Black Box ACU5800A

Black Box Dual-Head DisplayPort KVM Extender User Manual

MODEL: ACU5800A

Brand: Black Box

1. Introduction

The Black Box ACU5800A Dual-Head DisplayPort KVM Extender is a high-performance system designed to extend DisplayPort video, USB 2.0, and audio signals over CATx cabling. This allows for the remote placement of critical computing hardware in a secure and temperature-controlled environment, while maintaining a seamless user experience at the workstation. This manual provides essential information for the proper setup, operation, and maintenance of your KVM extender.

2. Key Features

- **Video Extension:** Supports two 1920 x 1200 video streams or one higher resolution 2560 x 1600 (WQXGA) video stream.
- **Digital and Analog Audio:** Includes S/PDIF via optical 3.5mm jack (mini Toslink compatible) and HD-quality analog audio (stereo 24-bit at 96kHz).
- **USB 2.0 Connectivity:** Extends Hi-Speed USB 2.0 for mass storage devices and isochronous devices (webcams, headsets), and standard USB 2.0 (full and low speed) for human interface devices like keyboards, mice, graphics tablets, and joysticks.
- **CATx Cabling:** Utilizes CATx cables for signal transmission. A single CATx cable handles video, USB, and audio. A second CATx cable is required for Hi-Speed USB 2.0 extension and increased video bandwidth.
- **Extended Distance:** Capable of extending signals up to 492 feet (150 meters), with actual distance dependent on monitor resolution, number of monitors, cable type, and patch panel/coupler usage.
- **EDID Management:** Intelligent EDID management ensures accurate display characteristics are passed back to the computer.
- **Plug and Play:** No drivers or software installation required for operation.

3. Package Contents

Upon unpacking your Black Box ACU5800A KVM Extender, please verify that all components are present and undamaged. While specific contents may vary, a typical package includes:

- Black Box ACU5800A Transmitter Unit
- Black Box ACU5800A Receiver Unit
- Power Adapters (x2)
- DisplayPort Cables (x2)
- USB Type-A to Type-B Cable
- Audio Cables (3.5mm)
- This User Manual

Image 1: Black Box ACU5800A KVM Extender units. The image displays two black rectangular units, labeled "BLACK BOX Wizard DP Extender". The unit on the left (transmitter) shows multiple USB ports, audio jacks, and status LEDs on its front panel. The unit on the right (receiver) shows two Ethernet ports and status LEDs on its front panel.

4. Setup Instructions

Follow these steps to correctly set up your Black Box ACU5800A KVM Extender:

1. **Identify Units:** Distinguish between the Transmitter (local unit, connects to computer) and the Receiver (remote unit, connects to peripherals).

2. **Connect to Computer (Transmitter):**

   - Connect the DisplayPort cables from your computer's graphics card to the DisplayPort IN ports on the Transmitter unit.
   - Connect the USB Type-A to Type-B cable from your computer's USB port to the USB IN port on the Transmitter unit.
   - Connect audio cables (if used) from your computer's audio output/input to the corresponding ports on the Transmitter unit.

3. **Connect Extender Units:**

   - Connect one or two CATx cables (e.g., CAT5e/6/7) between the LINK ports on the Transmitter unit and the LINK ports on the Receiver unit. Ensure cables are securely seated.
   - *Note:* A second CATx cable is necessary for Hi-Speed USB 2.0 functionality and maximum video bandwidth.

4. **Connect Peripherals (Receiver):**

   - Connect your DisplayPort monitors to the DisplayPort OUT ports on the Receiver unit.
   - Connect your USB keyboard, mouse, and other USB devices to the USB ports on the Receiver unit.
   - Connect your speakers, microphone, or headset to the audio ports on the Receiver unit.

5. **Power On:**

   - Connect the provided power adapters to both the Transmitter and Receiver units, then plug them into a power outlet.
   - Power on your computer and connected peripherals.

6. **Verification:** Check the status LEDs on both units to ensure proper link establishment. Your extended display and peripherals should now be operational.

5. Operating Instructions

The Black Box ACU5800A KVM Extender is designed for plug-and-play operation, requiring no special software or drivers.

- **Normal Operation:** Once all connections are made and power is applied, the system should automatically detect and extend the video, USB, and audio signals.
- **EDID Management:** The extender features intelligent EDID management, which automatically communicates the monitor's capabilities to the source computer, ensuring optimal display settings.
- **USB Device Compatibility:** The transparent USB 2.0 Hi-Speed port supports a wide range of USB devices, including mass storage and isochronous devices. Ensure your devices are compatible with USB 2.0 standards.
- **Audio:** Digital (S/PDIF) and analog audio signals are extended transparently. For S/PDIF, use a mini Toslink adapter if necessary.

6. Maintenance

To ensure the longevity and optimal performance of your KVM extender, follow these general maintenance

guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the units. Avoid liquid cleaners or solvents.
- **Environment:** Operate the units in a well-ventilated, temperature-controlled environment, away from direct sunlight, excessive heat, moisture, and dust.
- **Cable Management:** Ensure all cables are neatly routed and not under strain to prevent damage to connectors or cables.
- **Firmware:** Periodically check the Black Box website for any available firmware updates for your model. Follow manufacturer instructions carefully if updating firmware.

7. Troubleshooting

If you encounter issues with your KVM extender, refer to the following troubleshooting steps:

Problem	Possible Cause	Solution
No video on remote monitor.	- Loose DisplayPort cables. - Incorrect CATx cable connection. - Power issue. - Monitor input not selected. - Resolution incompatibility.	- Ensure all DisplayPort cables are securely connected at both ends. - Verify CATx cables are correctly connected between Transmitter and Receiver. - Check power adapters are connected and units are powered on. - Select the correct DisplayPort input on your monitor. - Try a lower resolution on the source computer.
Keyboard/Mouse not responding.	- Loose USB cables. - USB port issue. - Device incompatibility.	- Ensure all USB cables are securely connected. - Try connecting the USB device to a different USB port on the Receiver. - Test the USB device directly on the computer to confirm functionality.
No audio.	- Loose audio cables. - Incorrect audio source/output selected.	- Verify audio cables are securely connected to both units and peripherals. - Check audio settings on your computer and ensure the correct output device is selected.
Intermittent connection or poor performance.	- Poor quality or damaged CATx cables. - Excessive cable length. - Environmental interference.	- Replace CATx cables with high-quality, certified cables (e.g., CAT6a or CAT7). - Ensure cable length is within specified limits (max 492 ft / 150 m). - Relocate units away from strong electromagnetic interference sources.

8. Specifications

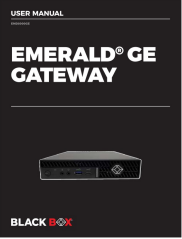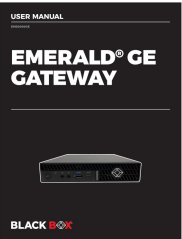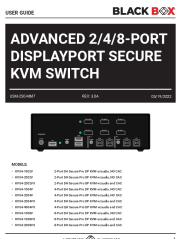| Model Number	ACU5800A
Brand	Black Box
Video Resolution	Up to 2560 x 1600 (WQXGA) single-head or 1920 x 1200 dual-head
Video Interface	DisplayPort
USB Support	USB 2.0 (Hi-Speed, Full, Low Speed)
Audio Support	Digital (S/PDIF via optical 3.5mm) and Analog (HD-quality stereo 24-bit @ 96kHz)
Extension Cable Type	CATx (CAT5e/6/7 recommended)
Maximum Extension Distance	492 feet (150 meters)
Dimensions (L x W x H)	12 x 10 x 8 inches (approximate, per unit)
Item Weight	6.88 pounds (approximate, per unit)
Connectivity Protocol	Ethernet (for KVM extension link)
Plug and Play	Yes

9. Warranty and Support

For detailed warranty information, please refer to the warranty card included with your product or visit the official Black Box website.

If you require technical assistance or have questions regarding your Black Box ACU5800A KVM Extender, please contact Black Box customer support through their official website or the contact information provided with your purchase.

Related Documents - ACU5800A

[Black Box ACX300 CATx DVI/HDMI + USB Extender EC User Manual](#)
Comprehensive user manual for the Black Box ACX300 CATx DVI/HDMI + USB Extender EC, detailing its specifications, features, installation, operation, switching capabilities, and troubleshooting guidance. Includes regulatory statements and trademark information.

	[Black Box Emerald GE EMD3000GE User Manual: KVM Gateway Setup and Operation](#) User manual for the Black Box Emerald GE EMD3000GE KVM Gateway. Covers specifications, overview, configuration, operation, safety notices, and regulatory information for high-performance KVM extension over IP.
	[Black Box KVD200-2H 2-Port 4K HDMI Dual-Head KVM Switch User Manual](#) User manual for the Black Box KVD200-2H 2-Port 4K HDMI Dual-Head KVM Switch. This document provides specifications, installation instructions, and operation details for controlling two computers with 4K dual HDMI video output from a single console.
	[Black Box Emerald GE Gateway EMD3000GE User Manual | KVM Over IP](#) User manual for the Black Box Emerald GE Gateway (EMD3000GE), providing detailed information on specifications, setup, configuration, operation, and regulatory compliance for KVM over IP solutions.
	[Black Box Advanced 2/4/8-Port DisplayPort Secure KVM Switch User Guide](#) User guide for the Black Box Advanced 2/4/8-Port DisplayPort Secure KVM Switch (USM-2S0-MM7), covering installation, security features, technical specifications, operation, troubleshooting, and warranty.
	[Black Box LB320A Industrial Ethernet Extender Quick Start Guide](#) Quick Start Guide for the Black Box LB320A Industrial Ethernet Extender, detailing setup, connections, power, DIP switch configuration, and status LEDs for industrial network applications.

Documents - Black Box – ACU5800A

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