MODELS:

**PT-571**
HDMI Line Transmitter

**PT-572+**
HDMI Line Receiver

P/N: 2900-000690 Rev 8
PT-571, PT-572+ 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

- The PT-571 HDMI Line Transmitter
- The PT-572+ HDMI Line Receiver
- 2 power adapters (12V DC input)
- 8 Rubber feet
- 1 Quick start guide
- Mounting brackets

Save the original box and packaging materials in case your Kramer product needs to be returned to the factory for service.

Step 2: Install the PT-571, PT-572+

Mount the units in a rack or place them on a table.

Step 3: Connect inputs and outputs

Always switch OFF the power on each device before connecting it to your PT-571, PT-572+.

For best results, we recommend that you always use Kramer high-performance cables to connect AV equipment to the TP-571 and TP-572+.

Step 4: Connect the power

Connect the 12V DC power adapter to the PT-571, PT-572+ and plug the adapter into the mains electricity.
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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 11 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 and GROUP 11: Sierra Video Products.

Congratulations on purchasing your Kramer PT-571 and PT-572+ transmitter/receiver pair, which is ideal for the following typical applications:

- Boardrooms, conference rooms and training rooms
- Presentation systems
- Signal distribution and home theater

You must use Shielded Twisted Pair (STP) cabling with the PT-571 and PT-572+.

Use only a straight pin-to-pin with RJ-45 connectors that meet the EIA /TIA 568B standard. Failure to do so may result in damage to the device(s).
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-571 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.
Overview

The **PT-571** is a DGKat™ twisted pair transmitter for HDMI signals. The **PT-571** converts an HDMI signal to a single twisted pair signal and the **PT-572+** converts the twisted pair signal back to an HDMI signal.

The **HDMI Line Transmitter/Receiver** system features:

- Maximum data rate 4.95Gbps (1.65Gbps per graphic channel)
- HDTV compatibility
- HDCP compliance
- HDMI support
- EDID PassThru that passes EDID signals between the source and display
- 3D pass-through
- System Range – Up to 90m (295ft) at 1080i, or up to 30m (98ft) at 1080p on shielded **BC-DGKat524** cable; 90m (295ft) at 1080i, or up to 70m (230ft) at 1080p on shielded **BC-DGKat623** cable; 100m (330ft) at 1080i or up to 90m (295ft) at 1080p on shielded **BC-DGKat7a23** cable
  
  *Note that the transmission range depends on the signal resolution, graphics card and display used. The distance using non-Kramer CAT 5, CAT 6 and CAT 7a cables may not reach these ranges*

- DGKat™ Signal Integration – Kramer’s unique technology for converting TMDS as well as control and communication to signals that run over twisted pair cables
- Power Connect™ that feeds 12V DC over the CAT 5 cable from transmitter to receiver (see **Section 3.2**)
- Ultra-Compact PicoTOOLS™ – 4 units can be rack mounted side-by-side in a 1U rack space with the optional **RK-4PT** rack adapter.

Use only shielded cable where both ends of the shield are soldered to ground to eliminate ESD interface.
3.1 Using Twisted Pair Cable

Kramer engineers have developed special twisted pair cables to best match our digital twisted pair products; the Kramer: BC-DGKat524 (CAT 5 24 AWG), the Kramer: BC-DGKat623 (CAT 6 23 AWG cable), and the Kramer: BC-DGKat7a23 (CAT 7a 23 AWG cable). These specially built cables significantly outperform regular CAT 5/CAT 6/CAT 7a cables.

3.2 About the Power Connect™ Feature

The Power Connect™ feature here means that only one unit in a system, the transmitter or receiver, needs to be connected to a power source when the devices are within 60m (197ft) of each other. The Power Connect™ feature applies as long as the cable can carry power and the distance does not exceed 60m on standard TP cable. (Heavier gauge cable may be used to extend the Power Connect™ range).
4 Defining the PT-571 HDMI Line Transmitter

The Kramer PicoTOOLS **PT-571 HDMI Line Transmitter** receives an HDMI signal, encodes it, and transmits it over a CAT 5 cable to the **PT-572+**.

The **PT-571** has:
- An HDMI input connector
- An RJ-45 CAT 5 output connector
- One power/status LED

Figure 1: PT-571 HDMI Line Transmitter

<table>
<thead>
<tr>
<th>#</th>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12V DC</td>
<td>+12V DC connector for powering the unit</td>
</tr>
<tr>
<td>2</td>
<td>HDMI IN Connector</td>
<td>Connect to the HDMI source</td>
</tr>
<tr>
<td>3</td>
<td>ON LED</td>
<td>Lights to indicate the following: Red—only the power is connected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orange—either the input or the output is connected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green—both the input and the output are connected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>If no input is connected the unit invokes the power save mode automatically turning off the power</td>
</tr>
<tr>
<td>4</td>
<td>OUT RJ-45 Connector</td>
<td>Connect to the IN RJ-45 connector on the <strong>PT-572+</strong></td>
</tr>
</tbody>
</table>
The Kramer Pico TOOLS **PT-572+ HDMI Line Receiver** receives an encoded signal over a CAT 5 cable transmitted from the **PT-571**, decodes it, and converts it to an HDMI output.

The **PT-572+** has:

- An HDMI output connector
- An RJ-45 CAT 5 input connector
- One power/status LED

![Diagram of PT-572+ HDMI Line Receiver](image)

**Figure 2: PT-572+ HDMI Line Receiver**

<table>
<thead>
<tr>
<th>#</th>
<th>Feature</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12V DC</td>
<td>+12V DC connector for powering the unit</td>
</tr>
<tr>
<td>2</td>
<td>HDMI OUT Connector</td>
<td>Connect to the HDMI acceptor</td>
</tr>
<tr>
<td>3</td>
<td>ON LED</td>
<td>Lights to indicate the following:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Red—only the power is connected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Orange—either the input or the output is connected</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Green—both the input and the output are connected</td>
</tr>
<tr>
<td>4</td>
<td>IN RJ-45 Connector</td>
<td>Connect to the OUT RJ-45 connector on the <strong>PT-571</strong></td>
</tr>
</tbody>
</table>
**6 Connecting the PT-571 and PT-572+ Transmitter Receiver Pair**

Always switch off the power to each device before connecting it to your PT-571/PT-572+. After connecting your PT-571/PT-572+, connect the power and then switch on the power to each device.

You can use the **PT-571 HDMI Line Transmitter** with the **PT-572+ HDMI Line Receiver** to configure an HDMI transmitter/receiver system.

![Diagram](image)

**Figure 3: Connecting the PT-571/PT-572+ Transmitter/Receiver Pair**

To connect the **PT-571** to the **PT-572+**, as illustrated in the example in **Figure 3**, do the following:

1. Connect the CAT 5 OUT RJ-45 connector on the **PT-571** to the CAT 5 IN RJ-45 connector on the **PT-572+** via a CAT 5 cable (see **Section 6.1**).

2. On the **PT-571**, connect an HDMI source (for example, a DVD player) to the HDMI IN connector.

3. On the **PT-572+**, connect the HDMI OUT connector to an HDMI acceptor (for example, a plasma display).
4. Connect the 12V DC power adapter to the power socket on the **PT-571** and/or the **PT-572+** and connect the adapter to the mains electricity (not shown in Figure 3).

**Note:** When connecting the **PT-572+** to the **VP-81SID** do not connect the 12V power supply to the **PT-572+**.

### 6.1 Wiring the TP Line In/Line Out RJ-45 Connectors

This section defines the TP pinout, using a straight pin-to-pin cable with RJ-45 connectors.

![Figure 4: TP Pinout Wiring](image)

Note, that the cable Ground shielding must be connected / soldered to the connector shield.

<table>
<thead>
<tr>
<th>PIN</th>
<th>Wire Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Orange / White</td>
</tr>
<tr>
<td>2</td>
<td>Orange</td>
</tr>
<tr>
<td>3</td>
<td>Green / White</td>
</tr>
<tr>
<td>4</td>
<td>Blue</td>
</tr>
<tr>
<td>5</td>
<td>Blue / White</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
</tr>
<tr>
<td>7</td>
<td>Brown / White</td>
</tr>
<tr>
<td>8</td>
<td>Brown</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pair</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>4 and 5</td>
</tr>
<tr>
<td>Pair 2</td>
<td>1 and 2</td>
</tr>
<tr>
<td>Pair 3</td>
<td>3 and 6</td>
</tr>
<tr>
<td>Pair 4</td>
<td>7 and 8</td>
</tr>
</tbody>
</table>
## Technical Specifications

<table>
<thead>
<tr>
<th></th>
<th>PT-571</th>
<th>PT-572+</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INPUTS:</strong></td>
<td>1 HDMI connector</td>
<td>1 RJ-45 connector</td>
</tr>
<tr>
<td><strong>OUTPUTS:</strong></td>
<td>1 RJ-45 connector</td>
<td>1 HDMI connector</td>
</tr>
<tr>
<td><strong>BANDWIDTH:</strong></td>
<td>4.95Gbps (1.65Gbps per graphic channel)</td>
<td></td>
</tr>
<tr>
<td><strong>COMPLIANCE WITH HDMI STANDARD:</strong></td>
<td>Supports HDMI and HDCP</td>
<td></td>
</tr>
<tr>
<td><strong>OPERATING TEMPERATURE:</strong></td>
<td>0° to +40°C (32° to 104°F)</td>
<td></td>
</tr>
<tr>
<td><strong>STORAGE TEMPERATURE:</strong></td>
<td>-40° to +70°C (-40° to 158°F)</td>
<td></td>
</tr>
<tr>
<td><strong>HUMIDITY:</strong></td>
<td>10% to 90%, RHL non-condensing</td>
<td></td>
</tr>
<tr>
<td><strong>POWER CONSUMPTION:</strong></td>
<td>12V DC, 250mA</td>
<td>12V DC, 250mA</td>
</tr>
<tr>
<td><strong>DIMENSIONS:</strong></td>
<td>6.2cm x 5.2cm x 2.4cm (2.4” x 2.1” x 1”) W, D, H</td>
<td></td>
</tr>
<tr>
<td><strong>WEIGHT:</strong></td>
<td>0.14kg (0.3lbs)</td>
<td></td>
</tr>
<tr>
<td><strong>ACCESSORIES:</strong></td>
<td>Power supply</td>
<td></td>
</tr>
<tr>
<td><strong>OPTIONS:</strong></td>
<td>RK-4PT 19” rack adapter</td>
<td></td>
</tr>
</tbody>
</table>

Specifications are subject to change without notice.
Go to our Web site at [http://www.kramerelectronics.com](http://www.kramerelectronics.com) to access the list of resolutions.
LIMITED WARRANTY

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

What is Covered
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 dealings 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 parts, 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 the Kramer Electronics office from the list at the end of this document.

Your rights under this limited warranty are not diminished if you do not complete and return the product registration form or complete and submit the online product registration form. Kramer Electronics thanks you for purchasing a Kramer Electronics product. We hope it will give you years of satisfaction.
For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

We welcome your questions, comments, and feedback.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com

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