



VGA Extender over Cat 6 with Audio Support

Model 103004



- ◆ EXTEND BOTH VIDEO AND AUDIO UP TO 300 METERS
- ◆ UTILIZE A CAT 6 CABLE INSTEAD OF A BULKY VGA CABLE
- ◆ SUPPORTS A LOCAL MONITOR AND LOCAL AUDIO
- ◆ EASY INSTALLATION WITH NO DRIVERS REQUIRED

User Manual



www.cablematters.com



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1. Introduction

1.1 Introduction

Thank you for your purchase from Cable Matters Inc., the 'Reliable Connectivity' company. This User Manual provides an overview of the features and installation of your new

VGA Extender over Cat 6 with Audio Support

Please read these instructions carefully before connecting, operating or configuring this product. Please keep this user manual for future reference.

Contact support@cablematters.com for questions or product support.

1.2 Copyright and Trademarks

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1.3 FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. The device has been evaluated to meet general RF exposure requirement.

2. PRODUCT OVERVIEW

2.1 Package Contents

Please check that the following items are contained in the box:

- 1 x VGA Extender Sender
- 1 x VGA Extender Receiver
- 2 x AC Power Adapters
- 2 x Sender Mounting Brackets
- 4 x Mounting Screws for Sender unit
- 1 x User Manual

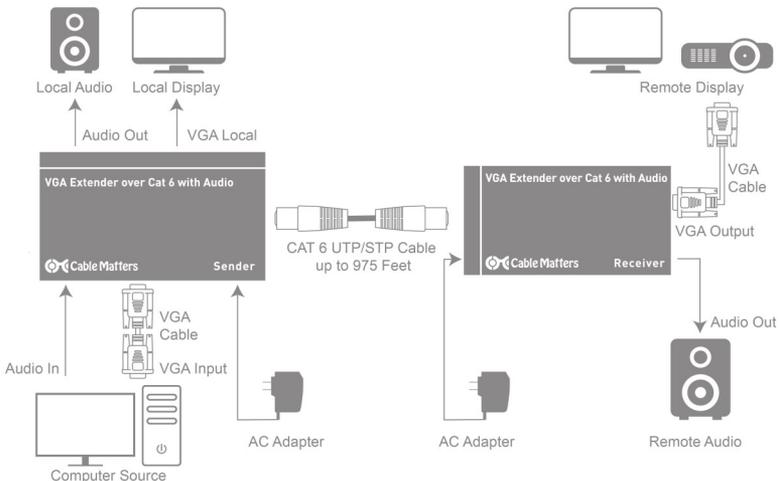
NOTE: VGA cables, audio cables, and Cat 6 cabling is sold separately.

2.2 Product Description

The Cable Matters VGA Extender distributes a VGA signal up to 975 feet from a computer to a VGA display over a single Cat 6 cable. It connects one local and one remote display. Audio ports on the Extender units provide connections for both local and remote speakers.

A VGA Extender is an ideal solution for connecting remote monitors in a classroom, conference room, house of worship, warehouse, security desk, or lab test bench.

2.3 Connection Diagram





2.3 Product Features

- Extend a VGA connection up to 975 feet from a computer source, to a monitor or projector over a single Cat 6 UTP/STP cable
- Utilize existing Cat 6 premise wiring instead of running a long, bulky VGA cable through tight spaces
- Supports video resolutions include 640X480, 800X600, 1024X768, 1280X720, 1280X768, 1280X960, 1280X1024, 1600X900, 1600X1200, 1920X1080, 1920X1200
- Connect a local VGA display to mirror the video of the remote display
- Supports mirroring of local and remote audio to connect a speaker
- Extender units are AC powered to boost the video and audio signals
- Compact Extender boxes are constructed of a rugged metal housing
- Screw terminal Gain and Peak settings adjust brightness and clarity
- Surface mountable Sender unit with included brackets and screws

Sample Transmission Range Examples

640 x 480 @ 975 Feet

800 x 600 @ 660 Feet

1024 x 768 @ 495 Feet

1280 x 1024 @ 330 Feet

1920 x 1080 @ 250 Feet

NOTE: 24 AWG certified Cat 6 with solid copper conductors and high quality VGA cables with ferrites provide the best performance at the maximum distance.



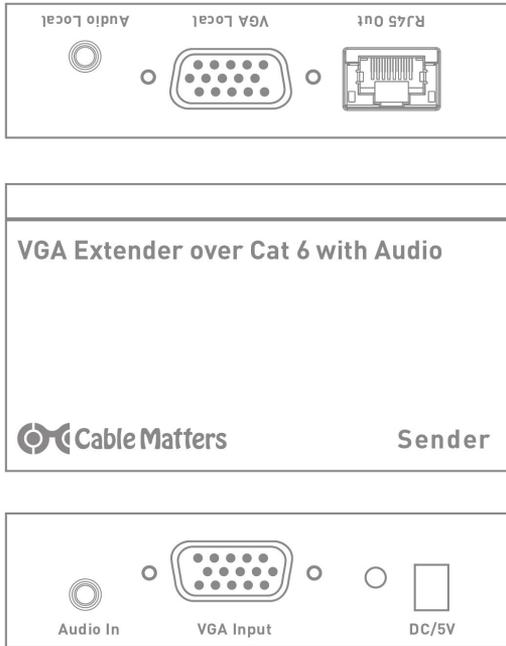
3. CONNECTION INSTRUCTIONS

3.1 Installation Checklist

Please review these steps before installing the VGA Extender.

- Cat 5 or 5e cabling will reduce the maximum distance of the Extender.
- Test the VGA, audio, and Cat 6 cabling (sold separately) before installing in a permanent location.
- Power-off the connected VGA source and destination equipment before connecting the VGA Extender units or any cabling.
- The VGA Extender Sender and Receiver units must be located within 3 feet of an electrical outlet to use the included power adapters.
- The recommended maximum length for the VGA and audio cables at each end is 10 feet for the best performance.
- The Cat 6 cabling should be directly connected and not used with any other equipment such as a network switch or router.
- The Extender units are wired with a TIA/EIA 568B at the RJ45 ports.
- For the best performance at the maximum distance, use 24 AWG Cat 6 solid cable and high quality VGA cables with ferrites.
- Cat 6 unshielded twisted pair (UTP) cable is appropriate for short to medium distances in a low RFI/EMI environment.
- Cat 6 shielded (STP) cable is appropriate for medium to long distances with potential RF/EM interference. RJ45 connectors with metal connectors are recommended when using shielded cable along with proper grounding.
- A mini screwdriver is required to adjust the Gain and Peak settings.
- The Sender is surface mountable with the included brackets and screws.

3.2 Connecting the Sender Unit



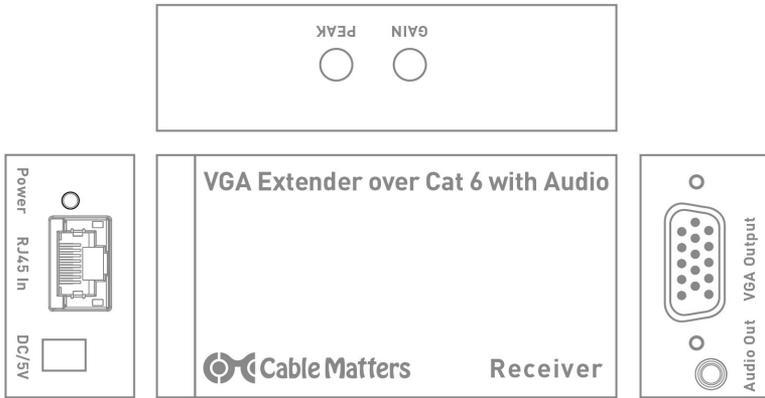
- 1) Connect the power adapter to the Sender and an electrical outlet. Verify that the green power LED is lit.
- 2) Connect a VGA cable from the computer source to the **VGA Input** female port (not the VGA Local port) on the Sender.
- 3) Connect a Cat 6 cable to the **RJ45 Out** female port.

Optional Connections

- Connect a 3.5mm audio cable from the computer source to the **Audio In** port.
- Connect a local display to the **VGA Local** port
- Connect local speakers to **Audio Local** port

NOTE: The recommended max length of the VGA and audio cables is 10 feet for the best performance.

3.3 Connecting the Receiver Unit



- 1) Connect the power adapter to the Receiver and an electrical outlet. Verify that the green power LED is lit.
- 2) Connect a VGA cable from the remote display to the **VGA Output** female port on the Receiver.
- 3) Connect a Cat 6 cable to the **RJ45 In** female port.
- 4) Connect speakers to the **Audio Out** port (optional).

3.4 Installation Confirmation

- Power-on the computer source and the remote display.
- Verify that the video is displayed correctly on the remote display and that the audio (optional) is transmitting to the remote speakers.
- It may take a few minutes for the video to synchronize. See Section 3.5 for configuring the video resolution and sound.
- If the remote display video is too dark, adjust the brightness with the **GAIN** screw terminal on the Receiver.
- If the remote display video is skewed, adjust the clarity with the **PEAK** screw terminal.



3.5 Video and Audio Settings

Video Settings

- Select a video resolution and refresh rate that is supported by the source computer and output display.
- Select the VGA input on the remote output display.
- Note: The local display mirrors the content of the remote output display.

Audio Settings

- Audio is supported only over 3.5mm cables (sold separately).
- Configure the audio output from the source computer.
- Adjust the volume from both the source computer and output speakers.
- The local audio output mirrors the output of the remote output speakers.

Note: Refer to the user manual of your monitor or projector for changing the video resolution, refresh rate and audio input settings.



3.6 Troubleshooting Notes

NOTE: Analog VGA does not support playback of copy protected video.

- Verify that both Extender units and the connected equipment have power. The green power LED indicators should be lit on both Extender units.
- Verify that all cables are connected to the correct input and output ports.
- Verify that the correct video input is selected on the remote display.
- Check the video resolution and refresh settings to find a compatible setting. Directly connect the computer to the remote display to verify that they are compatible (if possible).
- Check the audio output settings from the computer and the input settings of the remote display.
- Test each VGA and audio cable by connecting it with other equipment.
- Try to place cables away from fluorescent lights, air conditioners, or machines that are likely to generate electrical noise.
- Test the Cat 6 cable continuity with a cable tester.
- Ghosting or wrong colors at the remote display is an indication of an incorrectly terminated Cat 6 cable. Verify that it has 568B wiring and a properly crimped RJ45 connector.
- A flickering image may be due to a harsh environment with EM or RF interference or improper grounding of the remote display. Shielded Cat 6 cabling may be required.
- Reboot the computer and display after making changes.

Contact support@cablematters.com with any questions.

4. TECHNICAL SPECIFICATIONS Model 103004**Extender Sender Connections**

Video / VGA	2 x HD15 VGA female (input and output)
Mono Audio	2 x 3.5mm (input, local)
Transmission / Cat 6	1 x RJ45 8P/8C Female
Power	1 x 5V/2A DC power input

Extender Receiver Connections

Video / VGA	1 x HD15 VGA female (output)
Mono Audio	1 x 3.5mm mini-jack (output)
Transmission / Cat 6	1 x RJ45 8P/8C Female
Power	1 x 5V DC power input

Transmission Distance

Sample Transmission Ranges	975 feet max over Cat 6 UTP/STP 640 x 480 @ 1000 Ft, 800 x 600 @ 660 Ft, 1024 x 768 @ 495 Ft, 1280 x 1024 @ 330 Ft, 1920 x 1080 @ 250 Ft
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HDCP Compliance

No/Analog VGA does not support HDCP

Vertical Frequency Range

60/75/85 Hz (refresh rate)

Mechanical

Sender (L x W x H) / Weight	3.5 x 2.4 x 0.9 Inches / 4.8 Ounces
Receiver (L x W x H) / Weight	3.2 x 1.7 x 0.8 Inches / 3.8 Ounces

Environmental

Operating Temperature	0°C to +70°C
Operating Humidity	10% to 85 % RH (no condensation)
Storage Temperature	-10°C to +80°C
Storage Humidity	5% to 90 % RH (no condensation)

Extender Power Supply

US Standard 5V 2A max 5W, 3 Feet

Regulatory Approvals

Extender Units and Power Supply	FCC, C E, RoHS
Warranty	Limited One Year

User Manual	English Version
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NOTE: Specifications are subject to change without notice.



5. Warranty and Support

5.1 Customer Support and Contact Information

Cable Matters offers lifetime technical support as an integral part of our commitment to provide industry leading solutions.

Email us with any questions at support@cablematters.com.

5.2 Warranty Information

This product is backed by a limited one-year warranty. In addition, Cable Matters warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replaced with equivalent products at our discretion. The warranty covers parts and labor costs only. Cable Matters does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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