dropping
- DDC2B compliant (Video source connects to output 1)
- Simple plug and play
- Small form factor
- Compatible with all Thinklogical DVI Extenders
- Required cabling is included
- Required power supplies or line cords included.

## 2.2 Technical Specifications

Operating Temperature & Humidity	0 to - 50°C (32 to 122°F), 5 to 95% RH, non-condensing
Supply Voltage	VDA-1, -2, -3 +5.0 VDC VDA-5 100-240 VAC, 50-60 Hz, universal AC power supply
Power Consumption	VDA-1, -2, -3 3 Watts per unit VDA-5 15 Watts per unit
DC Adapter (VDA-1, -2, -3)	AC/DC adapter universal input 90-264 VAC (supplied)
DVI Connectors	VDA-1, VDA-3 DVI-D (3) VDA-2 DVI-D (5) VDA-5 DVI-D (12)
Unit Weight	VDA-1, -2, -3 <1 lb (0.41 kg) each VDA-5 2.3 lb. (1.04 kg)
Shipping Weight (including provided cables, etc.)	VDA-1, -2, -3 3 lbs (1.36 kg) each VDA-5 15 lbs. (6.80 kg) each
Video Resolutions	Single-Link DVI: VDA-1, VDA-2, VDA-5; all single-link resolutions Dual-Link DVI : VDA-3; all dual-link resolutions
Enclosure Dimensions	VDA-1 and VDA-3: Height: 1.187" (3.02 cm) Depth: 1.920" (4.88 cm) Width: 6.130" (15.57 cm) (Tolerance: ± .010"; .025 cm) VDA-2: Height: 1.187" (3.02 cm) Depth: 2.689" (6.83 cm) Width: 7.080" (17.98 cm) (Tolerance: ± .010"; .025 cm) VDA-5: Height: 1.72" (4.37 cm) Depth: 4.875" (12.38 cm) Width: 17.49" (44.42 cm) (Tolerance: ± .039"; .100 cm)
Warranty	12 months from date of shipment. Extended warranties available

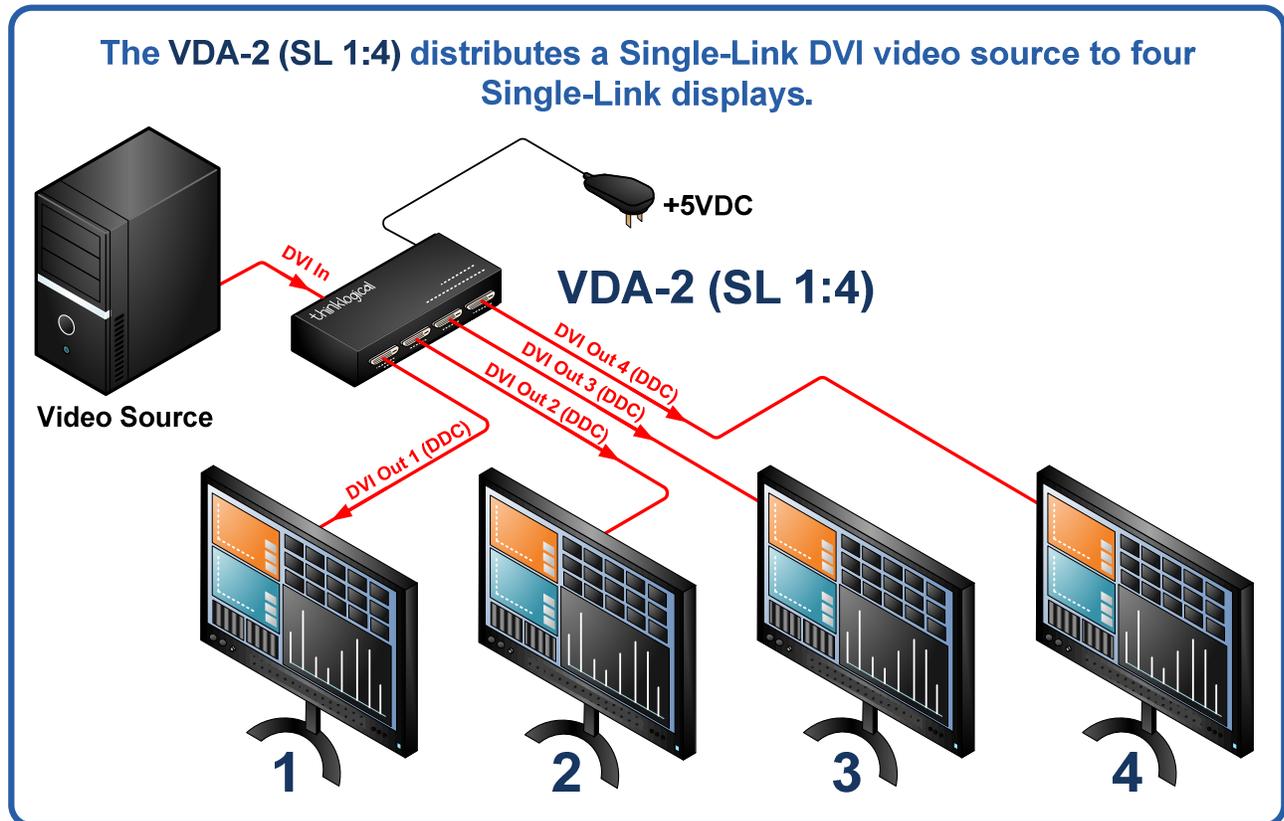
### 3. Installation

(Also see the **Quick Start Guides** in the Appendix beginning on **page 12.**)



#### VDA-1:

1. Connect a Single-Link DVI-D male to male cable from your DVI Monitor 1 to the DVI OUT 1 DDC connector on the VDA Splitter's front panel. Connect a Single-Link DVI-D male to male cable from your Output Monitor 2 to the DVI 2 connector. Turn the monitors on.
2. Connect the supplied Single-Link DVI-D male to male cable to the video source (DVI-D video card) and to the DVI IN connector on the VDA Splitter.
3. Connect the 5VDC Power Supply (PWR-000022-R) to the INPUT POWER JACK located on the front panel of the VDA Splitter's chassis and plug it into a standard AC source. (May not be required with some video cards.) Ensure all video output displays are functioning properly.

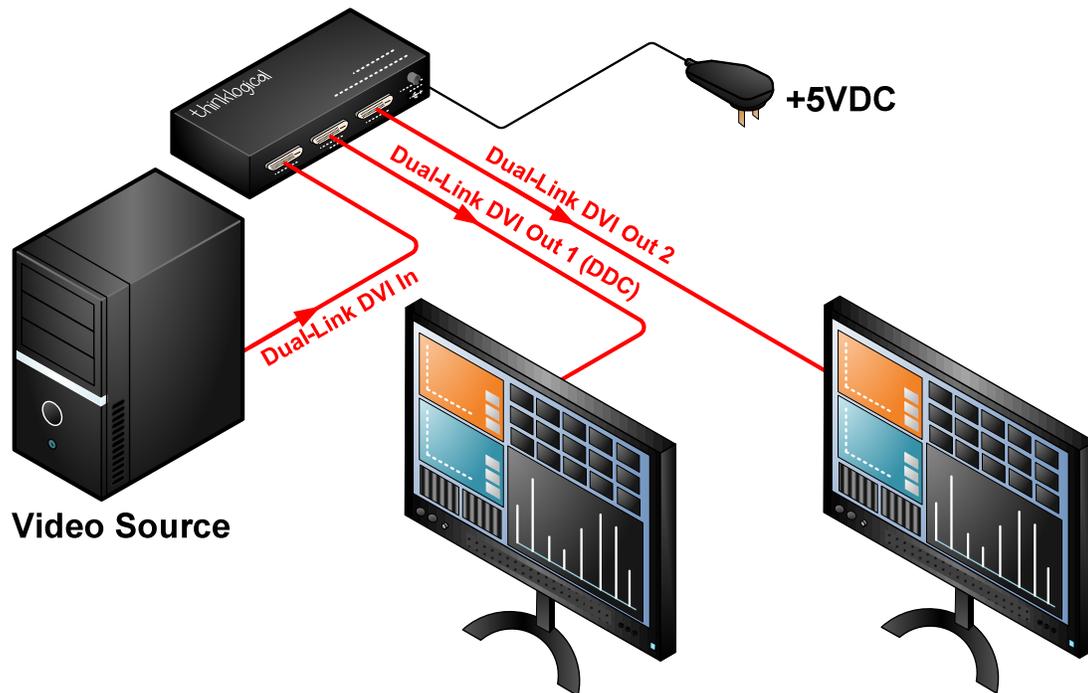


#### VDA-2:

1. Connect a Single-Link DVI-D male to male cable from your DVI Monitor 1 to the DVI OUT 1 DDC connector on the VDA Splitter's front panel. Likewise, connect a Single-Link DVI-D male to male cable from your DVI monitors 2, 3 & 4 to the DVI OUT 2, 3 & 4 connectors. Turn the monitors on.
2. Connect the supplied Single-Link DVI-D male to male cable to the video source (DVI-D video card) and to the DVI IN connector on the VDA Splitter.
3. Connect the 5VDC Power Supply (PWR-000022-R) to the INPUT POWER JACK located on the front panel of the VDA Splitter's chassis and plug it into a standard AC source. (May not be required with some video cards.) Ensure all video output displays are functioning properly.

The VDA-3 (DL 1:2) distributes a Dual-Link DVI video source to two Dual-Link displays.

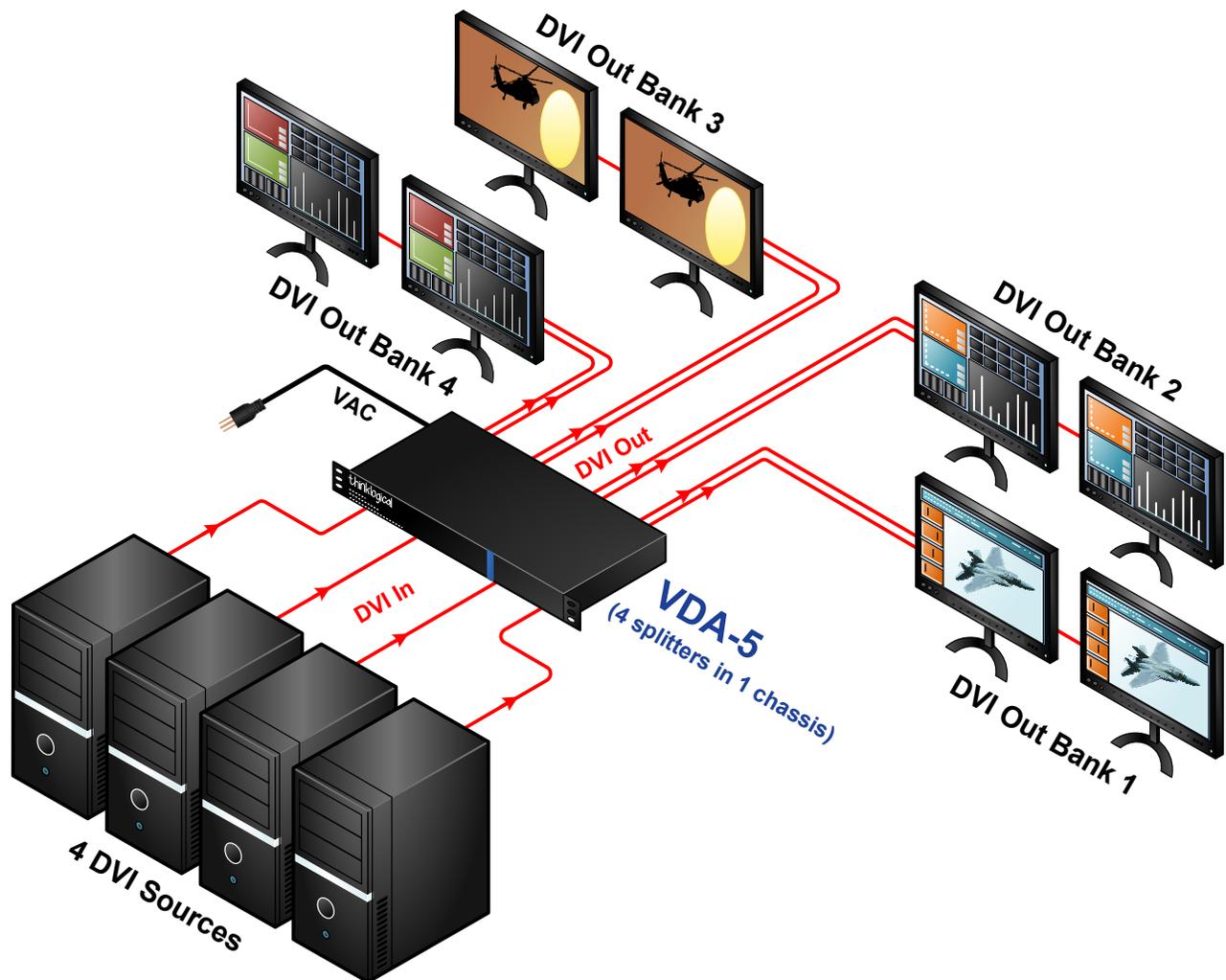
## VDA-3 (DL 1:2)



### VDA-3:

1. Connect a Dual-Link DVI-D male to male cable from your DVI Monitor 1 to the DVI OUT 1 DDC connector on the VDA Splitter's front panel. Connect a Dual-Link DVI-D male to male cable from your Output Monitor 2 to the DVI 2 connector. Turn the monitors on.
2. Connect the supplied Dual-Link DVI-D male to male cable to the video source (DVI-D video card) and to the DVI IN DUAL-LINK connector on the VDA Splitter.
3. Connect the 5VDC Power Supply (PWR-000022-R) to the INPUT POWER JACK located on the front panel of the VDA Splitter's chassis and plug it into a standard AC source. (May not be required with some video cards.) Ensure all video output displays are functioning properly.

**VDA-5 (4x SL 1:2) 4 splitters per chassis each distribute a Single-Link DVI video source to two Single-Link DVI displays.**



**VDA-5: (4 splitters in 1 chassis)**

1. Connect a Single-Link DVI-D male to male cable from DVI Monitor 1 to the DVI OUT 1 DDC connector on Bank 1 of the VDA Splitter's rear panel. Connect a Single-Link DVI-D male to male cable from Output Monitor 2 to the DVI 2 connector of Bank 1. Three additional pairs of DVI displays can be connected in the same manner to Banks 2, 3 and 4. Turn the monitors on.
2. Connect the supplied Single-Link DVI-D male to male cable to the video source (DVI-D video card) and to the DVI IN connector on the VDA Splitter, Bank 1. Three additional DVI sources can be connected in the same manner to the inputs of Banks 2, 3 and 4.
3. Ensure that the unit's ON/OFF switch, located on the rear panel, is in the OFF position. Connect the AC line cord (PWR-000006-R) to the AC input located on the rear panel of the chassis and plug it into a standard AC source. Turn the switch ON. Ensure all video output displays are functioning properly.

## 4. Product Serial Number

Thinklogical<sup>®</sup> products have a unique serial number printed on an adhesive label that is fixed, typically, to the underside of the unit. The serial number includes a date-code formatted as 2 digits for the week and 2 digits for the year, plus two to four digits for a unique unit number.

**Example:** Serial number **2813124** indicates that the unit was built in the **28<sup>th</sup>** week of the year **2013** and is unit number **124**.

## 5. How to Contact Us

### 5.1 Customer Support

Thinklogical<sup>®</sup> is an engineering company and we believe that the first line of support is the design engineer that developed each particular product. Therefore your technical support questions will be handled promptly by our most knowledgeable in-house engineers.

**Thank you for choosing Thinklogical<sup>®</sup> products for your application.**

*We appreciate your business and are dedicated to helping you successfully use our products.*

***thinklogical<sup>®</sup> is always here to help you.***

*To contact us, please use the following telephone numbers and internet-based methods:*

#### 5.1.1 Website

Check out our website [www.thinklogical.com](http://www.thinklogical.com) for our most current products, technical specification sheets and more information about all the products we offer.

Check out [ftp.thinklogical.com](http://ftp.thinklogical.com) for firmware upgrades, manuals and quick start guides (for viewing online or for download), product diagrams showing physical connections and other helpful information.



**NOTE:** Most online documents are stored as Adobe Acrobat “PDF” files. If you do not have the Adobe Acrobat reader needed to view PDF files, visit [www.adobe.com](http://www.adobe.com) for a free download.

## Email

Thinklogical is staffed **Monday through Friday from 8:30am to 5:00pm**, Eastern Time Zone. We will do our best to respond to your email inquiries promptly. Please use one of the following email addresses:

[info@thinklogical.com](mailto:info@thinklogical.com) – Information on Thinklogical® and our products.

[sales@thinklogical.com](mailto:sales@thinklogical.com) – Sales Department - orders, questions or issues.

[support@thinklogical.com](mailto:support@thinklogical.com) – Product support, technical issues or questions, product repairs and request for **Return Merchandise Authorization**.

## Telephone

<b>Product &amp; Customer Support:</b>	<b>1-203-647-8700</b>
<b>US Commercial &amp; Canada Sales:</b>	<b>1-203-647-8769</b>
<b>US Federal Government Sales:</b>	<b>1-203-647-8716</b>
<b>Toll Free in the Continental US:</b>	<b>1-800-291-3211</b>
<b>International Sales (Europe, Middle East, Africa):</b>	<b>1-203-647-8704</b>
<b>International Sales (Asia Pacific, Central &amp; Latin America):</b>	<b>1-203-647-8734</b>
<b>Fax:</b>	<b>1-203-783-9949</b>

Please contact our expert sales staff in Milford, CT. We are here **Monday through Friday from 8:30am to 5:00pm**, Eastern Time Zone. We'll provide a representative's direct dial phone number when you call.

If leaving a voice message, please provide a preferred time to call back so we may reach you at your convenience.

Our switchboard attendant will direct your call during regular business hours. We have an automated attendant answering our main telephone switchboard after regular business hours and holidays. You can leave voice messages for individuals at any time.

## Fax

Our company facsimile number is **1-203-783-9949**. Please indicate the nature of the fax on your cover sheet and provide return contact information.

## 5.2. Product Support

Thinklogical's support personnel are available Monday through Friday from 8:30am to 5:00pm, Eastern Time Zone. If your application might require assistance at some time outside of our normal business hours, please contact us beforehand and we will do our best to make arrangements to help you with your Thinklogical products.

### 5.2.1 Warranty

Thinklogical® LLC ("Thinklogical") warrants this product against defects in materials and workmanship for a period of one (1) year from the date of delivery (ordinary wear and tear excluded). This limited warranty does not cover defects resulting from (i) use of the product other than as described in the applicable documentation for the product; (ii) modifications to or repairs of the product that are made by any party other than Thinklogical or a party acting on Thinklogical's behalf, or (iii) combination of the product with third party products that is not consented to by Thinklogical. Occurrences of events described in (i) – (iii) shall void the foregoing warranty. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

**Except for the express warranty set forth above, to the fullest extent permitted under applicable law, Thinklogical<sup>®</sup> LLC and its suppliers disclaim any and all other warranties, express and implied, including without limitation the implied warranties of merchantability, fitness for a particular purpose, title and non-infringement.**

If the defective product is returned to the authorized dealer within one (1) year of the delivery date, repair or replacement of the product will be made. Repairs may be made with refurbished parts. If repair or replacement is not possible, Thinklogical may keep the defective product and refund the amount that you paid for the defective product. These are Thinklogical's sole obligations, and your exclusive remedies, for a breach of the limited warranty set forth above.

To return a defective product, contact the Thinklogical authorized dealer from whom you purchased the product. Do not return a product directly to Thinklogical without prior authorization from your dealer.

If you have received prior authorization from your dealer and are returning a product directly to Thinklogical:

1. Contact a sales representative or call Customer Support at 1-800-291-3211 or 1-203-647-8700.
2. Describe the defect and Customer Support will issue a Return Merchandise Authorization Number (RMA#).
3. Pack the product in its original packing, if possible, and write the RMA number on the box.
4. Return the product to:  
Thinklogical, LLC<sup>®</sup>  
Attn: RMA# [Insert the RMA# issued to you, by Thinklogical, here.]  
100 Washington Street  
Milford, CT 06460 USA

### **5.2.2 Our Address**

If you have any issue with the product, have product questions or need technical assistance with your Thinklogical<sup>®</sup> system, please call us at **1-800-291-3211 (USA only)** or **1-203-647-8700** and let us help. If you'd like to write us, we are located at:

**Thinklogical, LLC<sup>®</sup>**  
**100 Washington Street**  
**Milford, Connecticut, USA 06460**

Thinklogical, LLC<sup>®</sup> products carry a one year warranty, with longer terms available at time of purchase on most products. Please refer to your product invoice for your products Warranty Terms & Conditions.

# Appendix: VDA Series Quick Start Guides (VDA-1, -2, -3 & -5)

## VDA Series DVI Splitter VDA-1, Single-Link 1:2 QUICK START GUIDE

**The Models**

VDA-1 (SL 1:2) distributes single-link DVI to 2 single-link displays.

VDA-2 (SL 1:4) distributes single-link DVI to four single-link displays.

VDA-3 (DL 1:2) distributes dual-link DVI to two dual-link displays.

VDA-5 (4x SL 1:2) distributes single-link DVI to 2 single-link displays to 4 separate banks.

**The Logical Solution**

*The VDA-1 1:2 Splitter from Thinklogical sends a video source to two displays without signal loss. Installation is plug-and-play with no adjustments required. Each model is also compatible with all Thinklogical DVI Extenders.*

**STEP 3:** Connect the 5VDC Power Supply (PVWR-00022-R) to the INPUT POWER JACK located on the front panel of the VDA Splitter's chassis and plug it into a standard AC source. Ensure all video output displays are functioning properly.

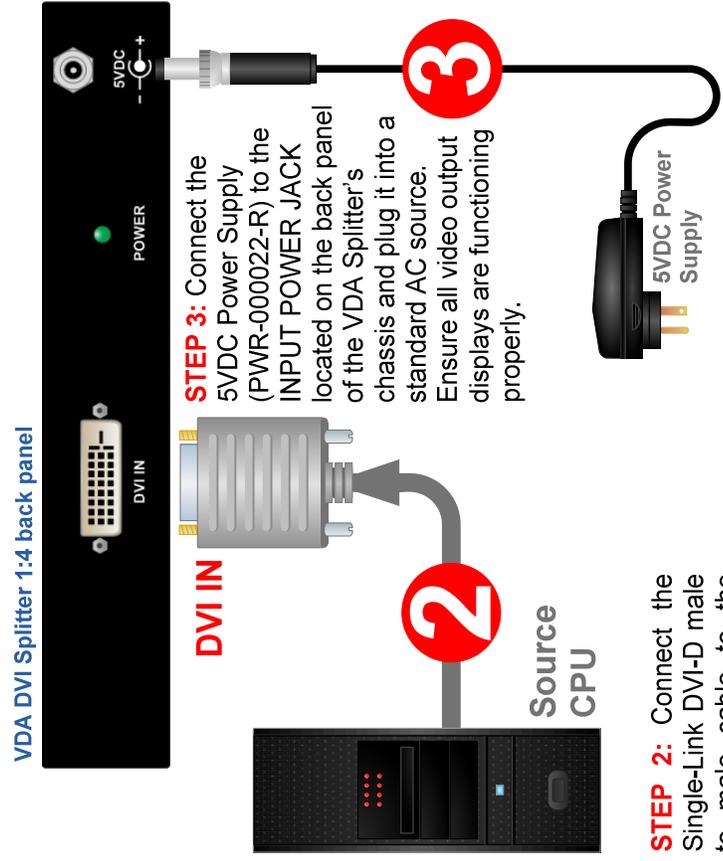
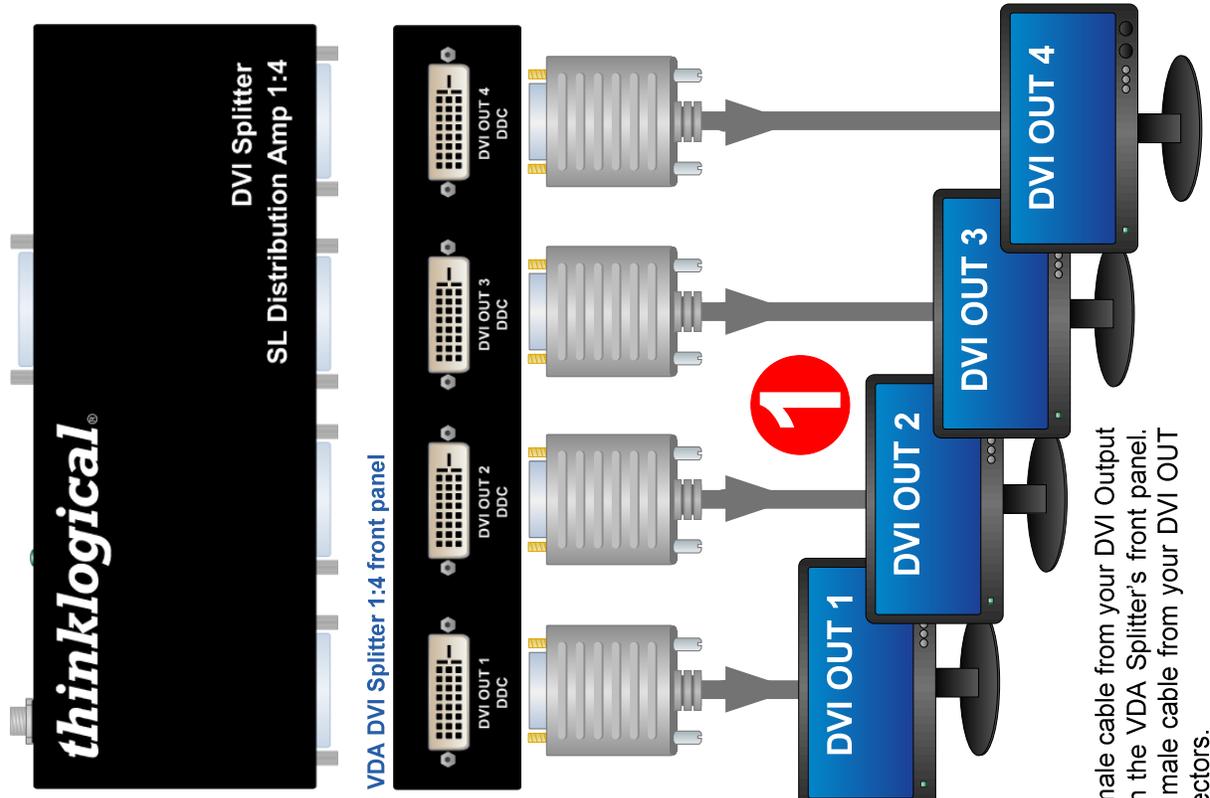
**STEP 1:** Connect one end of a Single-Link DVI-D male to male cable from your Primary Output Monitor to the DVI OUT 1 DDC connector on the VDA Splitter's front panel. Connect one end of a Single-Link DVI-D male to male cable from your Secondary Output Monitor to the DVI OUT 2 connector.

VDA\_Splitter\_SL\_1x2\_Quick\_Start\_Rev\_A

**When you receive your Single-Link 1:2 VDA Series DVI Splitter you should find the following items:**

- Single-Link M-M, 2 meter DVI Cable (2)
- AC/DC Adapter
- Quick Start Guide

# VDA Series DVI Splitter VDA-2, Single-Link 1:4 QUICK START GUIDE



**STEP 3:** Connect the 5VDC Power Supply (PWR-00022-R) to the INPUT POWER JACK located on the back panel of the VDA Splitter's chassis and plug it into a standard AC source. Ensure all video output displays are functioning properly.

**STEP 2:** Connect the Single-Link DVI-D male to male cable to the video source (DVI-D video card) and to the DVI IN connector on the VDA Splitter.

**STEP 1:** Connect a Single-Link DVI-D male to male cable from your DVI Output Monitor 1 to the DVI OUT 1 DDC connector on the VDA Splitter's front panel. Likewise, connect a Single-Link DVI-D male to male cable from your DVI OUT Monitors 2, 3 & 4 to the DVI OUT 2, 3 & 4 connectors.

VDA\_Splitter\_SL\_1v4\_Quick\_Start\_Rev\_C

# VDA Series DVI Splitter VDA-3, Dual-Link 1:2 QUICK START GUIDE

## The Models

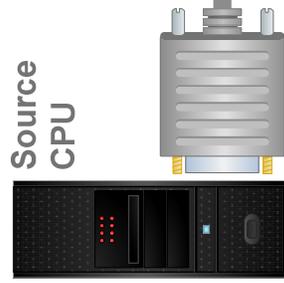
- VDA-1 (SL 1:2) distributes single-link DVI to 2 single-link displays.
- VDA-2 (SL 1:4) distributes single-link DVI to four single-link displays.
- VDA-3 (DL 1:2) distributes dual-link DVI to two dual-link displays.
- VDA-5 (4x SL 1:2) distributes single-link DVI to 2 single-link displays to 4 separate banks.

## The Logical Solution

The VDA-3 Dual-Link 1:2 Splitter from Thinklogical sends a Dual-Link DVI video source to two displays without signal loss. Installation is plug-and-play with no adjustments required. Each model is also compatible with most Thinklogical DVI Extenders.

**STEP 3:** Connect the 5VDC Power Supply (PWR-000022-R) to the INPUT POWER JACK located on the front panel of the VDA Splitter's chassis and plug it into a standard AC source. Ensure all video output displays are functioning properly.

Source CPU



Dual-Link  
DVI IN

2

- When you receive your Dual-Link 1:2 VDA Series DVI Splitter you should find the following items:
- Dual-Link M-M, 2 meter DVI Cables (2)
  - AC/DC Adapter
  - Quick Start Guide

**STEP 2:** Connect the supplied Dual-Link DVI-D male to male cable to the video source (DVI-D video card) and to the DVI IN DUAL-LINK connector on the VDA Splitter.

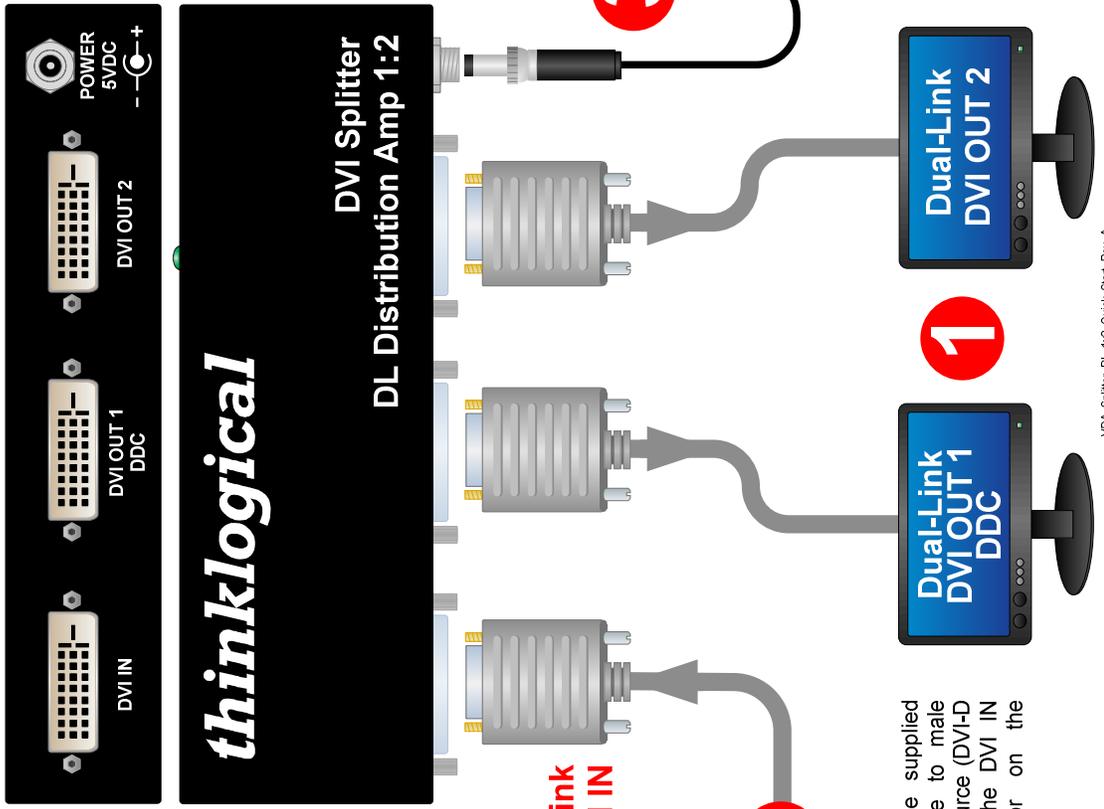


1



VDA\_Splitter\_DL\_1x2\_Quick\_Start\_Rev\_A

**STEP 1:** Connect a Dual-Link DVI-D male to male cable from your DVI Output Monitor 1 to the DVI OUT 1 DDC connector on the VDA Splitter's front panel. Connect a Dual-Link DVI-D male to male cable from your Output Monitor 2 to the DVI OUT 2 connector.

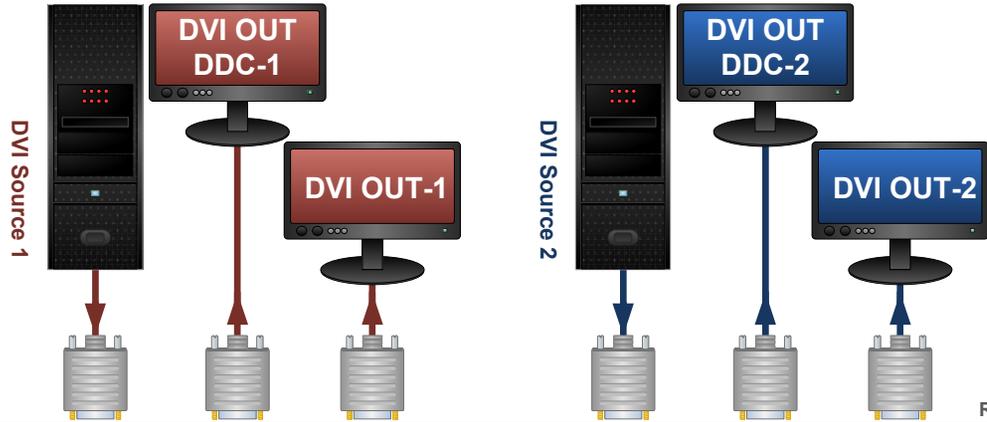


VDA-5\_4xSplitter\_SL\_1x2\_QSG\_Manual  
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 All trademarks and service marks are the property of their respective owners.

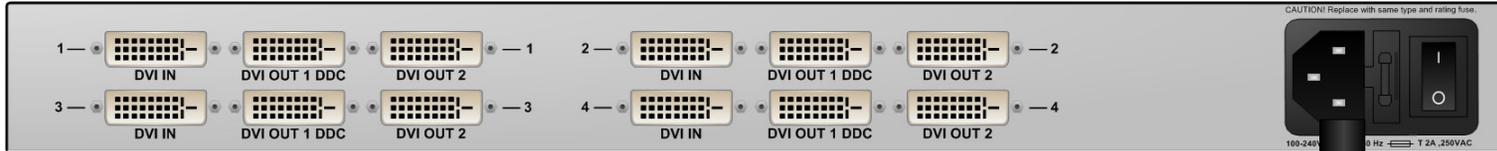
# VDA Series DVI Splitter VDA-5 4x Single-Link 1:2 QUICK START GUIDE

The Logical Solution

*Each of the four VDA-5 Single-Link 1:2 Splitters sends a Single-Link DVI video source to two displays without signal loss. Installation is plug-and-play with no adjustments required. Each model of the VDA Series is compatible with most Thinklogical® DVI Extenders.*



VDA-000005  
 Rack Mount Video Distribution Amp, 4 DVI Splitters



**STEP 1:** Connect one end of a Single-Link DVI-D cable from each **primary DVI Output Monitor** to the DVI OUT DDC connector on the VDA Splitter's rear panel. Connect one end of a Single-Link DVI-D cable from each **secondary DVI Output Monitor** to the DVI OUT 2 connector on the VDA Splitter's rear panel.

**STEP 2:** Connect one end of the supplied Single-Link DVI-D male to male cables to the video sources (DVI-D video cards) and the other end to the DVI IN connectors on each of the VDA Splitters.

**STEP 3:** Ensure the ON/OFF switch on the rear panel is in the OFF (0) position. Connect the supplied AC line cord (PWR-000006-R) to the VAC input located on the rear panel of the VDA Splitter's chassis and plug it into a standard AC source. Turn the switch ON (1). Ensure all video output DVI displays are functioning properly.

