



VGA Extender over Single CAT 6 Cable with Audio Support

Model 103004



- ◆ EXTEND BOTH VIDEO AND AUDIO UP TO 1000 FEET
- ◆ UTILIZE A CAT 6 CABLE INSTEAD OF A BULKY VGA CABLE
- ◆ SUPPORTS A LOCAL MONITOR AND LOCAL SPEAKERS
- ◆ EASY INSTALLATION WITH NO DIP SWITCHES OR DRIVERS

User Manual



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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 single Cat 6 with audio support

For optimum performance and safety, please read these instructions carefully before connecting, operating or configuring this product. Please keep this manual for future reference.

Please 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 – 4 Feet
- 2 x Sender Mounting Brackets
- 4 x Mounting Screws
- 1 x User Manual

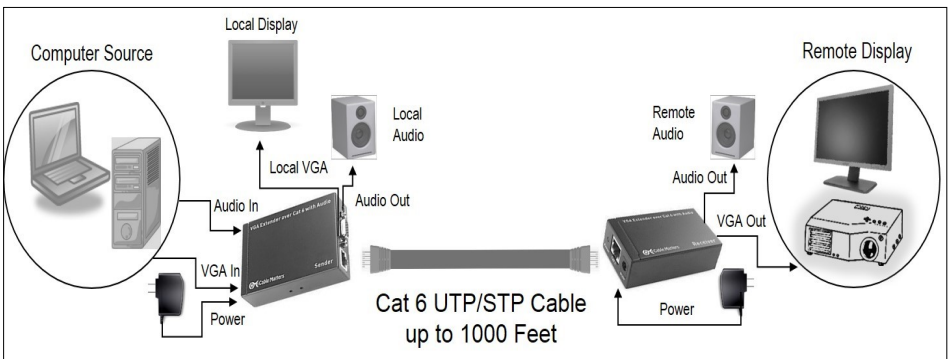
NOTE: VGA cables, audio cables, and Cat 6 cabling is sold separately.

2.2 Product Description

The Cable Matters VGA Extender distributes a VGA signal up to 1000 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 extenders 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 bench.

2.3 Connection Diagram



2.3 Product Features

- Extend a VGA connection up to 1000 feet between a computer, monitor, TV 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 both local and remote audio to connect speakers
- VGA Extenders are AC powered to boost the video and audio signals
- Simple installation without any required dip switch settings or drivers
- Compact Extender boxes are constructed of a rugged metal housing
- Surface mountable Sender unit with included brackets and screws

Sample Transmission Range Examples

640 x 480 @ 1000 Feet

800 x 600 @ 660 Feet

1024 x 768 @ 495 Feet

1280 x 1024 @ 330 Feet

1920 x 1080 @ 250 Feet

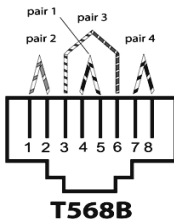
NOTE: 24 AWG certified Cat 6 solid cable and high quality VGA cables with ferrites provide the best performance at the maximum distance.

3. CONNECTION INSTRUCTIONS

3.1 Installation Checklist

Please review these steps before installing the VGA Extenders.

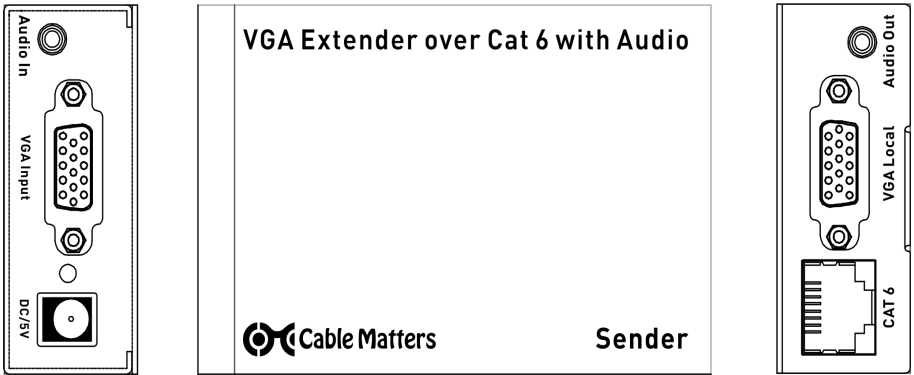
- Test the VGA, audio, and Cat 6 cabling (sold separately) before installing in a permanent location.
- Power-off the connected VGA source and destination equipment before connecting the VGA extenders or any cabling.
- The VGA Extender Sender and Receiver units must be located within 4 feet of an electrical outlet to use the included power adapters.
- The recommended maximum length for the VGA and audio cables at each end is 10 feet.
- The Cat 6 cabling should not be connected to any other equipment such as a network switch or router.
- The Extenders are wired with a TIA/EIA 568B straight-through configuration. See the diagram below.
- 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 cable (STP) is appropriate for medium to long distances with potential RF/EM interference. RJ45 connectors with a metal housing are recommended when using shielded cable.
- A mini screwdriver is required to adjust the Gain and Peak settings.
- The Sender is surface mountable with the included brackets and screws.



Pin	Wire Color	Pair
1	Wht/Org	2
2	Org	2
3	Wht/Grn	3
4	Blu	1
5	Wht/Blu	1
6	Grn	3
7	Wht/Brn	4
8	Brn	4

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3.2 Connecting the Sender Unit

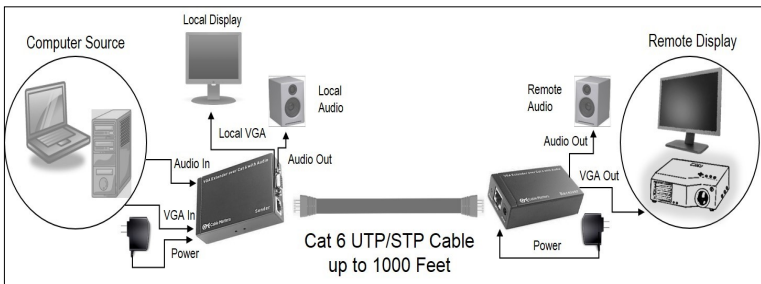


1. Connect the power adapter to the Sender and an electrical outlet. Verify that the green power LED is lit.
2. Connect a VGA cable from the computer source to the 'VGA Input' female port (not the VGA Local port) on the Sender.
3. Connect a Cat 6 cable to the 'CAT6' female port.

Optional Connections

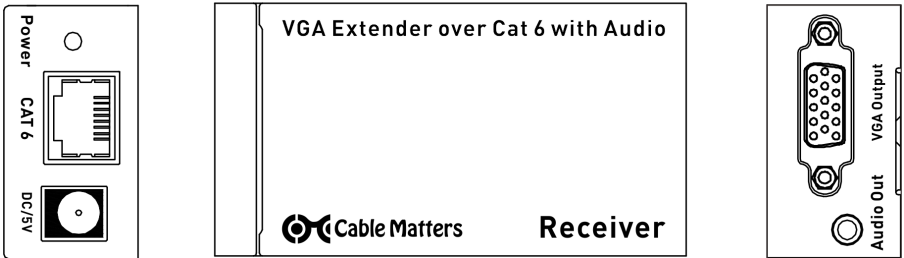
- Connect a 3.5mm audio stereo cable from the computer source to the 'Audio In' port.
- Connect a local display to the 'VGA Local' port
- Connect local speakers to 'Audio Out' port

NOTE: The recommended max length of the VGA and audio cables is 10'.



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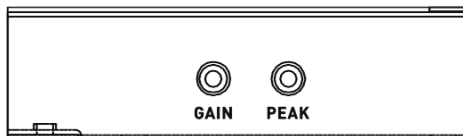
3.3 Connecting the Receiver Unit



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 'CAT6' female port.

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 transmitted 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

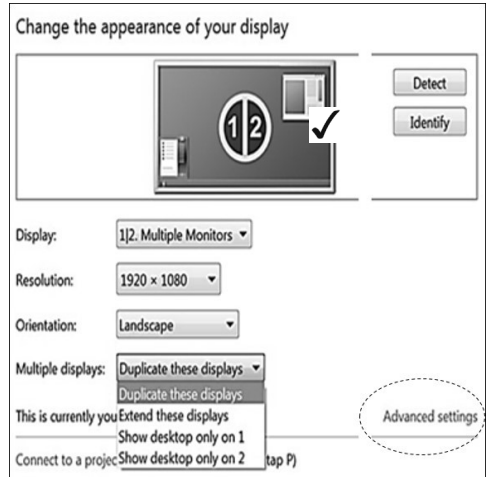
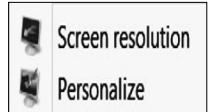
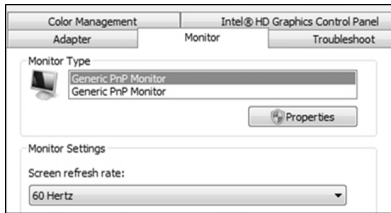


3.5 Video Resolution and Audio Settings

- Adjust the video resolution settings of a Windows source computer by right-clicking on the desktop and selecting

'Screen resolution'

- Select 'Extend these displays' to use the native resolution of both displays
- Click on 'Advanced settings' to lower the refresh rate
- Reboot the display, if needed



- Confirm the sound output from the Control Panel > Sound menu
- Verify that the audio cables are connected to the correct input and output ports



- Reboot the computer after changing the sound settings, if necessary

NOTE: Refer to the user manual of your monitor, TV, or projector for changing the resolution and sound input settings.

3.6 Troubleshooting Notes

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

- Verify that both Extenders and the connected equipment have power. The green power LED indicators should be lit on the Extenders.
- 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 (see Section 3.5 for instructions). 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, if necessary.
- 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 connections 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 (see Section 3.1) 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 & output)
Stereo Audio	2 x 3.5mm stereo mini-jack (input & output)
Transmission / Cat 6	1 x RJ45 8P/8C Female
Power	1 x 5V DC power input

Extender Receiver Connections

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

Transmission Distance

Sample Transmission Ranges	1000 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 playback of copy protected video

Vertical Frequency Range

60/75/85 Hz (refresh rate)

Mechanical

Sender (L x W x H) / Weight	4 x 2.6 x 1 Inches / 7.5 Ounces
Receiver (L x W x H) / Weight	3.2 x 1.7 x 0.9 Inches / 4.1 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 5 W, 4 Feet

Regulatory Approvals

Extender Units	FCC, C E, RoHS
Power Supply	FCC, C E, RoHS, UL Listed

Warranty

Limited One Year

User Manual

English Version

NOTE: Specifications are subject to change without notice.

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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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