USER MANUAL

MODEL:

VGA Extender

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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.

Congratulations on purchasing your Kramer **VGA Extender**, which is ideal for the following typical applications:

- Digital signage
- Media extension

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 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 **VGA Extender** 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 **VGA Extender** extends video (VGA) signals up to 110m (360ft) depending on the resolution.

The **VGA Extender** is made up of three components:

- VDS transmitter
- VDS dual screen receiver
- Optional CAT 5 VDS line splitter

This table defines the models:

Kramer Model	Kramer Part Number	Full Description
EXT-VGA (0VS23077)	50-0000999011	Minicom CAT5 VGA Extender

The **VGA Extender** features:

- A maximum range of up to 110m (360ft)
- Support for CAT 5/6/7 FTP/UTP cable
- Plug and Play installation with no extra protocols needed
- Cascadability – adding VDS line splitters increases the number of receivers up to 64
- The VDS transmitter supports the following resolutions:
  ```
   720 x 400p  @70Hz - IBM VGA
   640 x 480p  @60Hz - IBM VGA
   640 x 480p  @67Hz - Apple Mac II
   640 x 480p  @72Hz - VESA
   640 x 480p  @75Hz - VESA
   800 x 600p  @56Hz - VESA
   800 x 600p  @60Hz - VESA
   800 x 600p  @72Hz - VESA
   800 x 600p  @75Hz - VESA
   832 x 624p  @75Hz - Apple Mac II
  1024 x 768p  @60Hz - VESA
  1024 x 768p  @70Hz - VESA
  1024 x 768p  @75Hz - VESA
  1280 x1024p  @75Hz - VESA
  1152 x  870p @75Hz - Apple Mac II
  1600 x1200p  @60Hz - VESA STD
  1280 x1024p  @60Hz - VESA STD
  1280 x  960p @60Hz - VESA STD
  1152 x  864p @75Hz - VESA STD
  ```

4 Connecting the VGA Extender System

This section describes how to connect the **VGA Extender** system.

Before installation:

- Switch off the computer

- Place cables away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise

Figure 1 illustrates an overview of the **VGA Extender** system.

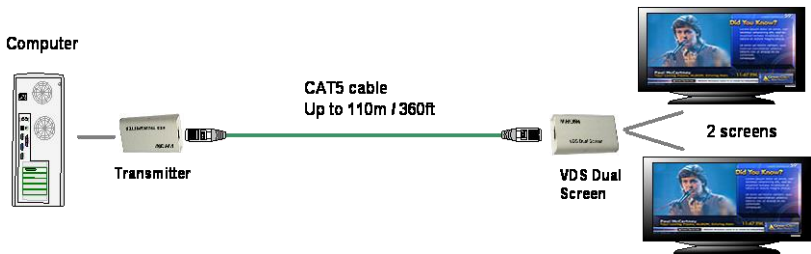- Connect the receiver to one or two screens, up to 110m/360ft away from the transmitter (depending on resolution).

Figure 1: VGA Extender System

Figure 2 illustrates the **VGA Extender** system with a connected Line Splitter adding up to 14 more screens to the system. (With cascading you can have a maximum of 64 screens).

Figure 2: Expanded VGA Extender System Overview

4.1   Connecting the Transmitter

Figure 3 illustrates how to connect the transmitter:

To USB Port

Transmitter

To VDS Dual Screen
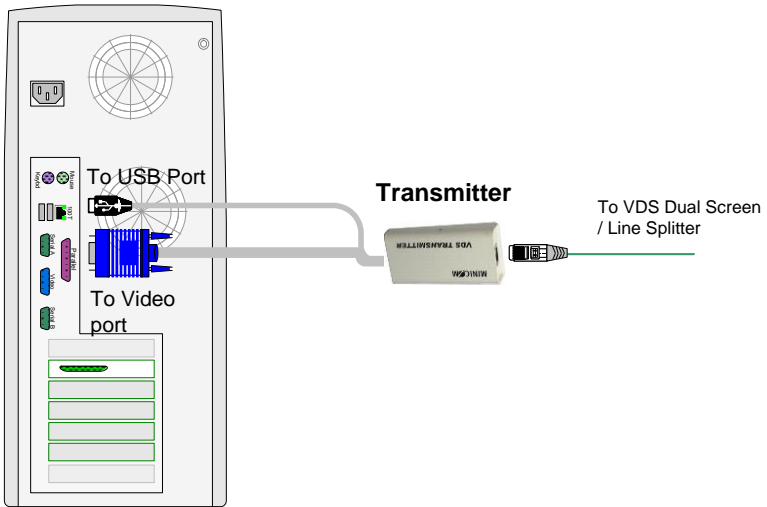/ Line Splitter

To Video
port

Figure 3: Connecting the Transmitter

Note. Although we recommend connecting the transmitter to a computer that is switched off, you can connect it to a computer that is switched on.

To do so, you must connect it in the following order:

- USB connector

- Video connector

4.2   Connecting the Receiver

Figure 4 illustrates how to connect the VDS Dual Screen receiver:

System cable to
Transmitter / Line
Splitter

To
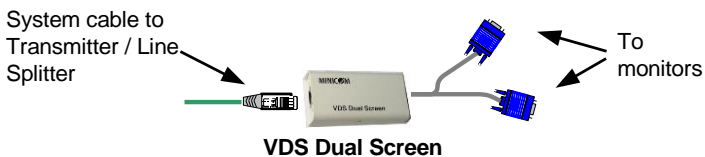monitors

VDS Dual Screen

Figure 4 VDS Dual Screen Connections

4.3 Connecting the CAT 5/6/7 Cable

A CAT 5/6/7 cable connects to the RJ-45 ports of the transmitter and the VDS Dual Screen.

4.4 Connecting the Power Supply

Connect the supplied 5V DC power adapter to the receiver. The transmitter is powered only via its USB connection.

Note: If connected to a USB hub, the hub must be powered.

4.5 Connecting the Line Splitter

Connect up to 64 screens by adding up to 2 levels of CAT 5 video display line splitters to the **VGA Extender** system.

Figure 5 illustrates the ports of the line splitter and Figure 6 illustrates the detailed connections of the system including the transmitter, the receivers and a line splitter.

For the line splitter connect the supplied 12V DC power adapter.

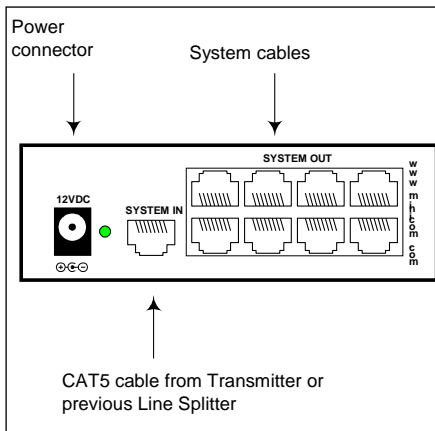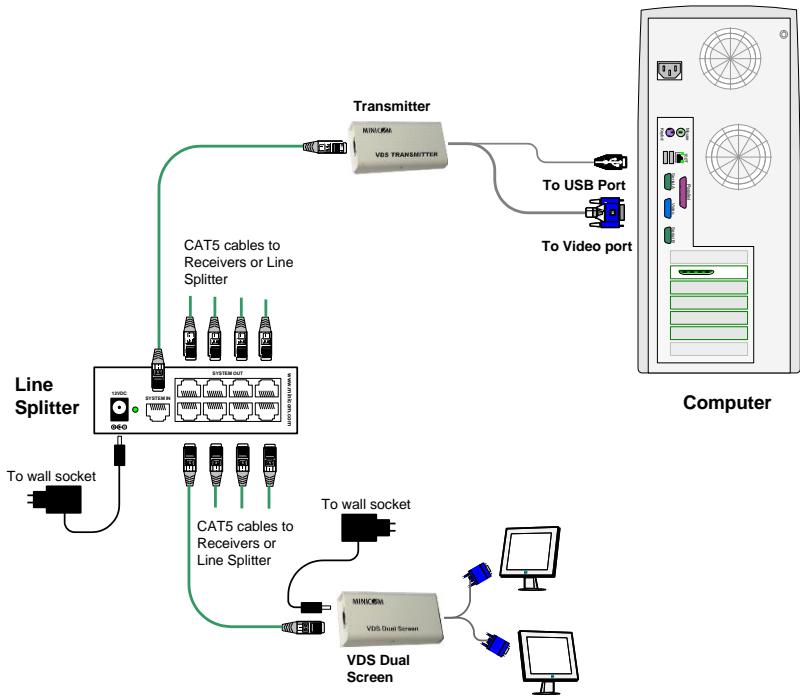Figure 5 Line Splitter

Transmitter

To USB Port

To Video port

CAT5 cables to
Receivers or Line
Splitter

Computer

Line
Splitter

To wall socket

CAT5 cables to
Receivers or
Line Splitter

To wall socket

VDS Dual
Screen

Figure 6 Detailed Connections

5 Operating the VGA Extender

5.1 LED Indicators

Both the transmitter and receiver have 2 LEDs above the RJ-45 port.

The green LED indicates power is on. The flashing yellow LED indicates the system is connected.

5.2 Switching On

Before switching on the computer, connect the transmitter. When fully connected, the **VGA Extender** system is ready to transmit video signals.

5.3 Adjusting the Picture

To get a clear projected image, use a screwdriver to turn the picture adjuster on the VDS Dual Screen receiver unit.

Note: To see a difference you have to turn the picture adjuster several times.

6 Technical Specifications

	Transmitter	Receiver
INPUTS:	1 VGA on a 15-pin HD connector	1 twisted pair on an RJ-45 connector
OUTPUTS:	1 twisted pair on an RJ-45 connector	2 VGA on 15-pin HD connectors
POWER SUPPLY:	From connected computer	External switching power adapter 5V DC 110/240
MAX. RESOLUTION:	Up to 1920X1080 @ 60Hz (depending on cable length)	
MAXIMUM RANGE:	110m (360ft)	
SYSTEM CABLE:	CAT 5/6/7 cable 2x4x24 AWG solid wire	
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)	
STORAGE TEMPERATURE:	-40° to +70°C (-40° to 158°F)	
HUMIDITY:	80%, RHL non-condensing	
DIMENSIONS:	89mm x 46mm x 25.3mm (3.5" x 1.8" x 0.9") W. D. H.	
WEIGHT:	0.55kg (1.21lb)	
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.

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Three years as of this printing; please check our Web site for the most current and accurate warranty information.

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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:

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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.

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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

ISO 9001:2008
IQC

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

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