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KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

PT-102VN
1:2 Video DA

P/N: 2900-002160 Rev 3

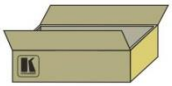
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PT-102VN Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to http://www.kramerelectronics.com/support/product_downloads.asp to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

- **PT-102VN** 1:2 Video DA
- 1 Power supply (12V DC)
- 4 Rubber feet
- 1 Quick Start sheet



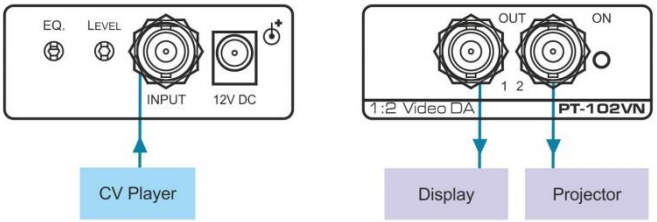
Save the original box and packaging materials in case you need to return your **PT-102VN** for service.

Step 2: Install the PT-102VN

Attach the rubber feet and place on a table or mount the **PT-102VN** in a rack (using an optional **RK-4PT** rack adapter).

Step 3: Connect the inputs and outputs

Always switch off the power on each device before connecting it to your **PT-102VN**.



Always use Kramer high-performance cables for connecting AV equipment to the **PT-102VN.**

Step 4: Connect the power

Connect the 12V DC power adapter to the **PT-102VN** and plug the adapter into the mains electricity.



Step 5: Operate the PT-102VN

Using a small screwdriver, adjust the EQ. and LEVEL as needed.



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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront video, audio, presentation, and broadcasting professionals on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 14 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Video Products; GROUP 12: Digital Signage; GROUP 13: Audio; and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer **PT-102VN** *1:2 Video DA*, which is ideal for the following typical applications:

- Video duplication studios
- CCTV and home theater use
- Rental and staging applications
- Any professional display system requiring an identical picture on several monitors

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2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment
- Review the contents of this user manual



Go to http://www.kramerelectronics.com/support/product_downloads.asp to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Do not secure the cables in tight bundles or roll the slack into tight coils
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality
- Position your Kramer **PT-102VN** away from moisture, excessive sunlight and dust



This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

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2.2 Safety Instructions



Caution: There are no operator serviceable parts inside the unit

Warning: Use only the Kramer Electronics input power wall adapter that is provided with the unit

Warning: Disconnect the power and unplug the unit from the wall before installing

2.3 Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country go to our recycling pages at *http://www.kramerelectronics.com/support/recycling/*.

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3 Overview

The Kramer **PT-102VN** is a distribution amplifier for composite video or SDI signals. It takes one input, provides correct buffering and isolation and distributes the signal to two identical outputs. Specifically, the **PT-102VN**:

- Accepts a single input and distributes it to 2 identical outputs using BNC connectors
- Has a bandwidth of 430MHz, ensuring that it remains transparent even in the most critical applications
- Has gain and equalization (EQ.) controls to compensate for cable losses
- Is ideally suited to work with the Pico TOOLS™ **PT-102AN** *1:2 Audio DA*

3.1 Defining the PT-102VN 1:2 Video DA

This section defines the **PT-102VN**.

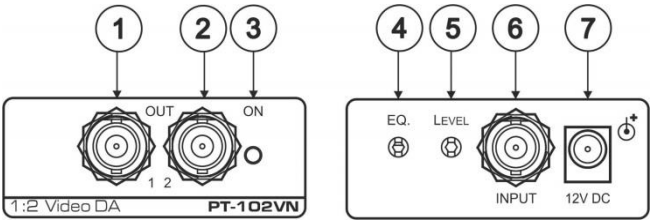


Figure 1: PT-102VN 1:2 Video DA

#	Feature	Function
1	*OUT 1* BNC Connector	Connects to composite video acceptor 1
2	*OUT 2* BNC Connector	Connects to the composite video acceptor 2
3	*ON LED*	Illuminates when receiving power
4	*EQ.* Trimmer	Adjusts the cable compensation equalization level (using a small screwdriver)
5	*LEVEL* Trimmer	Adjusts the video signal level for outputs 1 and 2 (using a small screwdriver)
6	*INPUT* BNC Connector	Connects to the composite video source
7	*12V DC*	+12V DC connector for powering the unit

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4 Connecting the PT-102VN

Always switch off the power to each device before connecting it to your **PT-102VN**. After connecting your **PT-102VN**, connect its power and then switch on the power to each device.

You can connect your **PT-102VN**:

- As a 1:2 video DA (see Section 4.1)
- To a **4x1VB** *4x1 High Resolution Video Switcher* to increase the number of inputs (see Section 4.2)
- To two **105VB** *1:5 High Resolution Video DA* units to increase the number of outputs (see Section 4.3)

4.1 Connecting the PT-102VN 1:2 Video DA

To connect the **PT-102VN** *1:2 Video DA*, as the example in Figure 2 illustrates, connect the following:

1. Connect a composite video source (for example, a composite video player) to the INPUT BNC connector.
2. Connect the two OUT BNC connectors to up to two composite video acceptors, as follows:
   - Connect the OUT 1 connector to video acceptor 1 (for example, a projector)
   - Connect the OUT 2 connector to video acceptor 2 (for example, a display)
3. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity.
4. If required, adjust the output signal level and/or cable compensation equalization level.

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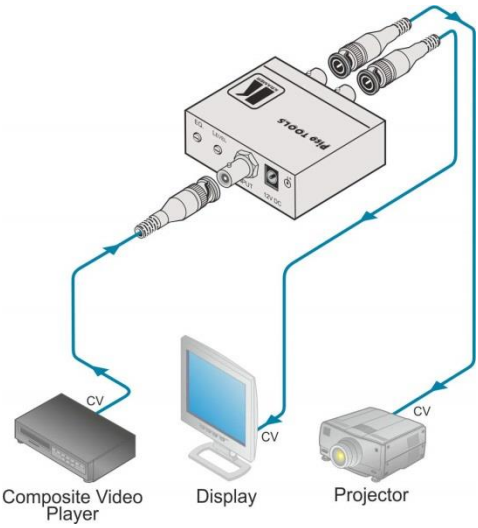


Figure 2: Connecting the PT-102VN 1:2 Video DA

4.2 Increasing the Inputs

When it is necessary to handle more than one input, you can increase the number of inputs for example, from one to four, by connecting the Kramer **4x1VB** *4x1 High Resolution Video Switcher* (a mechanical switcher that lets you select any input to route to one output via its INPUT SELECTOR buttons. Alternatively, you could connect the **PT-102VN** to a video switcher with more than four inputs) in addition to the **PT-102VN** *1:2 Video DA*, as the example in Figure 3 illustrates:

1. Connect up to four sources to the four IN connectors of the **4x1VB**.
2. Connect the OUTPUT connector of the **4x1VB** to the INPUT connector of the **PT-102VN**.
3. Connect the OUT connectors of the **PT-102VN** to up to two acceptors.
4. Select the desired input via the INPUT SELECTOR switch of the **4x1VB**.
5. Connect the 12V DC power adapter to the power socket of the **PT-102VN** and connect the adapter to the mains electricity.

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6. Adjust the output signal level and/or cable compensation equalization level of the **PT-102VN**, if required.

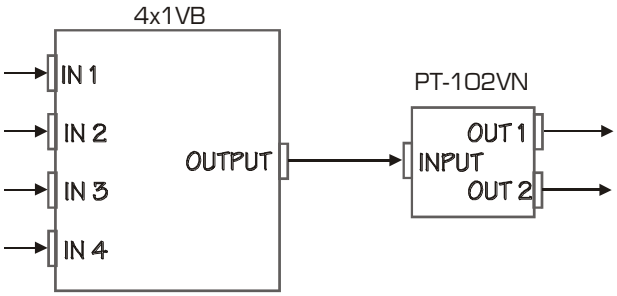


Figure 3: Increasing the Inputs - Connecting a 4:2 DA

4.3 Increasing the Outputs

The **PT-102VN** can be cascaded with other high quality distribution amplifiers to distribute a video source to more than two outputs. For example, you can increase the number of outputs from two to ten, by connecting a **PT-102VN** *1:2 Video DA* unit to two Kramer **105VB** *1:5 High Resolution Video DA* units, forming a 1:10 DA, as the example in Figure 4 illustrates:

To form a 1:10 DA, do the following:

1. Connect a source to the INPUT BNC connector of the **PT-102VN**.
2. Connect the OUT 1 BNC connector of the **PT-102VN** to the INPUT BNC connector of the first **105VB**.
3. Connect the OUT 2 BNC connector of the **PT-102VN** to the INPUT BNC connector of the second **105VB**.
4. Connect the five OUT BNC connectors of the first **105VB** to the video acceptors 1 to 5, and connect the five OUT BNC connectors of the second **105VB** to five video acceptors as well.
5. Connect the 12V DC power adapter to the power socket and connect the adapter to the mains electricity (for the **PT-102VN** and both **105VB** units).

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6. Adjust the output signal level and/or cable compensation equalization level of the **PT-102VN**, if required.

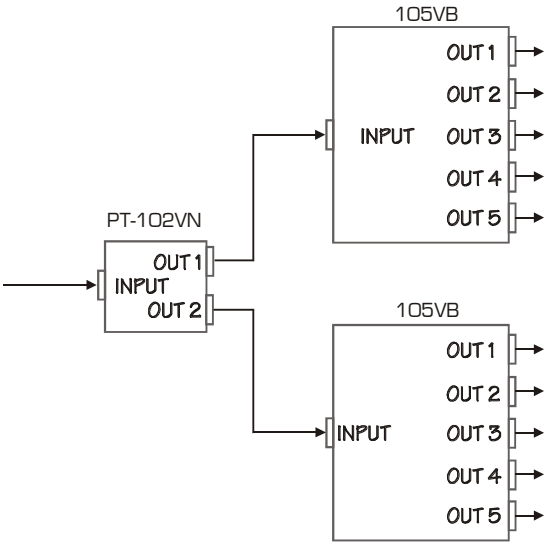


Figure 4: Increasing the Outputs - Connecting a 1:10 DA

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5 Technical Specifications

INPUTS:	1 composite video, 1Vpp /75Ω on a BNC connector
OUTPUTS:	2 composite video, 1Vpp /75Ω on BNC connectors
MAX. OUTPUT LEVEL:	2Vpp
BANDWIDTH (-3dB):	430MHz
DIFF. GAIN:	0.05%
DIFF. PHASE:	0.05Deg
K-FACTOR:	<0.05%
S/N RATIO:	76.1dB
CONTROLS:	Level: -1.2dB to +6dB, EQ.: 0 to + 7.5dB @50MHz via trimmers
COUPLING:	AC
POWER CONSUMPTION:	12V DC, 35mA
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)
STORAGE TEMPERATURE:	-40° to +70°C (-40° to 158°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	6cm x 6.5cm x 2.5cm (2.36" x 2.56" x 1") W, D, H
WEIGHT:	0.14kg (0.31lbs) approx.
INCLUDED ACCESSORIES:	Power supply, mounting bracket
OPTIONS:	RK-4PT 19" rack adapter
Specifications are subject to change without notice at http://www.kramerelectronics.com	

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LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

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This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

Without limiting any other exclusion herein, Kramer Electronics does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

How Long Does this Coverage Last

Seven years as of this printing; please check our Web site for the most current and accurate warranty information.

Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

What Kramer Electronics will do

Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.
3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

What Kramer Electronics will not do Under This Limited Warranty

If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

How to Obtain a Remedy under this Limited Warranty

To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, please visit our web site at www.kramerelectronics.com or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required. You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

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Other Conditions

This limited warranty gives you specific legal rights, and you may have other rights which vary from country to country or state to state.

This limited warranty is void if (i) the label bearing the serial number of this product has been removed or defaced, (ii) the product is not distributed by Kramer Electronics or (iii) this product is not purchased from an authorized Kramer Electronics reseller. If you are unsure whether a reseller is an authorized Kramer Electronics reseller, please visit our Web site at www.kramerelectronics.com or contact a Kramer Electronics office from the list at the end of this document.

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SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

P/N: 2900-002160 Rev: 3

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