



KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

PT-1 Ci
HDMI Isolator

P/N: 2900-300437 Rev 2



PT-1Ci HDMI Isolator Quick Start Guide

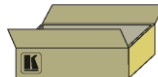
This guide helps you install and use your product for the first time. For more detailed information, go to <http://bit.ly/k-prod-downloads> to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

✓ PT-1Ci HDMI Isolator

✓ 4 Rubber feet

✓ 1 Quick Start Guide

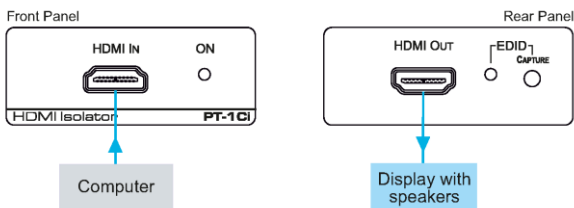


Step 2: Install the PT-1Ci

Attach the rubber feet and place on a table or mount the PT-1Ci in a rack (using an optional RK-4PT rack mount).

Step 3: Connect the input and output

Always switch off the power on each device before connecting it to your PT-1Ci.



The PT-1Ci receives power from the HDMI source.

Always use Kramer high-performance cables for connecting AV equipment to the PT-1Ci.

Step 4: Operate the PT-1Ci

To store the EDID:

- Press the EDID Capture button.
The EDID LED lights red

Note: EDID capture only needs to be performed once per setup.

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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 Products; GROUP 12: Digital Signage; and GROUP 13: Audio, and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer **PT-1Ci HDMI Isolator**, which is ideal for securing PCs from hacking through the HDMI lines by isolating the data channel.

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 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-1Ci** 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 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 **PT-1Ci** is a security tool for data-sensitive HDMI installations (military, banking, and such). It is an EDID buffer and storage device for HDMI signals that prevents reverse communication of the DDC signal. The device blocks HDCP and prevents EDID pass-through. The **PT-1Ci** lets you read and capture an EDID securely and present it to sources for compatibility with the display. The device has no effect on the audio and video streams and supports 4K@60Hz (4:4:4) UHD video.

The **PT-1Ci** features:

- A maximum data rate of 17.82Gbps (5.94Gbps per data channel)
- Resolution support of up to 4K@60Hz (4:4:4) UHD
- HDCP isolation (HDCP not supported)
- Compliance with HDMI standards
- HDMI input and output connectors
- No need for an external power supply as power is supplied by the HDMI source
- A power LED that indicates when the device is powered on
- An EDID capture button and LED indicator
- An ultra-compact PicoTools case that allows four units to be mounted side-by-side in a 1U rack space with the optional RK-4PT 19" rack adapter

4 Defining the PT-1Ci HDMI Isolator

[Figure 1](#) defines the front panel of the **PT-1Ci**.

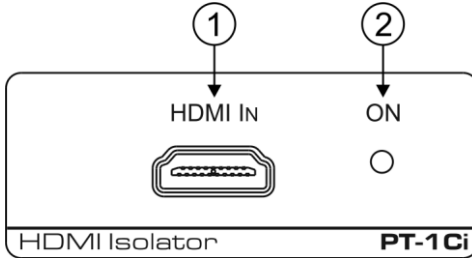


Figure 1: PT-1Ci HDMI Isolator Front Panel

#	Feature	Function
1	HDMI IN Connector	Connect to an HDMI source
2	ON LED	Lights green when the device receives power

[Figure 2](#) defines the front panel of the **PT-1Ci**.

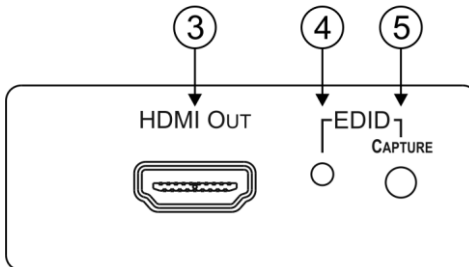


Figure 2: PT-1Ci HDMI Isolator Rear Panel

#	Feature	Function	
3	HDMI OUT Connector	Connect to an HDMI acceptor, (for example, display or projector)	
4	EDID	Button	Press the button when connected to an HDMI acceptor to capture the EDID of the acceptor
5		CAPTURE LED	Flashes red slowly for a few seconds when reading and storing the EDID. Flashes red quickly for a few seconds if the EDID cannot be captured and the default EDID is stored

5 Connecting the PT-1Ci



Turn off the power to each device before connecting it to your **PT-1Ci**. After connecting your **PT-1Ci**, turn on the power to each device.

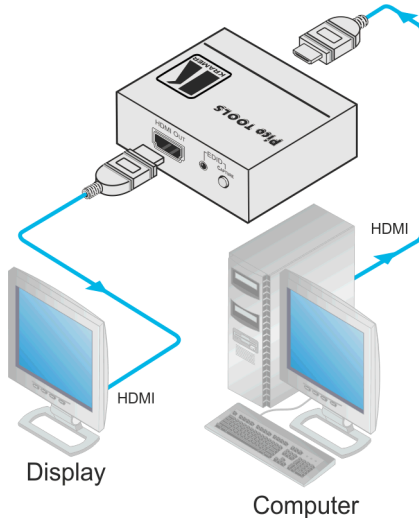


Figure 3: Connecting the PT-1Ci HDMI Isolator

To connect the PT-1Ci as shown in [Figure 3](#):

1. Connect the HDMI OUT connector to an HDMI acceptor (for example, a display or projector).
2. Connect the HDMI source (for example, a computer) to the HDMI IN connector.

5.1 Capturing the EDID

To capture the EDID from the acceptor:

- With the source and acceptor both connected, press the EDID button. The EDID button flashes red slowly for a few seconds then lights solid and the EDID is stored

Note: EDID capture only needs to be performed once. The EDID is stored in non-volatile memory, and capturing of the EDID is only necessary if a new display is connected.

6 Technical Specifications

INPUT:	1 HDMI connector
OUTPUT:	1 HDMI connector
MAX DATA RATE:	17.82Gbps (5.94Gbps per data channel)
MAX. RESOLUTION:	Up to 4K@60Hz (4:4:4) UHD
STANDARDS SUPPORTED:	HDMI compliant, HDCP isolation (HDCP not supported)
CONTROLS:	1 Capture button
INDICATORS:	Power LED, EDID Capture LED
POWER CONSUMPTION:	5V DC, 45mA (receives power from the HDMI source)
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
COOLING:	Convection
ENCLOSURE TYPE:	Aluminium
RACK MOUNT:	With optional adapter
FURNITURE MOUNT:	With included rubber feet
DIMENSIONS:	6.22cm x 5.18cm x 2.44cm (2.45" x 2.0" x 1.0") W, D, H.
WEIGHT:	0.07kg (0.15lbs) approx.
SHIPPING DIMENSIONS:	15.7cm x 12cm x 8.7cm (6.2" x 4.7" x 3.4") W, D, H.
SHIPPING WEIGHT:	0.18kg (0.4lbs) approx.
VIBRATION:	ISTA 1A in carton (International Safe Transit Association)
REGULATORY COMPLIANCE:	CE
ENVIRONMENTAL REGULATORY COMPLIANCE:	Complies with appropriate requirements of RoHs and WEEE
INCLUDED ACCESSORIES:	Power supply
OPTIONS:	RK-4PT 19" rack adapter
WARRANTY:	7 years parts and labor
Specifications are subject to change without notice at http://www.kramerelectronics.com	

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 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.

Limitation on Liability

THE MAXIMUM LIABILITY OF KRAMER ELECTRONICS UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

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IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPLICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY AS PROVIDED UNDER APPLICABLE LAW.

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.

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

CE



SAFETY WARNING

Disconnect the unit from the power supply before opening and servicing

P/N: 2900-300437



Rev: 2

