



# Instruction Manual

**1T-VGA-412 and 1T-VGA-414  
RGBHB/YPbPr Distribution Amplifier**



## **Table of Contents**

<b>1.0</b>	<b>Introduction</b>	<b>2</b>
<b>2.0</b>	<b>Specifications</b>	<b>3</b>
<b>3.0</b>	<b>Package Contents</b>	<b>4</b>
<b>4.0</b>	<b>Connecting the Hardware</b>	<b>4</b>
<b>5.0</b>	<b>Operating The Unit</b>	<b>5</b>
<b>6.0</b>	<b>Troubleshooting</b>	<b>5</b>
<b>7.0</b>	<b>Optional Rack Mounting Accessory</b>	<b>5</b>
<b>8.0</b>	<b>Limited Warranty</b>	<b>6</b>
<b>9.0</b>	<b>Regulatory Compliance</b>	<b>7</b>
<b>10.0</b>	<b>Contact Information</b>	<b>7</b>

## **1.0 INTRODUCTION**

Thanks for purchasing this 1T-VGA-400 series Distribution Amplifier from TV One. Model 1T-VGA-412 provides two outputs from a single input, while model 1T-VGA-414 provides four outputs. Additional outputs can be provided by cascading additional Distribution Amplifiers. Our professional video conversion products have been serving the industry for over twenty years. TV One offers a full line of high quality Seamless Switchers, Video Scalers, Up/Down/Cross Converters, Analog-Digital Converters (SD/HD-SDI, HDMI, DVI), Format Converters, Standards Converters, TBC/Frame Synchronizers, Matrix Routing Switchers, Signal Distribution Amplifiers and Cat.5 Transmission Systems.

### **1.1 Liability Statement**

Every effort has been made to ensure that this product is free of errors. TV One cannot be held liable for the use of this hardware or any direct or indirect consequential damages arising from its use. It is the responsibility of the user of the hardware to check that it is suitable for his/her requirements and that it is installed correctly. All rights reserved. No parts of this manual may be reproduced or transmitted by any form or means electronic or mechanical, including photocopying, recording or by any information storage or retrieval system without the written consent of the publisher.

TV One reserves the right to revise any of its hardware and software following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.

All third party trademarks and copyrights are recognised. The TV One logo, TV One-task and CORIO are the registered Trademarks of TV One. All other trademarks are the property of their respective holders.

### **1.2 Features**

The 1T-VGA-400 Series Distribution Amplifier has many features that enable it to perform in a superior manner. Among those features you will find:

- 500+ MHz Bandwidth
- Supports Resolutions up to 2560x1600
- Output Range up to 300 feet
- Locking DC Power Connector
- Supports DDC, DDC2, DDC2B (Output 1 Only)
- Amplifiers may be cascaded
- Rugged Metal Housing
- Ultra Compact Size

## 2.0 SPECIFICATIONS

<b>Video Input</b>	
Signal Type	RGBHV, RGBS, RGsB, YPbPr
Connector	1x HD-15 Female
R-G-B Level Range	0.5-2.0 Vp-p
Maximum Resolution	2560x1600
<b>Video Outputs</b>	
1T-VGA-412	2x via HD-15 Female Connectors
1T-VGA-414	4x via HD-15 Female Connectors
<b>General</b>	
R-G-B Bandwidth	500+MHz
Maximum Distance	Up to 300' from amplifier (Note 1)
DDC Capability	DDC1, DDC2, DDC2B (Port 1)
<b>Mechanical</b>	
Size (H-W-D)	44x160x58mm (1.7"x6.3"x2.3")
1T-VGA-412 Wt (Net)	370 g (0.81 lbs)
1T-VGA-414 Wt (Net)	400 g (0.88 lbs)
<b>Environmental</b>	
Operating Temperature	0° to +40° C (+32° to +104° F)
Operating Humidity	10% to 85%, Non-condensing
Storage Temperature	-20° to +60° C (-4° to +140° F)
Storage Humidity	10% to 85%, Non-condensing
<b>Warranty</b>	
Limited Warranty	3 Years Parts and Labor
<b>Power Requirement</b>	
External Power Supply	5VDC@2A - Locking Plug
<b>Regulatory Approvals</b>	
Amplifier Units	FCC, CE, RoHS
Power Supplies	UL, CUL, CE, PSE, GS, RoHS
<b>Accessories Included</b>	
1x Power Adapter	US, UK or Euro
1x Operations Manual	
<b>Product Item Numbers</b>	
1T-VGA-412	2-Output Version
1T-VGA-414	4-Output Version
<b>Optional Accessories</b>	
RM-320S	Rackmount kit for one unit
RM-320D	Rackmount kit for two units

1) To achieve the max rated distance, use premium cables.

## 2.1 Input/Output Signals

Pin #	Signal
1	Red video
2	Green video
3	Blue video
4	ID2
5	Ground
6	Analog Ground
7	Analog Ground
8	Analog Ground

Pin #	Signal
9	NC
10	Ground
11	NC
12	DDC SDA
13	Horizontal Sync
14	Vertical Sync
15	DDC SCL

## 3.0 CHECKING PACKAGE CONTENTS

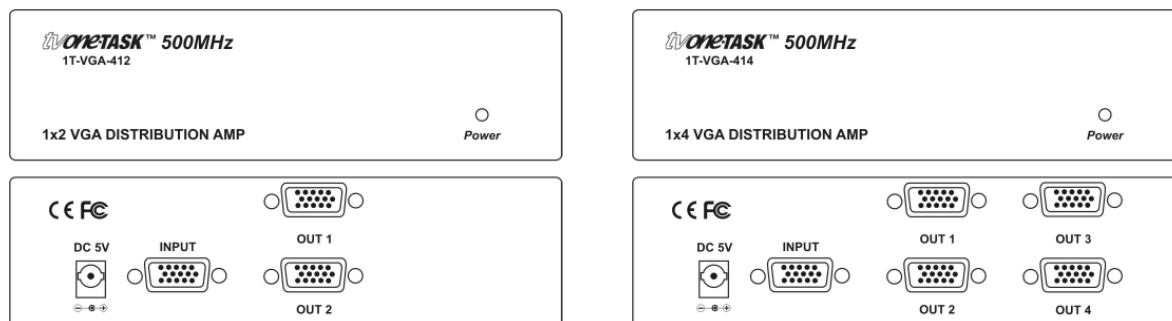
Before attempting to use this unit, please check the packaging and make certain the following items are contained in the shipping carton:

- 1x Distribution Amplifier
- 1x Power Adapter with 5VDC Output
- 1x User Manual

*Note: Please retain the original packing material should the need ever arise to return the unit. If you find any items are missing, contact your reseller or TV One immediately. Have the Model Number, Serial Number and Invoice available for reference when you call.*

## 4.0 CONNECTING THE HARDWARE

The front of the device has a single LED that indicates when power is applied and the rear panel has the power connection, input connection and either two or four output connections depending on whether you purchased the 1T-VGA-412 or the 1T-VGA-414 variant of the device. Please take a moment to familiarize yourself with the location of the various signal connectors and the power input connector. Make certain you connect only the supplied power adaptor to the device as serious damage can result by using improper voltages.



## 5.0 OPERATING THE UNIT

### 5.1 Connect the Unit as follows:

1. Turn off power to Source Device (such as PC) and to all Destination Devices (such as Monitors)
2. Connect the output of the Source Device to the Amplifier's Input with an HD-15 cable
3. Connect the input of the Destination Devices to the Output Connectors of the Amplifier with high quality HD-15 cables, up to 300 feet in length
4. Plug the DC Connector from the 5VDC Power Adapter provided into the Amplifier
5. Twist the DC Connector after inserting it to lock it in place
6. Plug the Power Adapter into an AC Outlet
7. Turn on power to the Source and Destination Devices

*Note: If you connect a DDC Monitor to Output 1 of the Amplifier, all the other Monitors must be able to support the same high resolution as the DDC monitor.*

### 5.2 Cascading

To display the same image on more Monitors than available amplifier outputs permit, you may cascade additional amplifiers. Connect the input of the additional amplifier with an HD-15 cable to an output of the original Amplifier. **Caution** - Signal degradation may occur if too many Amplifiers are cascaded.

## 6.0 TROUBLESHOOTING

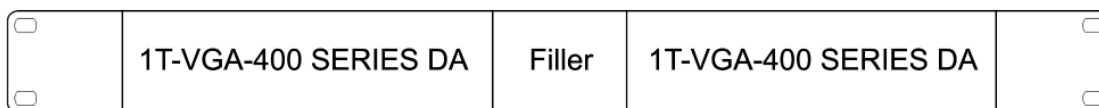
Problems with the 1T-VGA-400 series of Distribution Amplifiers are rare. Most of the time, the problem is caused by the use of an incorrect cable for the signal type, too long a cable run, bad connectors on the cable and occasionally damaged cables. Bad grounds or use of different AC power sources for the 1T-VGA-400 Series Distribution Amplifier, Signal Source and/or Display Device(s) may also cause problems due to ground loops.

After trying the above suggestions should the problem still persist, contact your dealer for additional suggestions before contacting TV One. Should the dealer's technical personnel be unable to assist you, contact TV One via our support website:

**<http://tvone.crmdesk.com>**. Create a technical support request on the site and our support team will respond within a short period of time.

## 7.0 OPTIONAL RACK MOUNTING KIT

There is an optional single or dual Rack Mount Kit accessory, the RM-320S or RM-320D available. An Allen head wrench and mounting screws are provided in the package along with the sufficient metal parts to mount either one or two 1T-VGA-400 series devices.



To mount two 1T-VGA-400 series units, first fasten a short rack ear attachment to the left side of the first 1T-VGA-400 series unit and fasten another short rack attachment to the right side of the second unit. Attach the “U” shaped filler piece between the two 1T-VGA-400 series units. To mount a single 1T-VGA-400 series product, fasten a short rack ear attachment to the left side of the unit and the long filler attachment to the other side.

## 8.0 LIMITED WARRANTY

TV One warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a fixed term from the date of purchase. The warranty term for specific product lines is defined below.

1. TV One branded products based on TV One's CORIO technology are warranted for a period of five years from the date of purchase. This includes products with the model number prefix of C2, 1T-C2, CX, A2 or S2.
2. TV One-task branded products, other than those based on TV One's CORIO technology mentioned above, are warranted for a period of three years from the date of purchase. This includes products with the model number prefix of 1T, with the exception of 1T-C2.
3. LCD Monitors are warranted for a period of three years from the date of purchase, with the exception of the LCD panels integrated into the monitors that are supplied by third parties. LCD panels are limited to the term and conditions of the warranty offered by the respective LCD panel manufacturer. Such specific LCD panel warranties are available upon request to TV One.

Should a product, in TV One's opinion, prove defective within this warranty period, TV One, at its option, will repair or replace this product without charge. Any defective parts replaced become the property of TV One. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

If repairs are necessary under this warranty policy, the original purchaser must obtain a Return Authorization Number from TV One and return the product to a location



designated by TV One, freight prepaid. After repairs are complete, the product will be returned, freight prepaid.

**LIMITATIONS** - All products sold are "as is" and the above Limited Warranty is in lieu of all other warranties for this product, expressed or implied, and is strictly limited to two years from the date of purchase. TV One assumes no liability to distributors, resellers or end-users or any third parties for any loss of use, revenue or profit.

TV One makes no other representation of warranty as to fitness for the purpose or merchantability or otherwise in respect of any of the products sold. The liability of TV One with respect to any defective products will be limited to the repair or replacement of such products. In no event shall TV One be responsible or liable for any damage arising from the use of such defective products whether such damages be direct, indirect, consequential or otherwise, and whether such damages are incurred by the reseller, end-user or any third party.

## **9.0 REGULATORY COMPLIANCE**

The 1T-VGA-400 Series Distribution Amplifiers have been tested for compliance with appropriate FCC and CE rules and regulations. The Power Adaptor/Supplies have been tested for compliance with appropriate UL, CUL, CE, PSE, GS Rules, Regulations and/or Guidelines. These Products and Power Adapters are RoHS Compliant.

## **10.0 CONTACT INFORMATION**

Should you have questions or require assistance with this product in areas not covered by this manual, please contact TV One at the appropriate location.

**TV One USA**

2791 Circleport Drive  
Erlanger, KY 41018  
USA  
Tel 859-282-7303  
Fax 859-282-8225  
sales@tvone.com  
www.tvone.com

**TV One Latin America**

6991 NW 82 Avenue #8  
Miami, FL 33166  
USA  
Tel 305-396-6275  
Fax 305-418-9306  
sales.latinoamerica@tvone.com  
www.tvonela.com

**TV One Asia**

16F-4, NO.75, Sec. 1  
Hsin Tai Wu Road, Hsichih  
Taipei Hsien 22101  
Taiwan R.O.C.  
Tel +886 2 2698-2296  
Fax +886 2 2698-2297  
sales.asia@tvone.com  
www.tvoneasia.com

**TV One Europe**

Continental Approach  
Westwood Industrial Estate  
Margate, Kent CT9 4JG, UK  
Tel +44 (0)1843 873311  
Fax +44 (0)1843 873312  
sales.europe@tvone.com  
www.tvone.eu

**TV One Mercosur**

Av. Diaz Velez 3965 #PB  
(1200) Capital Federal  
Buenos Aires, Argentina  
Tel +54 11 5917-2525  
Fax +54 11 4032-0281  
sales.mercosur@tvone.com  
www.tvonela.com

**TV One China**

Rm. 1007, Golden Peach Bldg.  
No. 1900 Shangcheng Road  
Pudong, Shanghai  
China 200120  
Tel +86 21 5830-2960  
Fax +86 21 5851-7949  
Email: sales.china@tvone.com  
www.tvonechina.com

End of Manual