RALOY

RKHE-CATXVGA

VGA CATx KVM Extender plus USB-hub

User Manual

Access | Integrate | Consolidate

Legal Information

First English printing, June 2026

Safety Instructions

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labelled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - Repair or attempted repair by anyone not authorized by us.
  - Any damage of the product due to shipment.
  - Removal or installation of the product.
  - Causes external to the product, such as electric power fluctuation or failure.
  - Use of supplies or parts not meeting our specifications.
  - Normal wear and tear.
  - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Contents

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Before Installation

- It is very important to mount the equipment in a suitable cabinet or on a stable surface.
- Make sure the place has a good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

Unpacking

The equipment comes with the standard parts shown in package content. Check and make sure they are included and in good condition. If anything is missing, or damaged, contact the supplier immediately.

< Part 1 >

< 1.1 > Package Content

- Transmitter unit x 1
- Receiver unit x 1
- VGA cable (male-to-male) x 1
- DC power adapter x 2

< 1.2 > Overview

- The Raloy RKHE-CATXVGA KVM Exteder is supplied as a pair, consisting of one Transmitter unit (marked “Transmitter”) and one Receiver unit (marked “Receiver”). RKHE-CATxVGA VGA KVM extends 2560x1080 @ 60Hz VGA signals from the Transmitter to the Receiver via a single Cat5e/6/6A cable at a distance of up to 100 meters.

- The system also supports RS-232 and IR control. RS-232 control allows you to connect a serial I/O device at your display location, making it an ideal solution for adding a serial touchscreen interface to your remote display. Meanwhile, the IR extension enables you to control an IR-enabled host device (such as a Blu-ray player or TV set-top box) from the remote location.

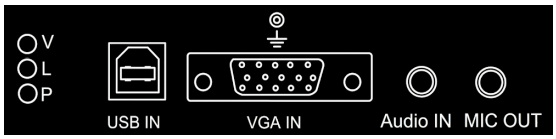
- This solution is ideal for HD security monitoring, multimedia publishing, video conferencing, multimedia classrooms, centralized computer management, outdoor advertising, large-screen splicing applications, and more.

< 1.3 > Key Features

- Lossless Video Quality: Digital video transmission allows for near-zero signal loss, delivering a clear video image with strong anti-interference capabilities.
- Extended Range: Extends VGA signals up to 100m over a single Cat5e/6/6A cable.
- High Resolution Support: Supports video resolutions up to 2560x1080 @ 60Hz.
- Built-in 4-Port USB 2.0 Hub: Lets you remotely connect, access, or control up to four USB devices located at your remote display. It is excellent for USB keyboards and mice, HD webcams, mobile phone charging, data transferring, portable storage devices, touchscreens, etc. The high-current design provides perfect stability, eliminating intermittent signal loss or disconnected cables.
- Independent Audio Support: Features 3.5mm jacks (optional) on both the Transmitter and Receiver units for individual 2-channel audio support.
- IR Control (Optional): Allows your VGA host device to recognize remote commands, enabling you to control the host device from the remote location.
- Bidirectional RS-232 Extension (Optional): Serial interface data flows in both directions, allowing for seamless data transmission and device control.
- Network Connectivity: Supports connections via a Gigabit LAN Ethernet network.
- Flexible Configurations: IR control, RS-232 serial, and audio functions are completely optional.
- Durable Metal Housing: The high-quality aluminum housing improves heat dissipation and ensures system stability during long hours of operation.
- Integrated Mounting: Built-in mounting brackets allow for easy surface or wall placement.
- Plug-and-Play: Simple installation with no software or drivers required.

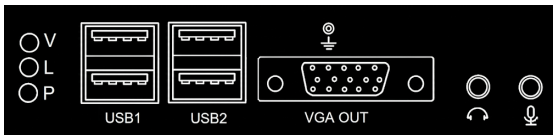
< 1.4 > Component & Port Functions

Transmitter



Front

Receiver



Rear

	Port	Function
Transmitter	USB IN	USB Type-B port for connecting the host computer/ device.
	VGA IN	VGA signal input to connect to the VGA host computer/ device.
	Audio IN	Connect a 3.5mm audio cable from this port to the host computer/ device.
	MIC OUT	Connect a 3.5mm audio cable from this port to the host computer/ device.
	RJ45	Connection port for the Ethernet network cable.
	IR OUT	IR signal output to connect to the IR emitter extension cable.
	GRT	Connect an RS-232 converter cable to the host computer/ device.
	DC	Connects to the included power adapter.
Receiver	USB1 / USB2	Hub ports for connecting supported USB peripheral devices.
	VGA OUT	VGA signal output to connect to the remote VGA display device.
	Audio OUT	Connect an external audio speaker to this port.
	MIC OUT	Connect a microphone to this port.
	RJ45	Connection port for the Ethernet network cable.
	IR IN	IR signal input to connect to the IR receiver cable.
	GRT	Connect an RS-232 converter cable to the display to be controlled.
	DC	Connects to the included power adapter.

< 1.5 > LED Indicatiors

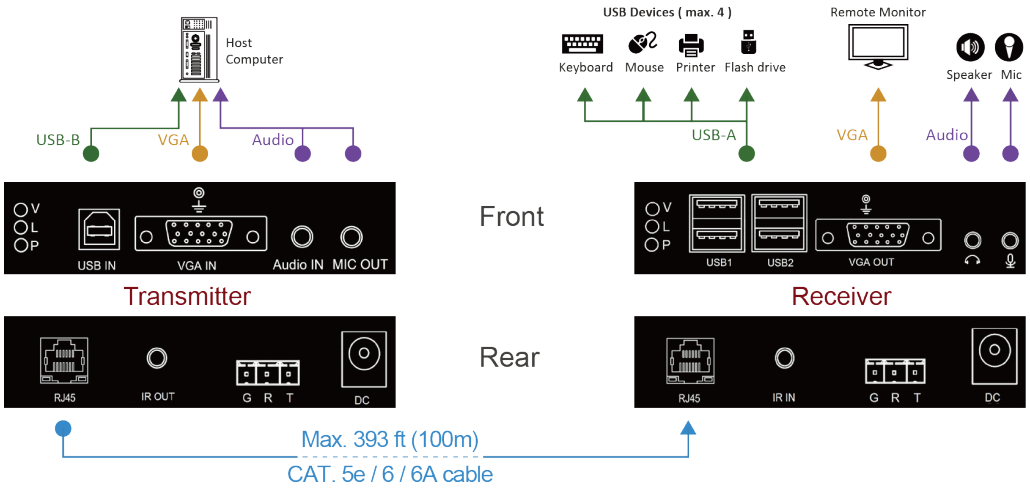
	Indicator	Color	Status	Description
Transmitter	**P**	Red	Solid Bright	The unit is powered on.
	L	Green	Solid Bright	The connection between the Transmitter and Receiver units is stable.
	V	Yellow	Solid Bright	A VGA input signal is detected by the Transmitter, and the Receiver has verified the display is working properly.
Receiver	**P**	Red	Solid Bright	The unit is powered on.
	L	Green	Solid Bright	The system detects a connection issue between the Transmitter and Receiver units.
	V	Yellow	Solid Bright	The Receiver unit has detected that the VGA display is working properly.

< 1.6 > Technical Specification

	Parameter	Specification
Signals	Input Signals	Transmitter: 1 channel (VGA, USB, RS232, AUDIO)
		Receiver: 1 channel (MIC, IR)
	Output Signals	Transmitter: 1 channel (MIC, IR)
		Receiver: 1 channel (VGA, RS232, AUDIO), 4-channel USB
Distance	Transmission Distance	Up to 100m
Video	I/O Connector	HD-15 Pin VGA (Female)
	Bandwidth	>350MHz (-3dB)
	Sync Signal	>200KHz
	Video Resolutions	Up to 2560x1080 @ 60Hz
USB	Connector	Transmitter: Type-B; Receiver: Type-A
	Protocol	USB 2.0
Audio	Connector	3.5mm audio jack
RS-232 Serial	Connector	3-pin Phoenix connector
	Type	Bidirectional extension
IR Control	Connector & Signals	3.5mm jack / Infrared remote control signal
Cabling	RJ-45 Port	Cat5e / Cat6 / Cat6A
General	Dimension (L × W × H)	Transmitter: 131 mm x 93 mm x 32 mm
		Receiver: 131 mm x 93 mm x 32 mm
	Housing Enclosure	Aluminum
	Colors Available	Black
Power	Power Supply	DC 12V / 1.5A
	Power Consumption	Transmitter: 4W; Receiver: 4W
Environment	Working Temperature	-15°C to 55°C (5°F to 131°F)
	Storage Temperature	-40°C to 80°C (-40°F to 176°F)
	Relative Humidity	0–95% (non-condensing)

< Part 2 >

< 2.1 > Connection Diagram



< 2.2 > Installation

Before starting, ensure you have all necessary cables on hand and completely power off all equipment, including your VGA host computer/ device and VGA display.
The CATx network connection cables between the Transmitter and Receiver units must be terminated with RJ45 connectors and wired according to the T568B industry standard.

Follow the step-by-step instructions below to install your KVM extender:

Step 1 (Transmitter Connections):

- Connect your host computer to the VGA IN and USB IN ports on the Transmitter unit using the provided VGA and USB cables.
- Connect your host computer to the Audio IN and MIC OUT ports on the Transmitter unit using 3.5mm mini-stereo audio cables.
- Connect an RS-232 converter cable between the RS-232 serial port of your source device and the G R T port on the Sender unit.
- Connect the 2-pole infrared emitter cable to the IR OUT port on the Transmitter unit.

Step 2 (Transmitter Network & Power):

- Connect an RJ45-terminated Cat5e/6/6A Ethernet cable to the RJ45 connector on the Transmitter unit.
- Plug one of the included power adapters into the DC power jack on the Transmitter unit, then plug the adapter into a reliable power source.

Step 3 (Receiver Connections):

- Connect a VGA cable between your display and the VGA OUT port on the Receiver unit.
- Connect your supported USB peripheral devices to the USB1 and USB2 hub ports on the Receiver unit.
- Plug an audio speaker into the headphone port and a microphone into the MIC port on the Receiver unit.
- Connect your external serial devices to the G R T port on the Receiver unit.
- Connect the 3-pole infrared receiver cable to the IR IN port on the Receiver unit.

Step 4 (Receiver Network & Power):

- Connect the other end of the Cat5e/6/6A Ethernet cable to the RJ45 connector on the Receiver unit.
- Plug the second power adapter into the DC power jack on the Receiver unit, then connect it to a reliablepower source.

Step 5 (Power On):

- Power on all connected peripheral devices and systems. The VGA KVM extender system is ready for use.

Please ask for details of other products from Raloy. Every effort has been made to ensure that the information contained herein is correct. There is a possibility that the image(s) shown may not be exactly the same as the final product. The company reserves the right to modify product specifications without prior notice and assumes no responsibility for any error which may appear in this publication.