Simply Better Connections

CE801

USB True 4K HDMI Cat 6 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.

E3914

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 (A) / NMB (A)

HDMI Trademark Statement
The terms HDMI, HDMI High-Definition Multimedia Interface, HDMI trade dress and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

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

Package Contents

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

- 1 CE801L USB True 4K HDMI Cat 6 KVM Extender (Local Unit)
- 1 CE801R USB True 4K HDMI Cat 6 KVM Extender (Remote Unit)
- 1 USB Type-A to USB Type-B cable
- 2 mounting kits
- 1 foot pad set (8 pcs)
- 2 power adapters
- 1 user instructions

Contents

Compliance Statements ii
User Information iv
Online Registration iv
Telephone Support iv
User Notice iv
Product Information v
Package Contents vi
Contents vii
About this Manual ix
Conventions x

1. Introduction

Overview 1
Features 2
Requirements 3
Local and Remote Consoles 3
Computers 3
Cables 3
Components 4
CE801L Front and Rear View 4
CE801R Front and Rear View 5

2. Hardware Setup

Stacking and Rack Mounting 7
Stacking 7
Rack Mounting 8
Optional Rack Mounting 8
Installation 9
Grounding 9
Connecting the Device 11

3. Operation

Overview 13
LED Display 13
USB Control Modes 14
Long Reach Mode Hotkey Operation 15
LED Status with Long Reach Mode Enabled or Disabled 15
EDID Modes 16

Appendix

Safety Instructions 17
General 17
Mounting 19

Technical Support 20
International 20
North America 20
Specifications 21
RS-232 Pin Assignments 23
Transmitter Front RS-232 Port 23
ATEN Warranty Policy 24

About this Manual

This User Manual is provided to help you get the most from your CE801 USB True 4K HDMI Cat 6 KVM Extender. 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 CE801 units. Their purposes, features, and benefits are presented, and the functions of their panel components are described.

Chapter 2, *Hardware Setup*, describes the steps that are necessary to quickly and safely set up your CE801 units.

Chapter 3, *Operation*, explains the fundamental concepts involved in operating the CE801 units.

Appendix, provides specifications and other technical information regarding the CE801 units.

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:

`Monospaced`	Indicates text that you should key in.
[ ]	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].
1.	Numbered lists represent procedures with sequential steps.
♦	Bullet lists provide information, but do not involve sequential steps.
>	Indicates selecting the option (on a menu or dialog box, for example), that comes next. For example, Start > Run means to open the *Start* menu, and then select *Run*.
	Indicates critical information.

Chapter 1
Introduction

Overview

CE801 is an extender kit that allows for sharp, life-like True 4K (3840 x 2160 @ 60 Hz 4:4:4) HDMI, RS-232, and USB transmission across 70 m over one single Cat 6 cable. Dual console USB Keyboard / Mouse operation is enabled by the USB control mode pushbutton switching USB console control privilege between the remote and local units. RS-232 extension capability facilitates uninterrupted communication between serial-interfaced devices and equipment, which are crucial in industrial control systems.

CE801 is ideal for medium to large scale applications where incredibly sharp and detailed visualization, multi-signal extension, and privileged USB control via local / remote console are essential, including control centers, retail shops, factories, medical facilities, and home theaters.

Features

- Extends HDMI video, USB keyboard/mouse control, embedded audio, and RS-232 control signals across 70 m over a Cat 6 cable
- Long reach mode – 1080p extension up to 100 m
- Supports resolutions up to 3840 x 2160 @ 60 Hz (4:4:4) with HDCP 2.2 / 2.3 compliance
- Dual console USB keyboard / mouse operation - control privilege between the remote and local units switchable via USB control mode pushbutton
- Supports HDR 10 for enhanced video quality
- Supports wide screen format
- Supports digital audio formats such as 7.1ch Dolby and DTS audio
- Plug-and-play with no software or driver required
- Built-in 8KV/15KV ESD protection
- Rack-mountable
- DC Jack with screw-lock ensures stable and secure connection

Requirements

Local and Remote Consoles

- An HDMI monitor capable of the highest resolution you will be using on any computer in the installation.
- A USB keyboard
- A USB mouse
- RS-232 serial port (optional)

Computers

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

- An HDMI port
- A USB port for the keyboard/mouse
- RS-232 serial port (optional)

Cables

- For optimal signal integrity, and reducing layout complexity, we strongly recommend that you use the high quality custom cables provided in the package.
- If you wish to utilize the CE801's high-end serial controller function, you need to purchase an appropriate RS-232 serial cable.
- Cat 6 cable is required to connect the Local and Remote CE801 Units. Cable of a lower standard will result in degrading of the video signal. We strongly recommend using Cat 6 cable.
- For better quality over longer distances, we suggest using ATEN's tailor-made cable*.

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

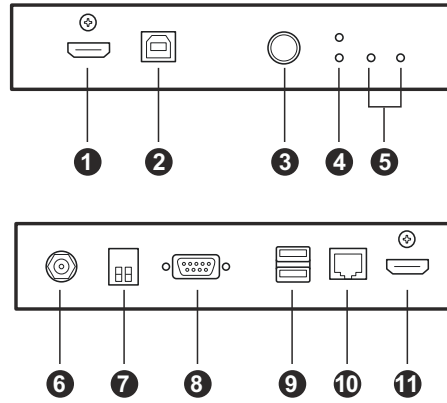
- Maximum Cable Distances

Connection	Distance
Computer to Local Unit (CE801L)	5 m
Local unit (CE801L) to remote unit (CE801R)	70 m*
Remote Unit (CE801R) to monitor	5 m

Note: The maximum transmission distance using a Cat 6 or ATEN's tailor-made cable is 100 m when Long Reach Mode is enabled.

Components

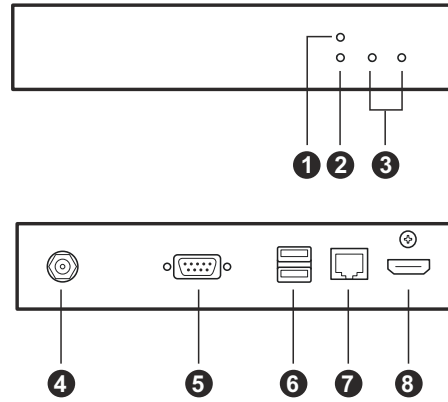
CE801L Front and Rear View



No.	Component	Description
1	HDMI input port	Receives the HDMI connector from an HDMI cable which connects to a local computer.
2	USB Type-B port	Receives the USB Type-B connector from the supplied USB Type-A to USB Type-B cable which connects to a local computer.
3	local / remote pushbutton (USB control mode)	Press to switch the USB control modes. See *USB Control Modes*, page 14.
4	USB control mode LEDs	Indicates the auto, local, and remote USB control modes status of the CE801L. For more details, see *USB Control Modes*, page 14.
5	status LEDs (link / power)	Indicates link and power status of the CE801L. For more details, see *LED Display*, page 13.
6	power jack	Receives the supplied power adapter.
7	EDID switches	Sets the EDID modes. See *EDID Modes*, page 16.
8	RS-232 serial port	Receives an RS-232 serial cable which connects to a local computer.
9	USB Type-A ports (keyboard / mouse)	Receive the console keyboard and mouse.
10	link port	Receives a Cat 6 cable or an ATEN's tailor-made cable* which connects to a local computer. **Note:** Please refer to the Compatible Cables section on the product page.

No.	Component	Description
11	HDMI output port	Receives an HDMI cable which connects to the HDMI monitor.

CE801R Front and Rear View



No.	Component	Description
1	USB control mode LEDs	Indicates the auto, remote, and locked USB control modes status of the CE801R. For more details, see *USB Control Modes*, page 14.
2	HDMI out LED	Indicates the HDMI status of the CE801R. For more details, see *LED Display*, page 13.
3	status LEDs (link / power)	Indicates the link and power status of the CE801R. For more details, see *LED Display*, page 13.
4	power jack	Receives the supplied power adapter.
5	RS-232 serial port	Receives an RS-232 serial cable which connects to a hardware/software serial control device.
6	USB Type-A ports (keyboard / mouse)	Receive the console keyboard and mouse.
7	link port	Receives a Cat 6 cable or an ATEN's tailor-made cable* which connects to the CE801R unit. **Note:** Please refer to the Compatible Cables section on the product page.
8	HDMI output port	Receives an HDMI cable which connects to the HDMI monitor.

This Page Intentionally Left Blank

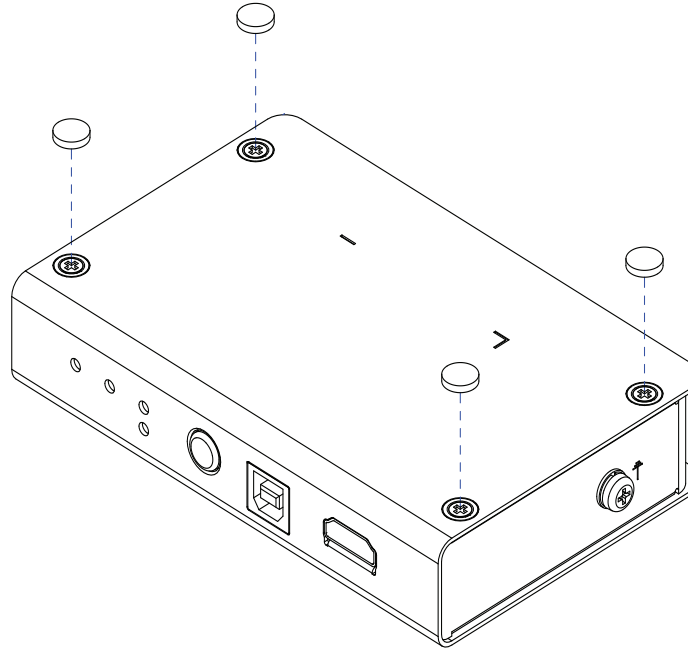
Chapter 2
Hardware Setup

1. Important safety information regarding the placement of this device is provided on page 17. 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

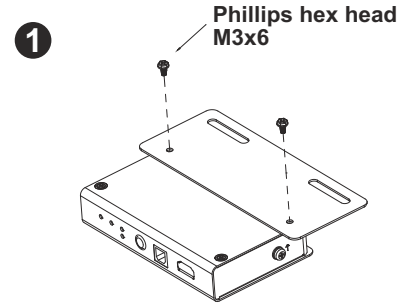
The CE801 can be placed on any appropriate level surface that can safely support its weight plus the weight of its attached cables. To place or stack the CE801, remove the backing material from the bottom of the rubber feet that came with this package, and stick them onto the switch's bottom panel at the corners, as shown in the diagram, below:



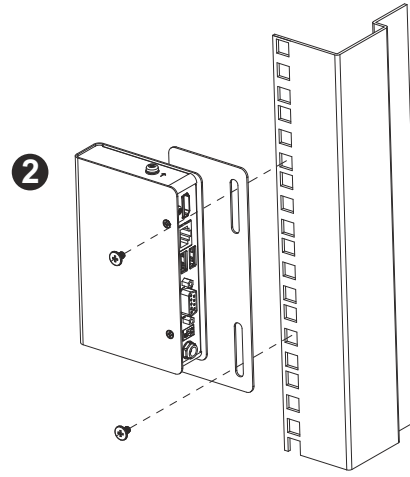
Rack Mounting

For convenience and flexibility, the CE801 can be mounted on system racks. To rack mount a unit, do the following:

1. Using the screws from the supplied mounting kit, secure the mounting bracket to the top or bottom of the CE801 as shown in the diagram below.



2. Use self-prepared M5 Phillips recessed screws, secure the mounting bracket to a preferred location on the rack. You can rack mount the CE801 with either the front or rear towards the mounting rail.



Optional Rack Mounting

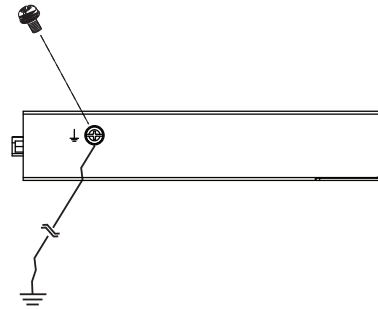
The CE801 can be mounted on 1U system racks using an optional rack mounting kit (VE-RMK1U). For detailed setup instruction, see *VE-RMK1U Installation Guide*.

Installation

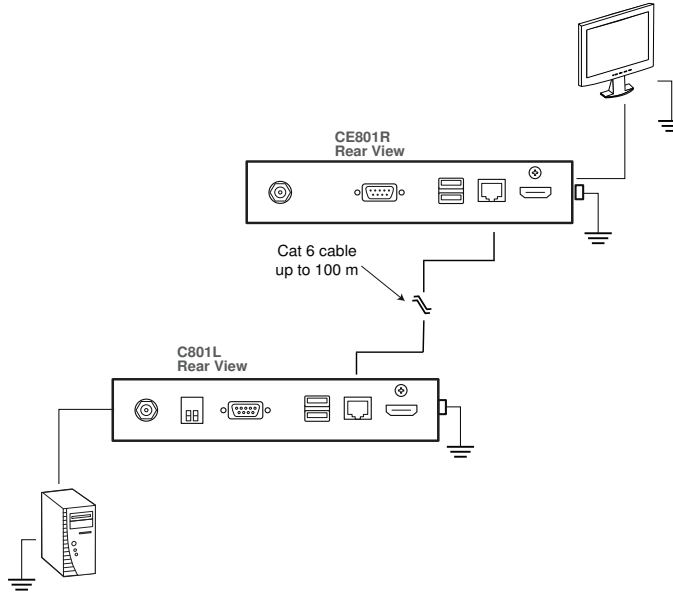
Grounding

To prevent damage to your installation it is important that all devices are properly grounded. The CE801 is recommended to be used with proper grounding and a shared common ground to ensure the safety and stable operation.

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.

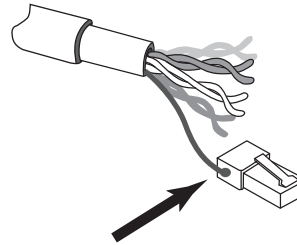


2. Make sure that the computer that connects to the local unit and the monitor that connects to the remote unit are also grounded.

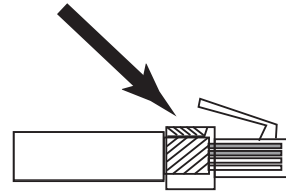


3. For increased grounding protection, use STP (shielded twisted pair) cable + RJ-45 head with metal design (metal head contacted with cable shielding) to connect the Local and Remote Units. There are two methods that can be used:

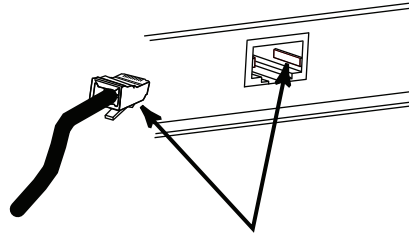
   a) In addition to the eight paired wires, STP cable also contains a grounding wire. Solder this wire to the RJ-45 connector as shown in the diagram below:



   b) The second method is to use the STP cable shielding for grounding. In this case, make sure that the shielding makes tight contact with the top inside of the RJ-45 connector as shown in the diagram below:

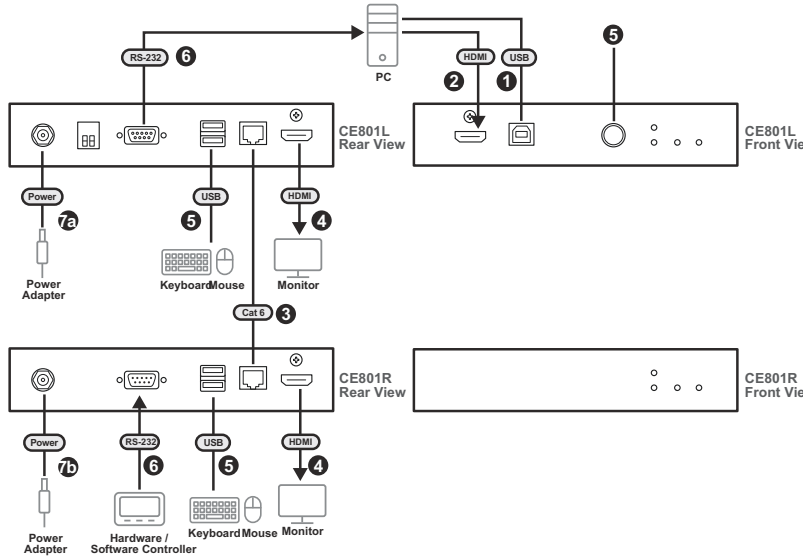


   In either case, make sure that the sides of the RJ-45 connector make tight contact with the grounding contacts on the sides of the RJ-45 socket as shown in the diagram below:



Connecting the Device

Before you proceed with the setup, make sure that all the equipment to be connected is powered off and then follow the procedure below to safely install your devices.



1. Connect a USB cable to the USB Type-B port on the CE801L, and the other end to a USB Type-A port on the local computer.
2. Connect an HDMI cable to the HDMI input port on the CE801L, and the other end to a local computer.
3. Connect one end of a Cat 6 Ethernet cable to the link port on the CE801L, and the other end to the link port on the CE801R.
4. Connect up to two HDMI-enabled monitors to the HDMI output ports on the CE801L and CE801R via HDMI cable(s).
5. Connect USB peripherals (mouse / keyboard) into their respective USB Type-A ports on the CE801L and CE801R. To switch to a different control mode for USB keyboard / mouse ports, use the local / remote pushbutton on the CE801L. For more information, see *USB Control Modes*, page 14.
6. To control a local computer with a serial device, connect the RS-232 serial port on the CE801L to the local computer, and then connect a hardware / software controller to the RS-232 serial port on the CE801R.

Note: The RS-232 serial port supports bi-directional transmission.

7. (a) Connect one of the supplied power adapters into a power source, and then connect the adapter's power cable to the power jack on the CE801L.

   (b) Connect the second power adapter into a power source, and then connect the adapter's power cable to the power jack on the CE801R.

Chapter 3
Operation

Overview

This chapter provides information on LED indicators and hotkey operation.

LED Display

The local and remote units of CE801 have front panel LEDs to indicate their operating status, as shown in the table below:

LED	Indication	Description
Power	Lights green	The system is receiving power.
Link	Lights orange	The connection between the local and remote CE801 is stable.
	Off	The system detects a connection issue between the local and remote CE801.
	Flashes orange	The optical fiber signal transmission is unstable.
HDMI Out (CE801R only)	Lights orange	The video display is normal and secured with HDCP.
	Flashes orange	The video display is normal but not secured with HDCP.
	Off	There is no video activity.

USB Control Modes

To switch the USB control to a different mode for USB keyboard / mouse ports, use the local / remote pushbutton for local and remote USB control mode switch (see *local / remote pushbutton (USB control mode)*, page 4). The LEDs status and the mode behaviors are explained in the table below.

USB Control Modes	LED Indication	Description
Auto (Default)	◆ Local (CE801L only): Flashes orange ◆ Remote: Flashes orange	Both the local and remote units can have USB access, but not at the same time. ◆ The unit without access has to wait until the active unit stops inputting USB data (idled for 5 seconds and goes back to auto mode) before the other unit can gain access. ◆ Press the local / remote pushbutton to switch between auto and local modes.
Local	Local (CE801L only): Lights orange	The unit is in **local** mode and only the CE801L owns the USB control. ◆ Under this mode, the remote unit is locked and has no USB control. ◆ Press the local / remote pushbutton to switch between auto and local modes.
Remote	Remote: Lights orange	The unit is in **remote** mode and only the CE801R owns the USB control. ◆ Under this mode, even though the remote unit owns the USB control, the local unit can still force to take over the USB control by pressing the auto / local pushbutton. ◆ The unit without access has to wait until the active unit stops inputting USB data (idled for 5 seconds and goes back to auto mode) before the other unit can gain access.

Long Reach Mode Hotkey Operation

The long reach mode provides long-reach connectivity up to 100 m, and resolutions up to 1080p. To use this feature, do the following:

1. Press **[Num Lock]** + **[-]**.
2. Press and release the appropriate Function key (see the table below).

Function Key	Operation
L	Enables / disables the long reach mode.
R	Resets the CE801 to its default setting, the CE801 will reboot itself to take effect. The default setting for the long reach mode is disabled.
F4	Prints the long reach mode status via a text editor or word processor.

LED Status with Long Reach Mode Enabled or Disabled

When the long reach mode is enabled or disable, all the LEDs including power, link, and HDMI out light off and then on to indicate that the long reach mode is in effect or not.

EDID Modes

Use the EDID switches to set the EDID modes, the EDID switches are located on the CE801L's rear panel.

How to set the switches and the mode behaviors are explained in the table below.

EDID Switches	HDMI Out EDID Mode	Audio EDID Mode
00 (Default)	Bypasses EDID by the connected remote HDMI display.	Bypasses audio EDID by the connected remote display.
01	Bypasses EDID by the connected local HDMI display.	Bypasses audio EDID by the connected local display.
10	Fixed to 1080p.	Follows HDMI input audio.
11	Fixed to 4K @ 60 Hz.	Follows HDMI input audio.

Appendix

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, see *Telephone Support*, page iv.

North America

Email Support		support@aten-usa.com
Online Technical Support	Troubleshooting Documentation Software Updates	http://www.aten-usa.com/support
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.

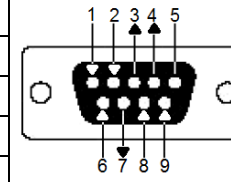
Specifications

Function	CE801L	CE801R
Connectors		
Console Ports	1 x HDMI Female (Black) 2 x USB Type-A Female (White)* **Note:** For keyboard & mouse only.	1 x HDMI Female (Black) 2 x USB Type-A Female (White)* **Note:** For keyboard & mouse only.
KVM Ports	1 x HDMI Female (Black) 1 x USB Type-B Female (White)	N/A
RS-232	1 x DB-9 Female (Black)	1 x DB-9 Male (Black)
Power	1 x DC Jack with Locking	
Unit to Unit	1 x RJ-45 Female (Black)	
Video		
Compliance	HDMI (4K / 60 Hz); 4K HDR HDCP2.3 Compatible	
Max. Resolution	3840 x 2160 @ 60 Hz (4:4:4)	
Max. Resolution / Distance	4K x 2K @ 60 Hz (4:4:4) up to 70 m (Cat 6/6a/ATEN 2L-29330 Cat 6 cable) 1920 x 1080 @ 60 Hz (4:4:4) up to 100 m (Cat 6/6a/ATEN 2L-29330 Cat 6 cable with Long Reach Mode enabled)	
LEDs		
Power	1 (Green)	
Link	1 (Orange)	
Video	N/A	1 (Orange)
Console Status	2 (Orange)	1 (Orange)
Switches		
DIP	1 x 2 Pin	N/A
Pushbuttons		
Operating Mode Selection	1 x Pushbutton	N/A
Power Consumption	DC5V:2.59W:28BTU/h	DC5V:1.88W:13BTU/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.	

Function	CE801L	CE801R
Environmental		
Operating Temp	0–40º C	
Storage Temp.	-20–60º C	
Humidity	0–80% RH, Non-condensing	
Physical Properties		
Housing	Metal	
Weight	0.32 kg (0.70 lb)	0.31 kg (0.68 lb)
Dimensions (L x W x H)	12.80 x 8.21 x 2.50 cm (5.04 x 3.23 x 0.98 in)	12.80 x 8.15 x 2.50 cm (5.04 x 3.21 x 0.98 in)

RS-232 Pin Assignments

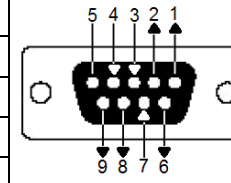
Pin assignments for the Transmitter and Receiver's rear RS-232 port that is used for connecting to a serial terminal are given in the table, below:

Pin	Assignment		
1	CD	N/A	
2	RXD	Receive Data	
3	TXD	Transmit Data	
4	DTR	N/A	
5	GND	Signal Ground	
6	DSR	N/A	
7	RTS	N/A	
8	CTS	N/A	
9	RI	N/A	

DB9 Male

Transmitter Front RS-232 Port

Pin assignments for the Transmitter's front RS-232 port that is used for connecting to a computer for serial control are given in the table, below:

Pin	Assignment		
1	CD	N/A	
2	TXD	Transmit Data	
3	RXD	Receive Data	
4	DTR	N/A	
5	GND	Signal Ground	
6	DSR	N/A	
7	CTS	N/A	
8	RTS	N/A	
9	RI	N/A	

DB9 Female

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.

© Copyright 2025 ATEN® International Co., Ltd.
Released: 2025-12-16

ATEN and the ATEN logo are registered trademarks of ATEN International Co., Ltd. All rights reserved.
All other brand names and trademarks are the registered property of their respective owners.