

Kramer Electronics, Ltd.



USER MANUAL

Models:

PT-5T, PT-5R

IR Extender and Repeater

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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 the video, audio, presentation and broadcasting professional 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 groups¹ that are clearly defined by function.

Congratulations on purchasing your Kramer Pico TOOLS™ **PT-5T, PT-5R** *IR Extender and Repeater* which is ideal for:

- High quality home theater installations
- Studios, airports, offices and hospitals
- Security and military applications

The package includes the following items:

- **PT-5T**
- **PT-5R**
- One IR receiver cable
- Five IR emitter cables
- Power supply and this user manual²

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
- Use Kramer high performance high resolution cables³

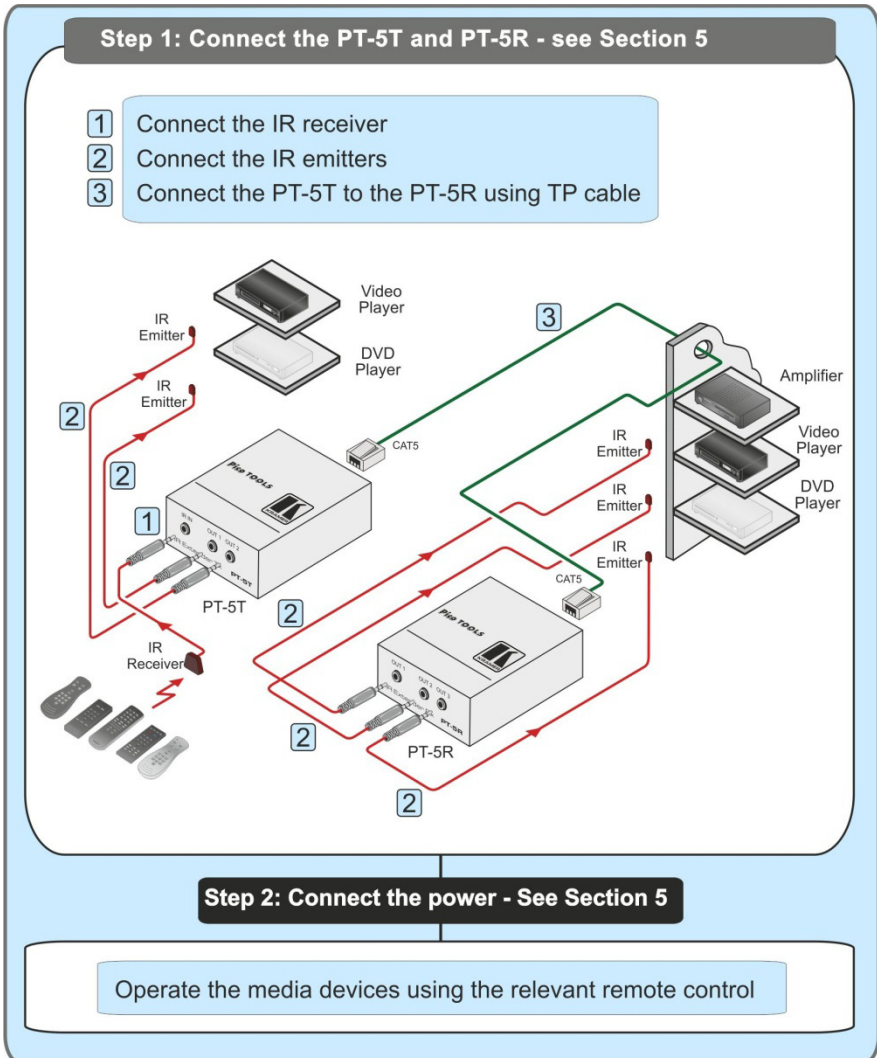
1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Sealers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Products

2 Download up-to-date Kramer user manuals from <http://www.kramerelectronics.com>

3 The complete list of Kramer cables is on <http://www.kramerelectronics.com>

2.1 Quick Start

This quick start chart summarizes the basic setup and operation:



3 Overview


The **PT-5T, PT-5R** is an IR transmitter and receiver pair that let you control up to five devices¹ via their own remote control transmitters from an extended distance over TP (Twisted Pair) cable.

In particular, the **PT-5T, PT-5R**:

- Lets you operate devices that are stacked away in closets, cabinets and even other rooms
- Can operate at a distance of up to 250m meters (820ft) between the transmitter and receiver
- Is 5V DC fed

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances that may adversely influence signal quality and position your Kramer **PT-5T, PT-5R** away from moisture, excessive sunlight and dust

	Caution: No operator serviceable parts inside unit
	Warning: Use only the Kramer Electronics input power wall adapter that is provided with the unit
	Warning: Disconnect power and unplug unit from wall before installing or removing the device or servicing unit

¹ For example, a video player, DVD player, air conditioning system, and any other remote controlled machine

4 Defining the PT-5T, PT-5R IR Extender and Repeater

[Figure 1](#) and [Table 1](#) define the front and rear panels of the **PT-5T**.

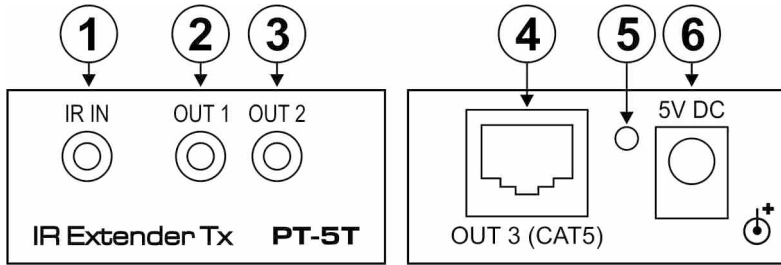


Figure 1: PT-5T IR Extender and Repeater Front and Rear Panel

Table 1: PT-5T IR Extender and Repeater Front and Rear Panel Features

#	Feature	Function
1	IR IN 3.5mm Mini Jack	Plug in the IR receiver (see Section 5.1)
2	OUT 1 3.5mm Mini Jack	Plug in the first IR emitter (see Section 5.1)
3	OUT 2 3.5mm Mini Jack	Plug in the second IR emitter
4	OUT 3 (CAT5) RJ-45 TP Connector	Connect to the PT-5R using CAT 5 TP cable
5	Power LED	Lights red when the unit receives power
6	5V DC	Connect to the power adapter (only one power adapter is needed, to either the transmitter or the receiver)

[Figure 2](#) and [Table 2](#) define the front and rear panels of the **PT-5R**.

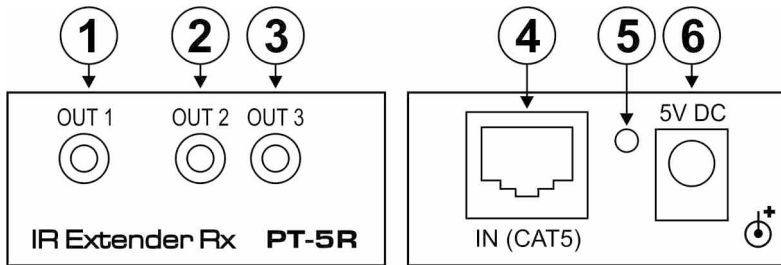


Figure 2: PT-5R IR Extender and Repeater Front and Rear Panel

Table 2: PT-5R IR Extender and Repeater Front and Rear Panel Features

#	Feature	Function
1	OUT 1 3.5mm Mini Jack	Plug in the third IR emitter (see Section 5.1)
2	OUT 2 3.5mm Mini Jack	Plug in the fourth IR emitter
3	OUT 3 3.5mm Mini Jack	Plug in the fifth IR emitter
4	IN (CAT 5) RJ-45 TP Connector	Connect to the PT-5T using CAT 5 TP cable
5	Power LED	Lights red when the unit receives power
6	5V DC	Connect to the power adapter (only one power adapter is needed, to either the transmitter or the receiver)

5 Connecting the PT-5T, PT-5R IR Extender and Repeater

5.1 Identifying the IR Receiver and IR Emitters

The receiver and emitters can be identified by their size and shape. The receiver is large and trapezoidal in shape; the emitters are small and rectangular in shape with a rounded top. Both have a 2m (6.6ft) cable attached terminated with a 3.5mm mini jack.

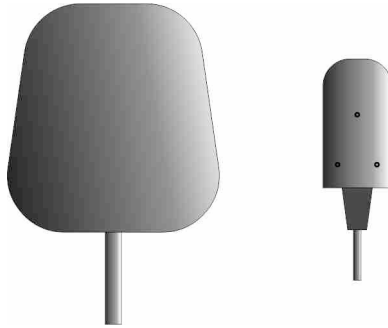


Figure 3: IR Receiver and Emitter

5.2 Connecting the PT-5T, PT-5R IR Extender and Repeater

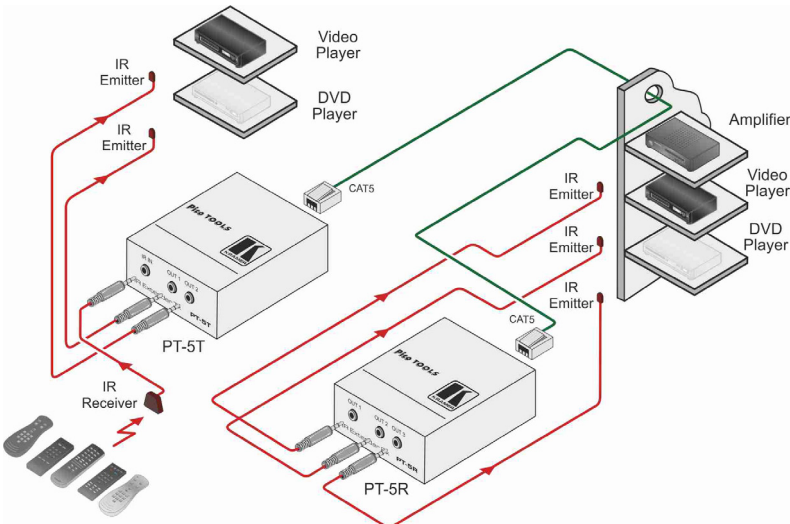


Figure 4: Connecting the PT-5T, PT-5R

To connect the **PT-5T, PT-5R IR Extender and Repeater** as illustrated in the example in [Figure 4](#):

1. Plug the IR receiver into the IR IN 3.5mm mini jacks on the front panel of the **PT-5T**.
2. Plug up to two IR emitters into the OUT 1 and OUT 2 3.5mm mini jacks on the front panel of the **PT-5T**.
3. Mount each of the IR emitters so that each points at and is within range of the relevant media device to be controlled.
4. Plug up to three IR emitters into the OUT 1, OUT 2 and OUT 3 3.5mm mini jacks on the front panel of the **PT-5R**.
5. Mount each of the IR emitters so that each points at and is within range of the relevant device to be controlled.
6. Connect the **PT-5T** and the **PT-5R** together using TP cable via the RJ-45 connectors on the rear panel of both devices.
7. Connect the power adapter to the 5V DC connector on the rear panel of the **PT-5T** or the **PT-5R** and to the mains electricity.

Note: Only one of the devices needs to be connected to a power adapter.

6 Operating the PT-5T, PT-5R IR Extender and Repeater

Use the remote control specific to the device to operate any of the devices connected via infrared to the **PT-5T** and **PT-5R**¹. The infrared signal from the remote control is transmitted from the:

- **PT-5T** to the device under control
- and–
- **PT-5T** to the **PT-5R** via the TP cable, and from there to the device under control

¹ You can use a machine's original remote control or a universal remote control

7 Technical Specifications

Table 3 lists the technical specifications.

Table 3: Technical Specifications¹ of the PT-5T, PT-5R IR Extender and Repeater

INPUTS:	PT-5T: 1 IR Receiver on a 3.5mm mini jack	PT-5R: 1 RJ-45
OUTPUTS:	PT-5T: 2 IR emitters on 3.5mm mini jacks, 1 RJ-45	PT-5R: 3 IR emitters on 3.5mm mini jacks
MAXIMUM OPERATING DISTANCE:	250m (820ft)	
POWER SOURCE:	5V DC; PT-5T: 7mA, PT-5R: 6mA	
OPERATING TEMPERATURE:	0° to +55°C (32° to 131°F)	
STORAGE TEMPERATURE:	-45° to +72°C (-49° to 162°F)	
HUMIDITY:	10% to 90%, RHL non-condensing	
DIMENSIONS:	5.0cm x 6.6cm x 2.3cm (1.97" x 2.6" x 0.91") W, D, H	
WEIGHT:	0.15kg (0.33lbs) approx.	
ACCESSORIES:	Power adapter 1 IR Receiver with 2m cable and 3.5mm mini jack 5 IR Emitters with 2m cables and 3.5mm mini jacks	

¹ Specifications are subject to change without notice



LIMITED WARRANTY

We warrant this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for seven years from the date of the first customer purchase.

WHO IS PROTECTED?

Only the first purchase customer may enforce this warranty.

WHAT IS COVERED AND WHAT IS NOT COVERED

Except as below, this warranty covers all defects in material or workmanship in this product. The following are not covered by the warranty:

1. Any product which is not distributed by us or which is not purchased from an authorized Kramer dealer. If you are uncertain as to whether a dealer is authorized, please contact Kramer at one of the agents listed in the Web site www.kramerelectronics.com.
2. Any product, on which the serial number has been defaced, modified or removed, or on which the WARRANTY VOID IF TAMPERED sticker has been torn, reattached, removed or otherwise interfered with.
3. Damage, deterioration or malfunction resulting from:
 - i) Accident, misuse, abuse, neglect, fire, water, lightning or other acts of nature
 - ii) Product modification, or failure to follow instructions supplied with the product
 - iii) Repair or attempted repair by anyone not authorized by Kramer
 - iv) Any shipment of the product (claims must be presented to the carrier)
 - v) Removal or installation of the product
 - vi) Any other cause, which does not relate to a product defect
 - vii) Cartons, equipment enclosures, cables or accessories used in conjunction with the product

WHAT WE WILL PAY FOR AND WHAT WE WILL NOT PAY FOR

We will pay labor and material expenses for covered items. We will not pay for the following:

1. Removal or installations charges.
2. Costs of initial technical adjustments (set-up), including adjustment of user controls or programming. These costs are the responsibility of the Kramer dealer from whom the product was purchased.
3. Shipping charges.

HOW YOU CAN GET WARRANTY SERVICE

1. To obtain service on your product, you must take or ship it prepaid to any authorized Kramer service center.
2. Whenever warranty service is required, the original dated invoice (or a copy) must be presented as proof of warranty coverage, and should be included in any shipment of the product. Please also include in any mailing a contact name, company, address, and a description of the problem(s).
3. For the name of the nearest Kramer authorized service center, consult your authorized dealer.

LIMITATION OF IMPLIED WARRANTIES

All implied warranties, including warranties of merchantability and fitness for a particular purpose, are limited in duration to the length of this warranty.

EXCLUSION OF DAMAGES

The liability of Kramer for any effective products is limited to the repair or replacement of the product at our option. Kramer shall not be liable for:

1. Damage to other property caused by defects in this product, damages based upon inconvenience, loss of use of the product, loss of time, commercial loss; or:
2. Any other damages, whether incidental, consequential or otherwise. Some countries may not allow limitations on how long an implied warranty lasts and/or do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights, which vary from place to place.

NOTE: All products returned to Kramer for service must have prior approval. This may be obtained from your dealer.

This equipment has been tested to determine compliance with the requirements of:

- EN-50081: "Electromagnetic compatibility (EMC);
generic emission standard.
Part 1: Residential, commercial and light industry"
- EN-50082: "Electromagnetic compatibility (EMC) generic immunity standard.
Part 1: Residential, commercial and light industry environment".
- CFR-47: FCC* Rules and Regulations:
Part 15: "Radio frequency devices
Subpart B Unintentional radiators"

CAUTION!

➤ Servicing the machines can only be done by an authorized Kramer technician. Any user who makes changes or modifications to the unit without the expressed approval of the manufacturer will void user authority to operate the equipment.

➤ Use the supplied DC power supply to feed power to the machine.

➤ Please use recommended interconnection cables to connect the machine to other components.

* FCC and CE approved using STP cable (for twisted pair products)



For the latest information on our products and a list of Kramer distributors visit www.kramerelectronics.com where updates to this user manual may be found. We welcome your questions, comments and feedback.



Caution

Safety Warning:

Disconnect the unit from the power supply before opening/servicing.



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