



Simply Better Connections

CE624 / CE924

USB DVI / DisplayPort Dual View
HDBaseT 2.0 KVM Extender
User Manual

Compliance Statements

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The 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 this equipment.

Warning

Operation of this equipment in a residential environment could cause radio interference.

Achtung

Der Gebrauch dieses Geräts in Wohnumgebung kann Funkstörungen verursachen.

Suggestion

Shield twisted pair (STP) cables must be used with the unit to ensure compliance with FCC & CE standards.



KCC Statement

유선 제품용 / A 급 기기 (업무용 방송 통신 기기)
이 기기는 업무용 (A 급) 전자파적합기기로서 판매자 또는 사용자는 이
점을 주의하시기 바라며, 가정 외의 지역에서 사용하는 것을 목적으로
합니다.

Industry Canada Statement

This Class A digital apparatus complies with Canadian ICES-003.

CAN ICES-003 (A) / NMB-003 (A)

RoHS

This product is RoHS compliant.

User Information

Online Registration

Be sure to register your product at our online support center:

| | |
|---------------|---|
| International | http://eservice.aten.com |
|---------------|---|

Telephone Support

For telephone support, call this number:

| | |
|---------------|---|
| International | 886-2-8692-6959 |
| China | 86-400-810-0-810 |
| Japan | 81-3-5615-5811 |
| Korea | 82-2-467-6789 |
| North America | 1-888-999-ATEN ext 4988 1-949-428-1111 |

User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed *as is*. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.

Product Information

For information about all ATEN products and how they can help you connect without limits, visit ATEN on the Web or contact an ATEN Authorized Reseller. Visit ATEN on the Web for a list of locations and telephone numbers:

| | |
|---------------|---|
| International | http://www.aten.com |
| North America | http://www.aten-usa.com |

Package Contents

Check to make sure that all the components are in working order. If you encounter any problem, please contact your dealer.

CE624 USB DVI Dual View HDBaseT 2.0 KVM Extender:

- ◆ 1 CE624L USB DVI Dual View HDBaseT 2.0 KVM Extender (local unit)
- ◆ 1 CE624R USB DVI Dual View HDBaseT 2.0 KVM Extender (remote unit)
- ◆ 2 DVI cables (1.8 m)
- ◆ 1 USB Type-A to USB Type-B cable (1.8 m)
- ◆ 1 microphone cable (1.8 m)
- ◆ 1 speaker cable (1.8 m)
- ◆ 2 power adapters
- ◆ 2 mounting kits
- ◆ 8 foot pads
- ◆ 1 user instructions

CE924 USB DisplayPort Dual View HDBaseT 2.0 KVM Extender

- ◆ 1 CE924L USB DisplayPort Dual View HDBaseT 2.0 KVM Extender (local unit)
- ◆ 1 CE924R USB DisplayPort Dual View HDBaseT 2.0 KVM Extender (remote unit)
- ◆ 2 DisplayPort cables (1.5 m)
- ◆ 1 USB Type-A to USB Type-B cable (1.8 m)
- ◆ 1 microphone cable (1.8 m)
- ◆ 1 speaker cable (1.8 m)
- ◆ 2 power adapters
- ◆ 2 mounting kits
- ◆ 8 foot pads
- ◆ 1 user instructions

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About this Manual

This User Manual is provided to help you get the most from your system. It covers all aspects of installation, configuration and operation. An overview of the information found in the manual is provided below.

Chapter 1, Introduction, introduces you to the CE624 / CE924 system. Its purpose, features and benefits are presented, and its front and back panel components are described.

Chapter 2, Hardware Setup, describes the steps that are necessary to quickly and safely set up your installation.

Chapter 3, Operation, explains the fundamental concepts involved in operating the CE624 / CE924.


Appendix, provides specifications and other technical information regarding the CE624 / CE924.

Note:

- ♦ Read this manual thoroughly and follow the installation and operation procedures carefully to prevent any damage to the unit or any connected devices.
 - ♦ The product may be updated, with features and functions added, improved or removed since the release of this manual. For an up-to-date user manual, visit <http://www.aten.com/global/en/>
-

Conventions

This manual uses the following conventions:

- | | |
|--|--|
| <p>Monospaced</p> <p>[]</p> <p>1.</p> <p>◆</p> <p>></p> <p></p> | <p>Indicates text that you should key in.</p> <p>Indicates keys you should press. For example, [Enter] means to press the Enter key. If keys need to be chorded, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].</p> <p>Numbered lists represent procedures with sequential steps.</p> <p>Bullet lists provide information, but do not involve sequential steps.</p> <p>Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start > Run means to open the <i>Start</i> menu, and then select <i>Run</i>.</p> <p>Indicates critical information.</p> |
|--|--|

Chapter 1

Introduction

Overview

The CE624 USB DVI Dual View HDBaseT 2.0 KVM Extender / CE924 USB DisplayPort Dual View HDBaseT 2.0 KVM Extender is a Dual DVI (CE624) / DisplayPort (CE924) and USB Extender with HDBaseT™ technology. The CE624 / CE924 can extend two DVI (CE624) / DisplayPort (CE924) displays and USB 2.0 signals up to 300 ft (100 m) from the source using a single Cat 6/6a or ATEN's tailor-made HDBaseT cable*. The CE624 / CE924 is equipped with USB connectors which allow you to extend any USB device between the units. The USB functionality provides not only peripheral sharing but also provides support for touch panel control and file transfer. The CE624 / CE924 is ideal for transportation centers, medical facilities, and shopping malls, industrial kiosks and for syncing files and folders between portable and desktop computers.

The CE624 / CE924 allows access to a computer from a remote console (USB keyboard, monitor, and mouse). Because it allows access to a computer from a remote console, the CE624 / CE924 is perfect for use in any type of installation where you need to place the console where it is conveniently accessible, but you want the equipment to reside in a safe location – away from the dust and dirt of the factory floor, or the harsh environmental influence of a construction site. This allows users to deploy system equipment over large distances.

The CE624 / CE924 is useful for control and security purposes, where you can have the system unit in a secure area at the same time that you put the console in the most convenient location for user access. This is ideal for managing highly confidential data systems.

The CE624 / CE924 improves on previous designs by: 1) using inexpensive Cat 6/6a cable instead of bulkier, more expensive, standard DVI / DisplayPort cables, for a much neater, more convenient, and reliable connection; 2) featuring a dual DVI (CE624) / DisplayPort (CE924) ports; and 3) HDBaseT 2.0 technology.

HDBaseT 2.0 technologies include: Long Reach mode to extend the KVM installation up to 150 meters @1080p; Signal detection LED to indicate the HDBaseT™ connection status on the remote unit; and transmission of uncompressed 2 channel PCM digital audio.

Setup is as easy as can be – simply connect the computer system box; run the Cat 6/6a or ATEN's tailor-made HDBaseT cable* up to 100 meters to the Remote Unit; and plug the remote console into the Remote Unit.

Note: Please refer to the Compatible Cables section on the product page.

Features

- ♦ Uses a single Cat 6/6a or ATEN's tailor-made HDBaseT cable¹ to connect the local and remote units
- ♦ Allows dual display DVI (CE624) / DisplayPort (CE924) access to a computer or KVM installation from a remote console
- ♦ Superior Video Quality – up to 1920 x 1200 @ 60 Hz (Cat 6), and 1080p @ 60 Hz – up to 100 m
- ♦ HDBaseT™ 2.0 connectivity technology
 - ♦ Extends video, audio, USB, and RS-232 signals via a single Cat 6/6a or ATEN's tailor-made HDBaseT cable¹
- ♦ 2-channel PCM digital audio
- ♦ HDCP Compatible
- ♦ Supports wide screen formats
- ♦ RS-232 serial ports – connect to a serial terminal, or serial devices such as touch screens and barcode scanners
- ♦ USB 2.0 – supports transparent USB 2.0 signals and true plug-and play (no software or drivers required)²
- ♦ Supports Long Reach mode for transmissions up to 150 m @ 1080P
- ♦ Built-in 8KV/15KV ESD protection (Contact voltage 8KV; Air voltage 15KV)
- ♦ EDID Expert – selects optimum EDID settings for smooth power-up and the highest quality display
- ♦ Supports PC wakeup function via pushbutton
- ♦ Plug-and-play – no software installation required
- ♦ Easy Installation Rack Mounting Kit
- ♦ Firmware upgradeable

Note: 1. Please refer to the Compatible Cables section on the product page.

2. The CE624 / CE924 supports a maximum combined USB transfer rate of 30 Mbps for attached USB devices.

Requirements

Console

- ♦ Two DVI-D monitors capable of the highest resolution you will be using on any computer in the installation (CE624 only).
- ♦ Two DisplayPort monitors capable of the highest resolution you will be using on any computer in the installation (CE924 only).
- ♦ A USB keyboard
- ♦ A USB mouse

Computers

The following equipment must be installed on each computer that is to be connected to the system:

- ♦ Two DVI-D / DVI-I ports (CE624 only).
- ♦ Two DisplayPort ports (CE924 only).
- ♦ 2 USB ports for the mouse and keyboard
- ♦ RS-232 Serial port (optional)
- ♦ Microphone and speaker ports (optional)

Cables

- ♦ For optimal signal integrity, and to simplify the layout, we strongly recommend that you use the high quality custom DVI Cable (CE624 only) or DisplayPort Cable (CE924 only) that is provided with the package.
- ♦ For better quality over longer distances, we suggest using an HDBaseT certified cable (e.g. ATEN's tailor-made HDBaseT cable*) for the unit to unit connection. For more information about suitable Cat 6/6a cables and setting up HDBaseT devices, refer to the *ATEN HDBaseT Installation Guide*.

Note: Please refer to the Compatible Cables section on the product page.

Maximum Cable Distances

♦ CE624

| Connection | Distance |
|--|----------|
| Computer to Local Unit (CE624L) | 1.8 m |
| Local Unit (CE624L) to Remote Unit (CE624R) | 100 m |
| Remote Unit (CE624R) to monitor | 5 m |

♦ CE924

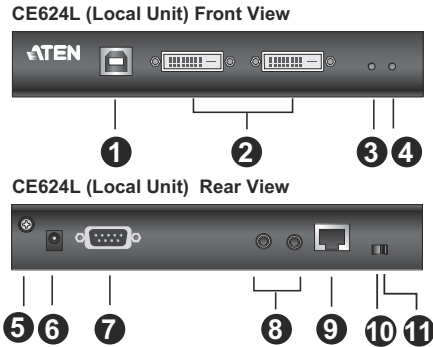
| Connection | Distance |
|--|----------|
| Computer to Local Unit (CE924L) | 1.8 m |
| Local Unit (CE924L) to Remote Unit (CE924R) | 100 m |
| Remote Unit (CE924R) to monitor | 1.8 m |

Maximum Resolution with Cable Distances

| Model | Input Port / Output Port | Single View Distance | Dual View Distance |
|-------|--------------------------|----------------------|--------------------|
| CE624 | DVI Port 1 | 1920 x 1200 @ 100 m | 1080p @ 100 m |
| | DVI Port 2 | N/A | 1080p @ 100 m |
| CE924 | DisplayPort 1 | 4Kx2K @ 100 M | 1080p @ 100 m |
| | DisplayPort 2 | N/A | 1080p @ 100 m |

Components

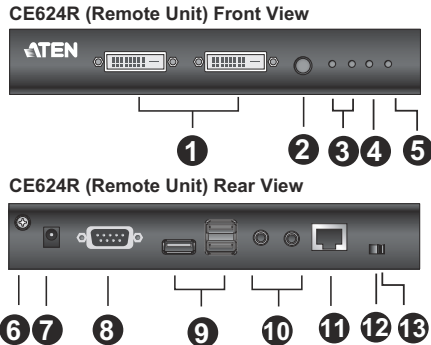
CE624L (Local Unit) Front and Rear View



| No. | Component | Description |
|-----|------------------------|--|
| 1 | USB Type-B port | The USB cable from your computer or USB hub plugs in here. |
| 2 | DVI-D input ports | Connect two DVI cables from a computer to these two DVI ports. |
| 3 | link LED | Indicates the transmission from local and remote units is stable, see page 23 for more information. |
| 4 | power LED | Indicates the unit is receiving power, see page 23 for more information. |
| 5 | grounding terminal | Grounds the unit to prevent damages from power surges or static electricity. |
| 6 | power jack | The cable from the power adapter connects here. |
| 7 | RS-232 serial port | This RS-232 serial port is for connecting to a serial terminal for configuration. |
| 8 | audio ports | These mini stereo ports connect to the speaker (green) and microphone (pink) ports on the computer. |
| 9 | HDBaseT output port | The Cat 6/6a or ATEN's tailor-made HDBaseT cable* that connects the local and remote units plugs in here. Note: Please refer to the Compatible Cables section on the product page. |
| 10 | long reach mode switch | Put the switch to ON to enable the long reach mode, see <i>Long Reach Mode</i> , page 23. |

| No. | Component | Description |
|-----|-------------------------|---|
| 11 | firmware upgrade switch | <p>Put the switch to ON to enable the firmware upgrade mode.</p> <p>Note: The firmware upgrade mode is reserved for technical support. To upgrade the device's firmware, please contact ATEN customer support.</p> |

CE624R (Remote Unit) Front and Rear View

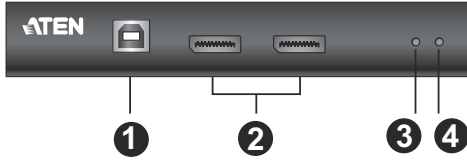


| No. | Component | Description |
|-----|------------------------|--|
| 1 | DVI-D output ports | Connect a DVI monitor to each of these DVI ports. |
| 2 | wakeup PC pushbutton | Press this button if you are at the remote console's location and you want to wake the computer on the local side. |
| 3 | Video out 1 & 2 LEDs | Indicates the video output activity and status between the units, see page 23 for more information. |
| 4 | link LED | Indicates the transmission from remote and local units is stable, see page 23 for more information. |
| 5 | power LED | Indicates the unit is receiving power, see page 23 for more information. |
| 6 | grounding terminal | Grounds the unit to prevent damages from power surges or static electricity. |
| 7 | power jack | The cable from the power adapter connects here. |
| 8 | RS-232 serial port | This RS-232 serial port is for connecting to a serial terminal for configuration. |
| 9 | USB Type-A ports | Plug the remote console's keyboard and mouse or your USB 2.0 devices into these three USB ports. |
| 10 | audio ports | These mini stereo ports are for the speakers (green) and microphone (pink). |
| 11 | HDBaseT input port | The Cat 6/6a or ATEN's tailor-made HDBaseT cable* that connects the local and remote units plugs in here. Note: Please refer to the Compatible Cables section on the product page. |
| 12 | long reach mode switch | Put the switch to ON to enable the long reach mode, see <i>Long Reach Mode</i> , page 23. |

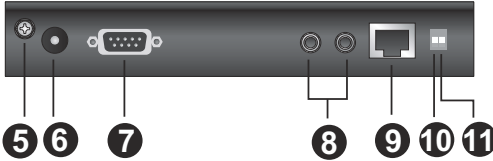
| No. | Component | Description |
|-----|---------------------------|---|
| 13 | firmware upgradeswitch | <p>Put the switch to ON to enable the firmware upgrade mode.</p> <p>Note: The firmware upgrade mode is reserved for technical support. To upgrade the device's firmware, please contact ATEN customer support.</p> |

CE924L (Local Unit) Front and Rear View

CE924L (Remote Unit) Front View



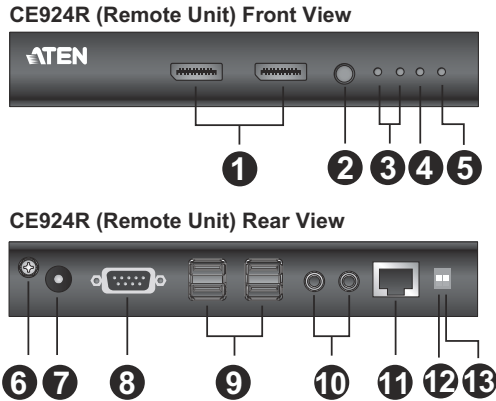
CE924L (Remote Unit) Rear View



| No. | Component | Description |
|-----|-------------------------|--|
| 1 | USB Type-B port | The USB cable from your computer or USB hub plugs in here. |
| 2 | DisplayPort input ports | Connect two DisplayPort cables from a computer to these two DisplayPort ports. |
| 3 | link LED | Indicates the transmission from local and remote units is stable, see page 23 for more information. |
| 4 | power LED | Indicates the unit is receiving power, see page 23 for more information. |
| 5 | grounding terminal | Grounds the unit to prevent damages from power surges or static electricity. |
| 6 | power jack | The cable from the power adapter connects here. |
| 7 | RS-232 serial port | This RS-232 serial port is for connecting to a serial terminal for configuration. |
| 8 | audio ports | These mini stereo ports connect to the speaker (green) and microphone (pink) ports on the computer. |
| 9 | HDBaseT output port | The Cat 6/6a or ATEN's tailor-made HDBaseT cable* that connects the local and remote units plugs in here. Note: Please refer to the Compatible Cables section on the product page. |
| 10 | long reach mode switch | Put the switch to ON to enable the long reach mode, see <i>Long Reach Mode</i> , page 23. |

| No. | Component | Description |
|-----|-------------------------|--|
| 11 | firmware upgrade switch | Put the switch to ON to enable the firmware upgrade mode. Note: The firmware upgrade mode is reserved for technical support. To upgrade the device's firmware, please contact ATEN customer support. |

CE924R (Remote Unit) Front and Rear View



| No. | Component | Description |
|-----|--------------------------|--|
| 1 | DisplayPort output ports | Connect a DisplayPort monitor to each of these DisplayPort ports. |
| 2 | wakeup PC pushbutton | Press this button if you are at the remote console's location and you want to wake the computer on the local side. |
| 3 | video out 1 & 2 LEDs | Indicates the video output activity and status between the units, see page 23 for more information. |
| 4 | link LED | Indicates the transmission from remote and local units is stable, see page 23 for more information. |
| 5 | power LED | Indicates the unit is receiving power, see page 23 for more information. |
| 6 | grounding terminal | Grounds the unit to prevent damages from power surges or static electricity. |
| 7 | power jack | The cable from the power adapter connects here. |
| 8 | RS-232 serial port | This RS-232 serial port is for connecting to a serial terminal for configuration. |
| 9 | USB Type-A ports | Plug the remote console's keyboard and mouse or your USB 2.0 devices into these four USB ports. |
| 10 | audio ports | These mini stereo ports are for the speakers (green) and microphone (pink). |

| No. | Component | Description |
|-----|-------------------------|--|
| 11 | HDBaseT input port | The Cat 6/6a or ATEN's tailor-made HDBaseT cable* that connects the remote and local units plugs in here. Note: Please refer to the Compatible Cables section on the product page. |
| 12 | long reach mode switch | Put the switch to ON to enable the long reach mode, see <i>Long Reach Mode</i> , page 23. |
| 13 | firmware upgrade switch | Put the switch to ON to enable the firmware upgrade mode. Note: The firmware upgrade mode is reserved for technical support. To upgrade the device's firmware, please contact ATEN customer support. |

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Chapter 2

Hardware Setup



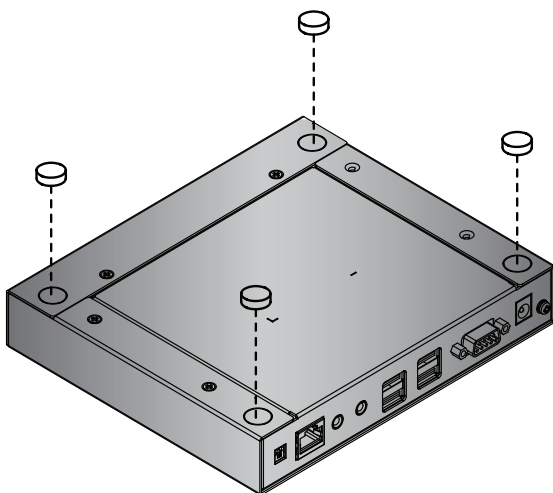
1. Important safety information regarding the placement of this device is provided on page 25. Please review it before proceeding.
2. Make sure that the power to all devices connected to the installation are turned off. You must unplug the power cords of any computers that have the Keyboard Power On function.

Stacking and Rack Mounting

Stacking

The CE624 / CE924 can be placed on any appropriate level surface that can safely support its weight plus the weight of its attached cables. To place or stack the CE624 / CE924, remove the backing material from the bottom of the rubber feet that came with this package, and stick them onto the switch's bottom panel at the corners, as shown in the diagram, below:

Note: The unit used in the diagram below is CE924, the procedure for connecting the CE624 is identical.

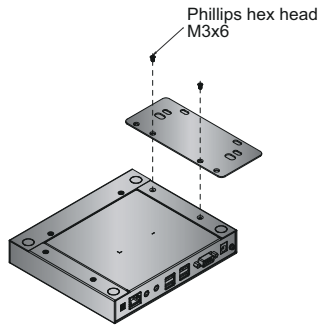


Rack Mounting

Use the VE-RMK 1U Rack Mount Kit to rack-mount the CE624/ CE924. For more information about this accessory, go to <http://www.aten.com/global/en/>. For convenience and flexibility, the CE624/ CE924 can be mounted on system racks. To rack mount a unit do the following:

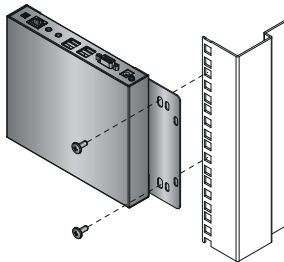
Note: The unit used in the diagram below is CE924, the procedure for connecting the CE624 is identical.

1. Using the screws provided in the mounting kit, screw the mounting bracket to the bottom (either end) of the unit as shown in the diagram below:



2. Screw the bracket into any convenient location on the rack.

Note: The rack screws are not provided. We recommend that you use M5 x 12 Phillips Type I cross, recessed type screws.



Installation

Grounding

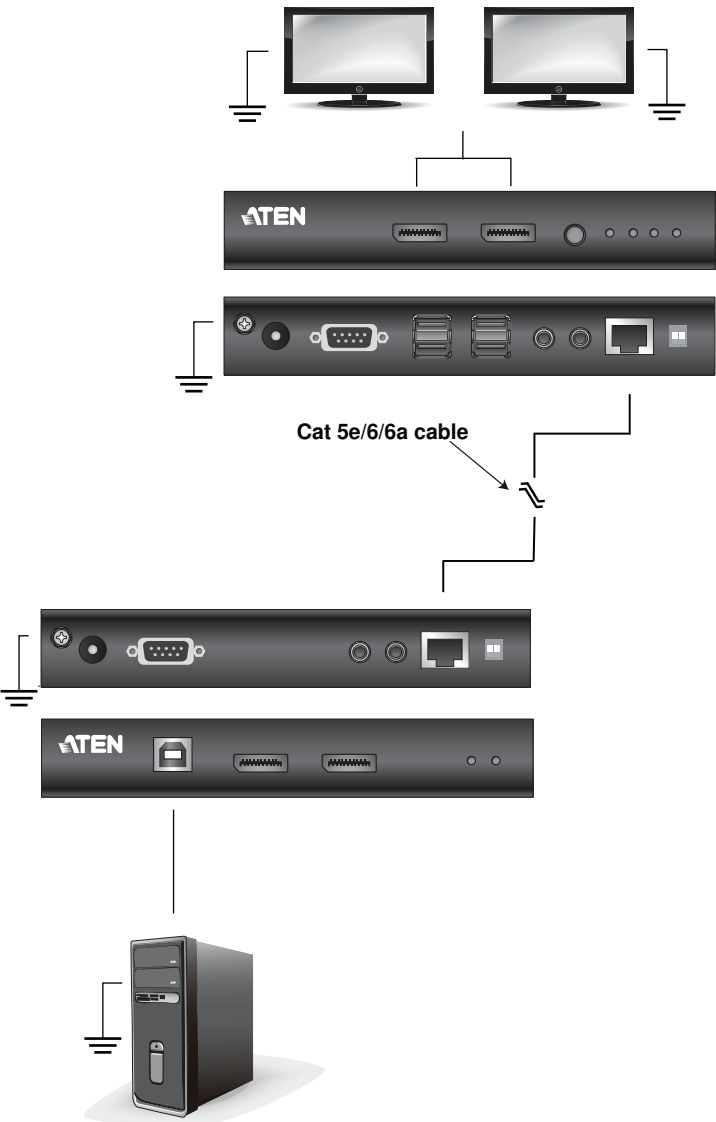
To prevent damage to your installation it is important that all devices are properly grounded.

Note: The unit used in the diagram below is CE924, the procedure for connecting the CE624 is identical.

1. Use a grounding wire to ground both units by connecting one end of the wire to the grounding terminal, and the other end of the wire to a suitable grounded object.



2. Make sure that the computer that the local unit connects to and both monitors that the remote unit connects to are properly grounded.



Setting Up the CE624

Setting up the CE624 USB DVI Dual View HDBaseT 2.0 KVM Extender system is simply a matter of plugging in the cables. Make sure that all the equipment to be connected are powered off. Refer to the installation diagram on the following page and do the following:

1. Make sure the CE624 units are probably grounded.

Note: Do not omit this step. Proper grounding helps to prevent damage to the unit from power surges or static electricity.

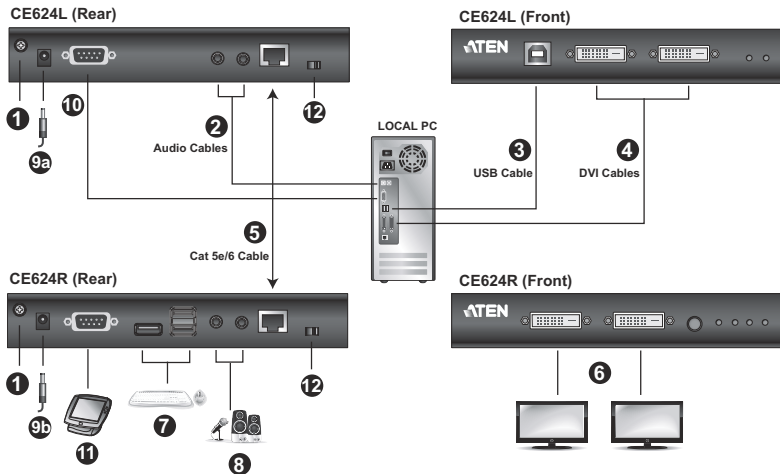
2. Connect the audio connectors of the supplied pink and green audio jack cable sets to the audio ports located on the CE624L's rear panel. Connect the other end of the cables into the microphone/speaker ports on the local computer.
3. Connect the USB connector of the supplied USB Type-A to USB Type-B cable to the USB Type-B port on the CE624L's front panel. Connect the other end of the cable into a USB Type-A port on the local computer.
4. Connect both DVI connectors of the supplied DVI cables to the DVI-D input ports located on the CE624L's front panel. Connect the other end of the cables into the DVI ports on the local computer.
5. Connect one end of a Cat 6/6a or ATEN's tailor-made HDBaseT cable* into the HDBaseT output port on the CE624L's rear panel. Connect the other end of the Cat 6/6a or ATEN's tailor-made HDBaseT cable* into the HDBaseT input port on the CE624R's rear panel.

Note: We recommend to adopt the ATEN's tailor-made HDBaseT cable for HDBaseT connection. Please refer to the Compatible Cables section on the product page.

6. Use two DVI cables to connect the DVI-D output ports located on the CE624R's front panel to your monitors.
7. Connect the USB connectors from the USB devices (mouse, keyboard, etc.) into their respective USB Type-A ports located on the CE624R's rear panel.
8. Connect the audio connectors from the microphone and speakers into their respective audio ports on the CE624R's rear panel.

9. (a) Plug the supplied power adapter into a power source; then plug the adapter's power cable into the power jack located on the CE624L's rear panel.
(b) Plug the second supplied power adapter into a power source; then plug the adapter's power cable into the power jack located on the CE624R's rear panel.
10. For control of serial device and/or to use the WakeUp PC feature, connect a computer to the RS-232 serial port located on the CE624L's rear panel.
11. For remote control purpose of the PC connected to the CE624L, connect a control system (ex. VK2100) to the RS-232 serial port located on the CE624R's rear panel.
12. To extend video, RS-232 and USB signals up to 150 m with a resolution of 1080p, set the long reach switch located on the CE624L and CE624R's rear panel to ON (single view only).

Installation Diagram



Setting Up the CE924

Setting up the CE924 USB DisplayPort Dual View HDBaseT 2.0 KVM Extender system is simply a matter of plugging in the cables. Make sure that all the equipment to be connected are powered off. Refer to the installation diagram on the following page and do the following:

1. Make sure the CE924 units are properly grounded.

Note: Do not omit this step. Proper grounding helps to prevent damage to the unit from power surges or static electricity.

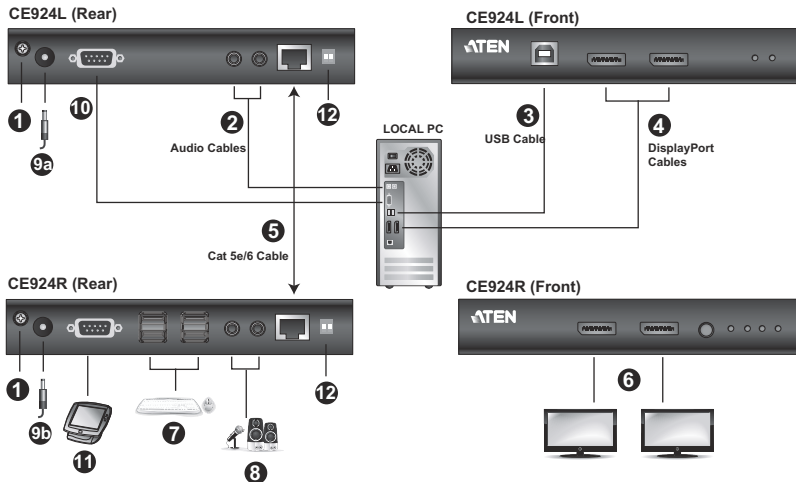
2. Connect the audio connectors of the supplied pink and green audio jack cable sets to the audio ports located on the CE924L's rear panel. Connect the other end of the cables into the microphone/speaker ports on the local computer.
3. Connect the USB connector of the supplied USB Type-A to USB Type-B cable to the USB Type-B port on the CE924L's front panel. Connect the other end of the cable into a USB Type-A port on the local computer.
4. Connect both DisplayPort connectors of the supplied DisplayPort cables to the DisplayPort input ports located on the CE924L's front panel. Connect the other end of the cables into the DisplayPort ports on the local computer.
5. Connect one end of a Cat 6/6a or ATEN's tailor-made HDBaseT cable* into the HDBaseT output port on the CE924L's rear panel. Connect the other end of the Cat 6/6a or ATEN's tailor-made HDBaseT cable* into the HDBaseT input port on the CE924R's rear panel.

Note: We recommend to adopt the ATEN's tailor-made HDBaseT cable for HDBaseT connection. Please refer to the Compatible Cables section on the product page.

6. Use two DisplayPort cables to connect the DisplayPort output ports located on the CE924R's front panel to your monitors.
7. Connect the USB connectors from the USB devices (mouse, keyboard, etc.) into their respective USB Type-A ports located on the CE924R's rear panel.
8. Connect the audio connectors from the microphone and speakers into their respective audio ports on the CE924R's rear panel.

9. (a) Plug one of the supplied power adapter into a power source; then plug the adapter's power cable into the power jack located on the CE924L's rear panel.
(b) Plug the second supplied power adapter into a power source; then plug the adapter's power cable into the power jack located on the CE924R's rear panel.
10. For control purpose of a serial device and/or to use the WakeUp PC feature, connect a computer to the RS-232 serial port located on the CE924L's rear panel.
11. For remote control purpose of the PC connected to the CE924L, connect a control system (ex. VK2100) to the RS-232 serial port located on the CE924R's rear panel.
12. To extend video, RS-232 and USB signals up to 150 m with a resolution of 1080p, set the long reach mode switch located on the CE924L and CE924R's rear panel to ON (single view only).

Installation Diagram



Chapter 3

Operation

Overview

The *Operation* chapter describes how the LED display lights work and how to use HDBaseT Long Reach Mode.

LED Display

The CE624 / CE924 local and remote units have front panel LEDs to indicate their operating status, as shown in the tables, following:

| LED | Indication |
|--|---|
| Power | Lights (green) steadily to indicate that the unit is receiving power. |
| Link | <ul style="list-style-type: none">♦ Lights (orange) to indicate that the connection at the Local and Remote units are OK.♦ OFF when there is a problem with the connection.♦ Flashing (orange) indicates the HDBaseT transmission signal is unstable. |
| Video Out 1/2 (CE624R / CE924R only) | <ul style="list-style-type: none">♦ Flashes (orange) to indicate normal video output without HDCP.♦ Static (orange) light indicates normal video output with HDCP.♦ OFF indicates that there is no video activity. |

Long Reach Mode

The long reach mode switch on the rear panel of the CE624 / CE924 provides long-reach connectivity – up to 150 m – with resolutions up to 1080p single view or 720p dual view. To use this feature, on the rear of the local or remote unit, set either one of the long reach switch to **ON**.

Note: The unit used in the diagram below is CE924, the procedure for connecting the CE624 is identical.



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Safety Instructions

General

- ♦ Read all of these instructions. Save them for future reference.
- ♦ Follow all warnings and instructions marked on the device.
- ♦ This product is for indoor use only.
- ♦ Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- ♦ Do not use the device near water.
- ♦ Do not place the device near, or over, radiators or heat registers.
- ♦ The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- ♦ The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- ♦ Never spill liquid of any kind on the device.
- ♦ Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- ♦ The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- ♦ To prevent damage to your installation, it is important that all devices are properly grounded.
- ♦ Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.
- ♦ Position system cables and power cables carefully; Be sure that nothing rests on any cables.
- ♦ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- ♦ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.

- ♦ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
 - ♦ The power cord or plug has become damaged or frayed.
 - ♦ Liquid has been spilled into the device.
 - ♦ The device has been exposed to rain or water.
 - ♦ The device has been dropped, or the cabinet has been damaged.
 - ♦ The device exhibits a distinct change in performance, indicating a need for service.
 - ♦ The device does not operate normally when the operating instructions are followed.
- ♦ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Mounting

- ♦ Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- ♦ Always load the rack from the bottom up, and load the heaviest item in the rack first.
- ♦ Make sure that the rack is level and stable before extending a device from the rack.
- ♦ Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- ♦ After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- ♦ Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- ♦ Make sure that all equipment used on the rack – including power strips and other electrical connectors – is properly grounded.
- ♦ Ensure that proper airflow is provided to devices in the rack.
- ♦ Ensure that the operating ambient temperature of the rack environment does not exceed the maximum ambient temperature specified for the equipment by the manufacturer.
- ♦ Do not step on or stand on any device when servicing other devices in a rack.

Technical Support

International

- ♦ For online technical support – including troubleshooting, documentation, and software updates: **<http://eservice.aten.com>**
- ♦ For telephone support, *Telephone Support*, page iv

North America

| | | |
|--------------------------|--|---|
| Email Support | | support@aten-usa.com |
| Online Technical Support | Troubleshooting Documentation Software Updates | http://eservice.aten.com |
| Telephone Support | | 1-888-999-ATEN ext 4988 |

When you contact us, please have the following information ready beforehand:

- ♦ Product model number, serial number, and date of purchase.
- ♦ Your computer configuration, including operating system, revision level, expansion cards, and software.
- ♦ Any error messages displayed at the time the error occurred.
- ♦ The sequence of operations that led up to the error.
- ♦ Any other information you feel may be of help.

Specifications

| Function | | CE624L | CE624R |
|---------------------|-------------------------------|--|--|
| Connectors | DVI In | 2 x DVI-D Female (Black) | N/A |
| | DVI Out | N/A | 2 x DVI-D Female (Black) |
| | USB | 1 x USB Type B Female (White) | 3 x USB Type A Female (White) |
| | Power | 1 x DC Jack with Locking | |
| | Speakers | 1 x Mini Stereo Jack Female (Green) | |
| | Mic | 1 x Mini Stereo Jack Female (Pink) | |
| | Unit to Unit | 1 x RJ-45 Female (Black) | |
| | RS-232 | 1 x DB-9 Female (Black) | 1 x DB-9 Male (Black) |
| Switches | Wakeup PC | N/A | 1 x Pushbutton |
| | Firmware Upgrade / Long Reach | 2 x 2-Segment Switch | 2 x 2-Segment Switch |
| LEDs | Power | 1 (Green) | 1 (Green) |
| | Link | 1 (Orange) | 1 (Orange) |
| | Video Out 1 | N/A | 1 (Orange) |
| | Video Out 2 | N/A | 1 (Orange) |
| USB | Transfer Rate | USB 2.0 (Up to 30 Mbps) | |
| Video | | Single-view: Up to 1600 x 1200 & 1920 x 1200 @ 90 m (Cat 5e) / 100 m (Cat 6/6a); 1080p @ 100 m Dual-view: Up to 1080p @ 100 m | |
| Power Consumption | | DC5V:4.93W:23BTU/h | DC5V:7.20W:49BTU/h |
| | | Note: <ul style="list-style-type: none"> ◆ The measurement in Watts indicates the typical power consumption of the device with no external loading. ◆ The measurement in BTU/h indicates the power consumption of the device when it is fully loaded. | |
| Environment | Operating Temp. | 0–40° C | |
| | Storage Temp | -20–60° C | |
| | Humidity | 0–80% RH, Non-condensing | |
| Physical Properties | Housing | Metal | |
| | Weight | 0.80 kg (1.76 lb) | 0.81 kg (1.78 lb) |
| | Dimensions (L x W x H) | 17.42 x 15.94 x 2.88 cm (6.86 x 6.28 x 1.13 in) | 17.42 x 15.94 x 2.88 cm (6.86 x 6.28 x 1.13 in) |

| Function | | CE924L | CE924R |
|---------------------|-------------------------|---|--|
| Connectors | DisplayPort In | 2 x DisplayPort Female (Black) | N/A |
| | DisplayPort Out | N/A | 2 x DisplayPort Female (Black) |
| | USB | 1 x USB Type-B Female (White) | 4 x USB Type A Female (White) |
| | Power | 1 x DC Jack with Locking | |
| | Speakers | 1 x Mini Stereo Jack Female (Green) | |
| | Mic | 1 x Mini Stereo Jack Female (Pink) | |
| | Unit to Unit | 1 x RJ-45 Female (Black) | |
| | RS-232 | 1 x DB-9 Female (Black) | 1 x DB-9 Male (Black) |
| Switches | Wakeup PC | N/A | 1 x Pushbutton |
| | Long Reach Mode Switch | 1 x Slide Switch | 1 x Slide Switch |
| | Firmware Upgrade Switch | 1 x Slide Switch | 1 x Slide Switch |
| LEDs | Power | 1 (Green) | 1 (Green) |
| | Link | 1 (Orange) | 1 (Orange) |
| | Video Out 1 | N/A | 1 (Orange) |
| | Video Out 2 | N/A | 1 (Orange) |
| USB | Transfer Rate | USB 2.0 (Up to 30 Mbps) | |
| Video | | Single-view: Up to 4K @ 90 m (Cat 5e) / 100 m (Cat 6/6a/ATEN 2L-2910 Cat 6) 1080p @ 100 m (Cat 5e/6/6a) Dual-view: Up to 1080p @ 100 m 4K supported: 4096 x 2160 / 3840 x 2160 @ 30Hz (4:4:4) | |
| Power Consumption | | DC12V:7.03W;33BTU/h | DV12V:9.92W:69BTU/h |
| | | Note: ♦ The measurement in Watts indicates the typical power consumption of the device with no external loading. ♦ The measurement in BTU/h indicates the power consumption of the device when it is fully loaded. | |
| Environment | Operating Temp. | 0–40° C | |
| | Storage Temp | -20–60° C | |
| | Humidity | 0–80% RH, Non-condensing | |
| Physical Properties | Housing | Metal | |
| | Weight | 0.82 kg (1.81 lb) | 0.85 kg (1.87 lb) |
| | Dimensions (L x W x H) | 17.42 x 15.41 x 2.88 cm (6.86 x 6.07 x 1.13 in) | 17.42 x 15.57 x 2.88 cm (6.86 x 6.13 x 1.13 in) |

Note: The CE924 only supports DisplayPort resolutions up to 4Kx2K @ 30Hz, and does not support MST mode.

ATEN Warranty Policy

The warranty policy may vary by product category and region of purchase. For details, please visit ATEN's official website, select your purchase counties/regions and then go to the Support Center, or contact your local ATEN sales representative for further assistance.

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Released: 2025-04-21

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