KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

PT-102VN
1:2 Video DA

P/N: 2900-002160 Rev 3
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.

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
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](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.
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/.
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**.

![PT-102VN 1:2 Video DA Diagram](image)

<table>
<thead>
<tr>
<th>#</th>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>OUT 1 BNC Connector</td>
<td>Connects to composite video acceptor 1</td>
</tr>
<tr>
<td>2</td>
<td>OUT 2 BNC Connector</td>
<td>Connects to the composite video acceptor 2</td>
</tr>
<tr>
<td>3</td>
<td>ON LED</td>
<td>Illuminates when receiving power</td>
</tr>
<tr>
<td>4</td>
<td>EQ. Trimmer</td>
<td>Adjusts the cable compensation equalization level (using a small screwdriver)</td>
</tr>
<tr>
<td>5</td>
<td>LEVEL Trimmer</td>
<td>Adjusts the video signal level for outputs 1 and 2 (using a small screwdriver)</td>
</tr>
<tr>
<td>6</td>
<td>INPUT BNC Connector</td>
<td>Connects to the composite video source</td>
</tr>
<tr>
<td>7</td>
<td>12V DC</td>
<td>+12V DC connector for powering the unit</td>
</tr>
</tbody>
</table>
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.
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.
6. Adjust the output signal level and/or cable compensation equalization level of the **PT-102VN**, if required.

![Diagram](image)

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).
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
## Technical Specifications

<table>
<thead>
<tr>
<th>INPUTS:</th>
<th>1 composite video, 1Vpp /75Ω on a BNC connector</th>
</tr>
</thead>
<tbody>
<tr>
<td>OUTPUTS:</td>
<td>2 composite video, 1Vpp /75Ω on BNC connectors</td>
</tr>
<tr>
<td>MAX. OUTPUT LEVEL:</td>
<td>2Vpp</td>
</tr>
<tr>
<td>BANDWIDTH (-3dB):</td>
<td>430MHz</td>
</tr>
<tr>
<td>DIFF. GAIN:</td>
<td>0.05%</td>
</tr>
<tr>
<td>DIFF. PHASE:</td>
<td>0.05Deg</td>
</tr>
<tr>
<td>K-FACTOR:</td>
<td>&lt;0.05%</td>
</tr>
<tr>
<td>S/N RATIO:</td>
<td>76.1dB</td>
</tr>
<tr>
<td>CONTROLS:</td>
<td>Level: -1.2dB to +6dB, EQ.: 0 to + 7.5dB @50MHz via trimmers</td>
</tr>
<tr>
<td>COUPLING:</td>
<td>AC</td>
</tr>
<tr>
<td>POWER CONSUMPTION:</td>
<td>12V DC, 35mA</td>
</tr>
<tr>
<td>OPERATING TEMPERATURE:</td>
<td>0° to +40°C (32° to 104°F)</td>
</tr>
<tr>
<td>STORAGE TEMPERATURE:</td>
<td>-40° to +70°C (-40° to 158°F)</td>
</tr>
<tr>
<td>HUMIDITY:</td>
<td>10% to 90%, RHL non-condensing</td>
</tr>
<tr>
<td>DIMENSIONS:</td>
<td>6cm x 6.5cm x 2.5cm (2.36&quot; x 2.56&quot; x 1&quot;) W, D, H</td>
</tr>
<tr>
<td>WEIGHT:</td>
<td>0.14kg (0.31lbs) approx.</td>
</tr>
<tr>
<td>INCLUDED ACCESSORIES:</td>
<td>Power supply, mounting bracket</td>
</tr>
<tr>
<td>OPTIONS:</td>
<td>RK-4PT 19” rack adapter</td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice at [http://www.kamerelectronics.com](http://www.kamerelectronics.com)
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The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

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What is Not Covered
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Web site: [www.kramerelectronics.com](http://www.kramerelectronics.com)
E-mail: info@kramerel.com

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