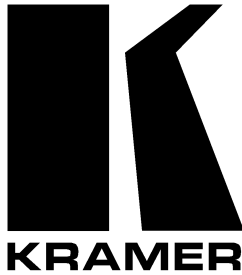


Kramer Electronics, Ltd.



USER MANUAL

Model:

TR-1

Video Isolation Transformer

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1 Introduction

Dedication by Kramer Electronics since 1981, to the development and manufacture of high quality video/audio equipment, makes the Kramer line an integral part of the finest production and presentation facilities in the world. In recent years, Kramer has redesigned and upgraded most of the line, making the best even better! The Kramer line of professional video/audio electronics is one of the most versatile and complete available, and is a true leader in terms of quality, workmanship, price/performance ratio and innovation. In addition to our high quality accessories, like the Kramer **TR-1 Video Isolation Transformer**, we also offer excellent switchers and matrices, distribution amplifiers, presentation processors, interfaces, remote controllers and computer-related products. Congratulations on purchasing your Kramer **TR-1 Video Isolation Transformer**. This product is ideal for:

- Broadcast and production video studios
- Video duplication studios
- Staging and fieldwork

The package includes the following items:

- **TR-1 Video Isolation Transformer**
- This user manual¹ and the Kramer concise product catalog/CD

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

3 Overview

In many applications, the connection between video sources and acceptors induces 50Hz or 60Hz ground loops, with undesirable effect such as hum bars² and audio hum.

The Kramer **TR-1 Video Isolation Transformer** breaks the ground connection in video transmission lines eliminating the hum caused by ground loops³.

¹ Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com/manuals.html>

² May show as a dark or light horizontal bar which slowly scrolls up or down the screen

³ Differences in ground potential

The high-resolution Kramer **TR-1 Video Isolation Transformer** is designed for applications in which interference problems—due to improper grounding and different ground potentials—affect the quality of the video signal. It can also be used to remove DC potentials, as well as for removal of common mode noise (for example, induced on long cable runs). The **TR-1** is a purely passive unit and is ideal for fieldwork.

The **TR-1 Video Isolation Transformer**:

- Includes a video bandwidth that exceeds 5.7 MHz
- Has excellent linearity
- Offers total galvanic isolation between input and output

Achieving the best performance means:

- Connecting 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)
- Avoiding interference from neighboring electrical appliances that may adversely influence signal quality and positioning your Kramer **TR-1** in a location free from moisture and away from excessive sunlight and dust

Figure 1 and Table 1 define the **TR-1 Video Isolation Transformer**:

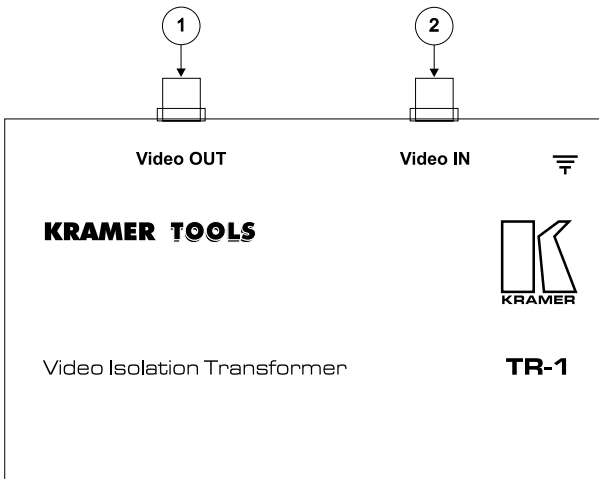


Figure 1: *TR-1 Video Isolation Transformer*

Table 1: *Features and Functions of the TR-1 Video Isolation Transformer*

#	Feature	Function
1	Video OUT BNC Connector	Connects to the video output
2	Video IN BNC Connector	Connects to the video input

4 Using the Video Isolation Transformer

Connect your **TR-1 Video Isolation Transformer**, as the example in Figure 2 illustrates:

1. Connect a video source (for example a VCR) to the *Video IN* BNC connector.
2. Connect the *Video OUT* BNC connector to a video acceptor (for example a video monitor).

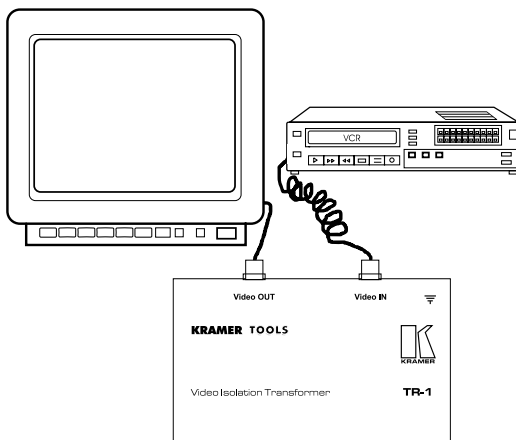


Figure 2: Connecting the TR-1 Video Isolation Transformer

5 Technical Specifications

Table 2: Technical Specifications of the TR-1 Video Isolation Transformer

Input:	1 composite video, 1Vpp/75Ω on a BNC connector
Output:	1 composite video, 1Vpp/75Ω on a BNC connector
Maximum Output Level:	4 Vpp / 75Ω
Bandwidth:	<10 Hz to 5.8 MHz; -3dB
Diff. Gain:	0.05 %
Diff. Phase:	0.05 Deg
K-Factor:	<1.2%
S/N Ratio:	73.4dB
Tilt:	0.1% @ Pulse & Bar
Non Linearity:	0.1%
Coupling:	Transformer
Power Source:	Passive
Dimensions:	120 mm x 73 mm x 30 mm (4.7" x 2.88" x 1.2") W, D, H
Weight:	0.34 kg. (0.75 lbs.) approx.
Accessories:	Mounting brackets

LIMITED WARRANTY

Kramer Electronics (hereafter *Kramer*) warrants this product free from defects in material and workmanship under the following terms.

HOW LONG IS THE WARRANTY

Labor and parts are warranted for three 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 Kramer, 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.
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 you 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.



For the latest information on our products and a list of Kramer distributors, visit our Web site: 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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Kramer Electronics, Ltd.

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