



## **User Manual**

# **KVM CAT5 USB Extender Kit**

## **KVM-9006**

**KVM-9006 (Transmitter)  
&  
KVM-9006 (Receiver)**

V1.0

# Table of Contents

1	INTRODUCTION .....	1
1.1	MODEL INFORMATION .....	1
1.2	FEATURES .....	2
1.3	PACKAGE CONTENTS .....	2
2	HARDWARE OVERVIEW.....	3
2.1	TRANSMITTER 'S LEDs, BUTTON AND PORTS .....	3
2.2	RECEIVER 'S LEDs, BUTTON AND PORTS .....	5
3	HARDWARE INSTALLATION .....	8
3.1	INSTALLATION DIAGRAM .....	8
3.2	3-IN-1 VGA CABLE INSTALLATION .....	9
4	OPERATIONS .....	10
4.1	KEYBOARD HOTKEY COMMANDS .....	10
5	TROUBLESHOOTING.....	11
	APPENDIX A. SPECIFICATIONS.....	13
	APPENDIX B. CAT5 CABLE CONNECTOR PIN DEFINITION .....	14
	APPENDIX C. CERTIFICATES .....	15

# 1 Introduction

The CAT5 USB KVM Extender enables user to access the computer, server or KVM switch up to 150 meters away with superior auto-adjust RGB gain/delay control capability. The CAT5 USB Extender is a pair of Transmitter KVM-9006T and Receiver KVM-9006R for high-density applications where you want full use of keyboard, mouse, and monitor, but there is no room for a server nearby. Or for applications where you want to put all computers in a safe place, all the users only have keyboard/mouse and monitor on their desk.

The Transmitter KVM-9006T allows you to locate your console (keyboard, mouse, and monitor) to a suitable control field conveniently over existing network construction. You need just install a pair of extender, the Transmitter and the Receiver, at local side and remote side individually. It also saves your cable layout and cable installation cost.

KVM-9006R allows you to control remote computer system 150 meters away while working on local computer.

## 1.1 Model Information

<b>Transmitter Box</b>	
KVM-9006T	with USB Local Console
<b>Receiver Box</b>	
KVM-9006R	with USB Local Console, support 150 meters

## 1.2 Features

- ◆ Compact box design
- ◆ Locate CAT5 console up to 150 meters
- ◆ Collocate computers and servers on one location, ideal for hazardous or unsecured environments
- ◆ Switch computers by push button or hotkey commands
- ◆ Audible feedback when switching
- ◆ LED indicators for computer status or data transmission
- ◆ Work with PS/2 or USB computer
- ◆ Easy to install and use with plug-and-play functionality

## 1.3 Package Contents

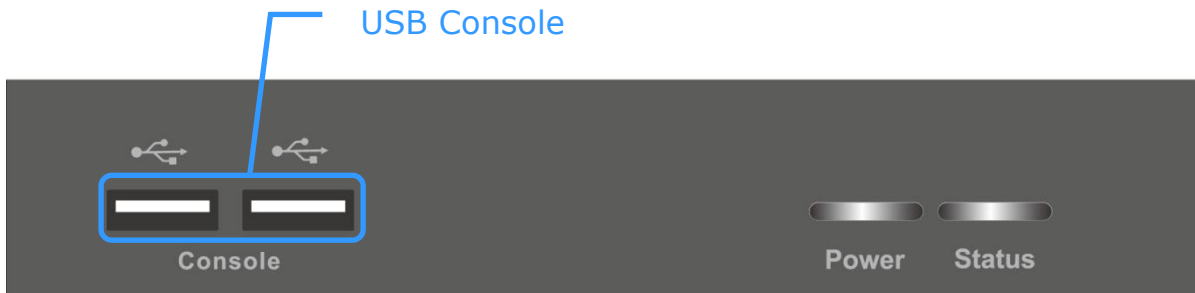
- ◆ 1 x KVM-9006T
- ◆ 1 x KVM-9006R
- ◆ 2 x KVM 3-in-1 Cable
- ◆ 2 x USB Changer
- ◆ 1 x User Manual
- ◆ 1 x DC12V/1A AC to DC Power Adapter for KVM-9006T
- ◆ 1 x DC12V/1A AC to DC Power Adapter for KVM-9006R
- ◆ 8 x Footpad

## 2 Hardware Overview

### 2.1 Transmitter's LEDs, Button and Ports



LED	Status	Description
Power	Off	KVM-9006T is power off. KVM-9006T is connected to a computer which is power off.
	On	KVM-9006T is power on or connected to a computer which is power on.
Status	Off	KVM-9006T's RJ-45 port is not connected to the remote site KVM-9006R.
	Flash	KVM-9006T is occupied by the remote site KVM-9006R.
		KVM-9006R is auto-adjusting the VGA signal. KVM-9006T is linking with remote when plugging / re-plugging in a CAT5 cable.
	On	KVM-9006T is linked with the remote site KVM-9006R by a CAT5 cable.



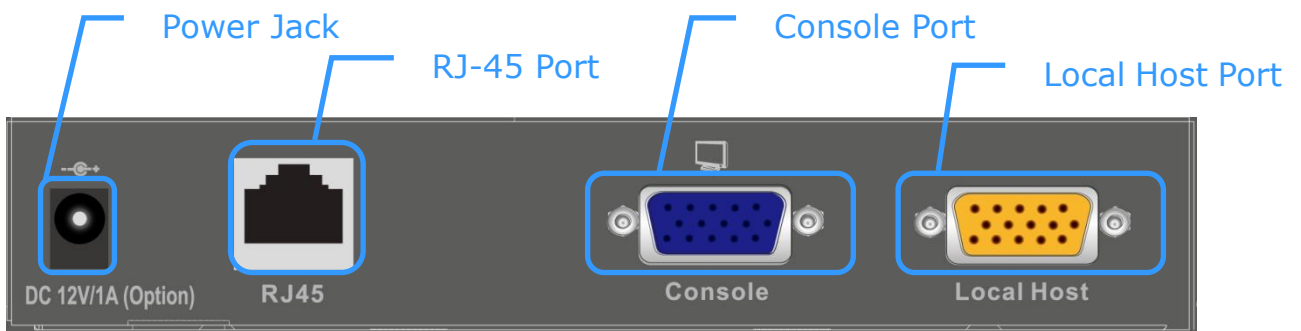
**USB Console** Port: for connecting to USB type keyboard and mouse

**RJ-45** Port: for connecting to a CAT5 cable

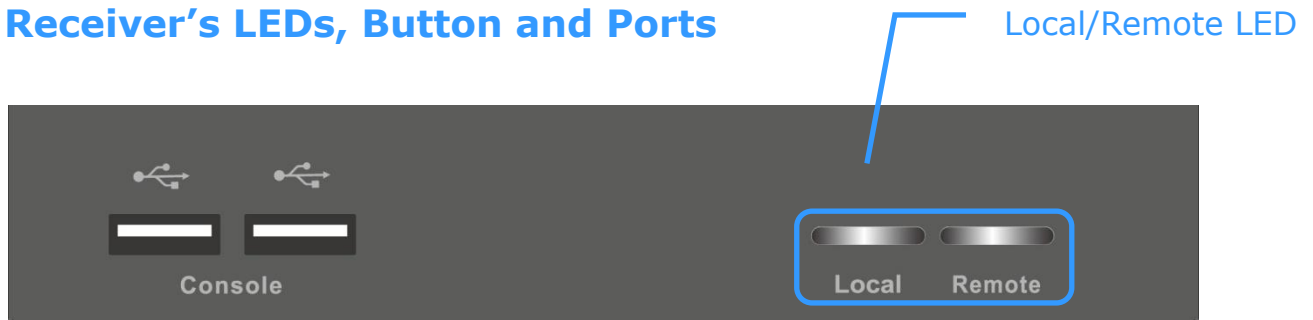
**Local Host** Port: for connecting to the local host via 3-in-1 VGA cable

**Console** Port: for connecting to monitor

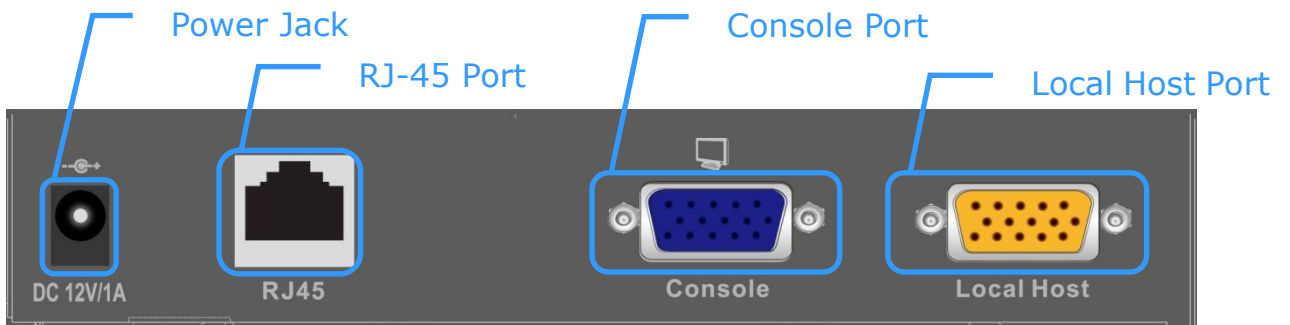
**Power** Jack: for connecting to the power adapter



## 2.2 Receiver's LEDs, Button and Ports



LED	Status	Description
Local	Off	The Local port is not selected.
	On	The Local port is selected and a computer connected to the Local port is power on.
	Flash	The Local port is selected, but no computer is connected to the Local port or the computer is power off.
Remote	Off	The Remote port is not selected.
	On	The Remote port is selected and a computer connected to the Remote port is power on.
	Flash	The Remote port is selected, but no computer is connected to the Remote port or the computer is power off.
		KVM-9006R is auto-adjusting the VGA signal.



- Local/Remote Button:** for selecting local or remote computer
- USB Console Port:** for connecting to USB type keyboard and mouse
- RJ-45 Port:** for connecting to a CAT5 cable
- Local Host Port:** for connecting to the local host via 3-in-1 VGA cable
- Console Port:** for connecting to monitor
- Power Jack:** for connecting to the power adapter



Cable Diagrams

**3-in-1 VGA Cable**

HDDDB15 male to one HDDDB15 male plus two mini din 6-pin PS/2 connectors.



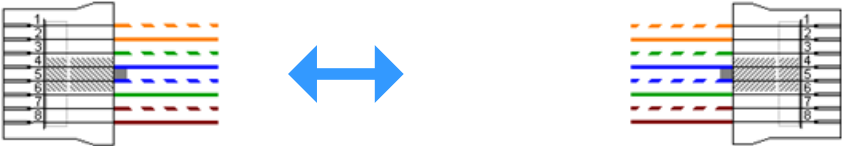
**PS/2 Keyboard to USB Changer**

PS/2 (keyboard) to USB (keyboard and mouse) changer.



**CAT5/5E/6 Straight Through UTP/STP Cable**

CAT5/5E/6 Straight Through Cable Connector (8P8C)

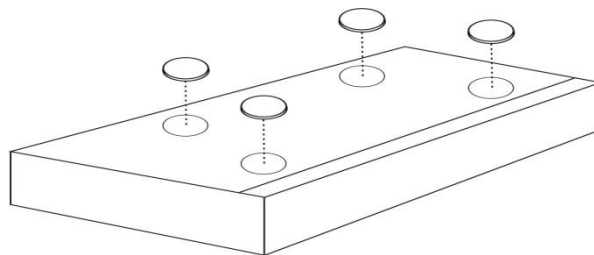


## 3 Hardware Installation

### 3.1 Installation Diagram

It is recommended to power off all the computers and server before the installation. If it is difficult to turn off the computers, for PS/2 computer, connect the Transmitter KVM-9006T and KVM-9006R in the following order: first the PS/2 mouse connector followed by PS/2 keyboard connector, and then the VGA connector to the computer.

1. Refer to the figure below. Turn the KVM-9006T / KVM-9006R upside down and plaster it with the four accompanied rubber food pads.



2. Make sure the CAT5 cable is straight through type.
3. Plug one end of CAT5 cable into RJ-45 connector of the KVM-9006T, and plug the other end of CAT5 cable into RJ-45 port of KVM-9006R.
4. Connect keyboard, mouse and monitor to the KVM-9006T /KVM-9006R console ports (USB Keyboard/Mouse ports and VGA port).
5. Connect local computer to KVM-9006T / KVM-9006R with the accompanied 3-in-1 VGA cable (see section "3-in-1 VGA Cable Installation" for detailed description).

### 3.2 3-in-1 VGA Cable Installation

The 3-in-1 VGA cable has a HDDB15 male connector at one end. Plug it into the Local Host port of the KVM-9006R. The other end of input cable has three connectors: a HDDB15 male type for computer video, a purple mini din 6-pin PS/2 connector for keyboard and a green mini din 6-pin PS/2 connector for mouse. Plug these three connectors into the respective ports of computer.

- ◆ PS/2 Computer: Plug in PS/2 mouse connector to computer mouse port, the PS/2 keyboard connector to computer keyboard port. Do not hot plug PS/2 port. If you must do that, please make sure PS/2 mouse first then the PS/2 keyboard, then VGA port.



- ◆ USB Computer: Connect the PS/2-USB changer to PS/2 keyboard connector and then plug the changer into an available USB port. This single USB port can communicate both keyboard and mouse signals. It works as a standard HID (Human Interface Device), no extra driver needed. Note that the PS/2 mouse connector should be left disconnected.



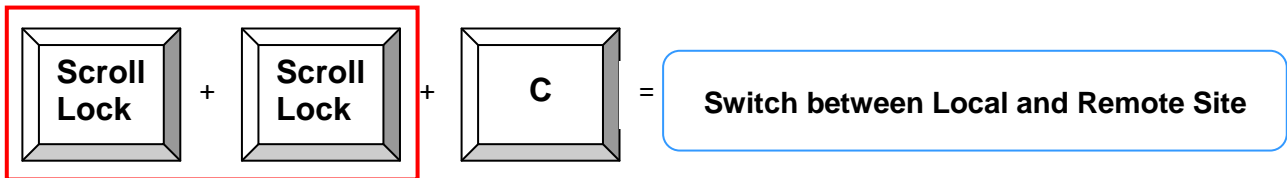
## 4 Operations

### 4.1 Keyboard Hotkey Commands

You can switch the KVM-9006R between “Local Host” port and “RJ-45” port through simple key sequences made by the remote console side. To send commands to the KVM-9006R, you must press the hotkey (default is **Scroll Lock**) twice within 2 seconds. You will hear a beep sound confirming you are in the hotkey mode. Then you have to enter command in 2 seconds. If you do not press any key during hotkey mode over 2 seconds the hotkey mode will be terminated and back to normal state.

**Example:**

Default Hotkey: Scroll Lock



The table below lists all the supported hotkey commands.

Command	Function
<b>C</b>	To switch between Local and Remote ports
<b>Q</b>	To turn the beep sound on or off
<b>S</b>	To activate the Auto-Scan function. Auto-scan Remote and Local port every 8 seconds repeatedly.
<b>A</b>	For auto-adjust video signal of remote port to optimum

## 5 Troubleshooting

Make sure that all cables are well seated. Label all cables with the name/number for each respective computer to avoid confusion.

**Q:** KVM-9006 (Transmitter) or KVM-9006R's LED is not ON.

- ◆ Make sure the computer connected to KVM-9006T or KVM-9006R is power on.
- ◆ Make sure the cable connected to KVM-9006T or KVM-9006R is well seated.

**Q:** No video signal is displayed on the monitor.

- ◆ Make sure the power adapter is connected to the KVM-9006R .
- ◆ Make sure the VGA cable and CAT5 cable are properly connected to the connectors.
- ◆ Make sure the VGA cable is attached to computer before the boot-up process.

**Q:** The computer has started up, but keyboard or mouse doesn't work.

- ◆ Make sure your keyboard and mouse work fine if directly plugged into the computer.
- ◆ PS/2 Computer: Keyboard and mouse are not hot pluggable. Make sure the PS/2 cables are well connected then reboot the computer.
- ◆ USB Computer: Unplug and plug in the USB connector, wait few seconds for USB bus emulations and start up process to complete.
- ◆ Do not press any keys on keyboard while the selected computer is booting up. Otherwise it might cause keyboard error or keyboard is not detected by the Host side.
- ◆ Try a different keyboard, but use only 101/102/104-key keyboard.

- Q:** Video signal is foggy or un-cleared on the screen.
- ◆ Make sure the VGA cable is properly connected.
  - ◆ There are various CAT5 cables, such as CAT5/CAT5E/CAT6 and STP/UTP types; If your application need long distance with high VGA resolution, please select higher quality cables.
  - ◆ Make sure the VGA resolution is not too high for the length of cable that is used. It is highly recommended to use “optimal CAT5 cable length” to obtain the best video quality while still saving the redundant cable length. Therefore, if the problem remained, please shorten the CAT5 cable length or reduce VGA resolution.
- Q:** There is an error message “Keyboard or Mouse not found” on the screen.
- ◆ Please make sure USB or PS/2 connectors are well seated.
- Q:** How to use the KVM CAT5 Extender with an USB interface computer such as PC, MAC, or SUN Microsystems?
- ◆ Please plug PS/2-USB changer to change a PS/2 connector to a USB connector.

## Appendix A. Specifications

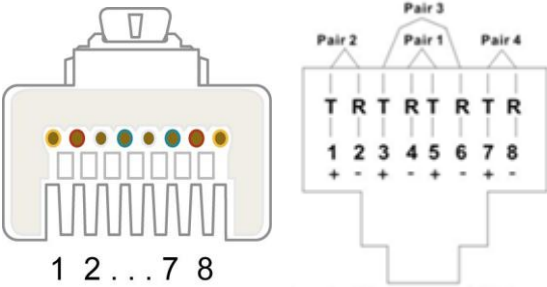
### KVM-9006 (Transmitter)

Connector	2 USB connectors for keyboard and mouse
VGA Connector	2 HDDB15 connectors (one for VGA monitor, one for Connecting 3-in-1 VGA cables to local computer)
RJ-45 Port (CAT5)	1 RJ-45 port for connecting to KVM-9006R
LEDs	2 (Power and Status)
Keyboard Emulation	USB
Mouse Emulation	USB
VGA Resolution (Local Host)	1920 x 1440
Housing	Metal
Power Adapter	DC 12V, 1A
Operation Temperature	0 ~ 50 °C
Storage Temperature	-20 ~ 60 °C
Humidity	0~80%, Non-Condensing
Dimension (mm)	157.5 x 71.6 x 29 mm
Weight (g)	370g

### KVM-9006 (Receiver)

Connector	2 USB connectors for keyboard and mouse
VGA Connector	2 HDDB15 connectors (one for VGA monitor, one for Connecting 3-in-1 VGA cables to local computer)
RJ-45 Port (CAT5)	1 RJ-45 port for connecting to KVM-9006T
LEDs	2 (Local and Remote)
Port Selection	Hotkey, Push Button
Keyboard Emulation	USB
Mouse Emulation	USB
VGA Resolution (Local Host)	1920 x 1440
VGA Resolution (Remote Host)	1280 x 1024
Housing	Metal
Power Adapter	DC 12V, 1A
Operation Temperature	0 ~ 50 °C
Storage Temperature	-20 ~ 60 °C
Humidity	0~80%, Non-Condensing
Dimension (mm)	157.5 x 71.6 x 29 mm
Weight (g)	370g

# Appendix B. CAT5 Cable Connector Pin Definition



Pin	Wire Color	Pair	Function
1	White/Orange	2	T
2	Orange	2	R
3	White/Green	3	T
4	Blue	1	R
5	White/Blue	1	T
6	Green	3	R
7	White/Brown	4	T
8	Brown	4	R



## Appendix C. CERTIFICATES

### **FCC**

This equipment has been tested and found to comply 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.

### **CE Mark Warning**

This equipment is in compliance with the requirements of the following regulations: EN 55 022: Class B.

### **RoHS**

All contents of this package, including products, packing materials and documentation comply with RoHS.

