USB KVM EXTENDER OVER CAT.5

User's Manual

DS-52100

Index

1 Introduction

Thank you for purchasing the USB KVM Extender over Cat.5.

This KVM extender allows you to extend the computer's video and USB keyboard/mouse signal. Therefore, you now have a high quality and durability extension solution to control your system up to 200 meters away from your computer or KVM. With the built-in video and keyboard/mouse signal enhancement, you can gain the best video resolution quality. Additional software is not required. This product delivers perfect performance and high value to satisfy your needs.

The **USB KVM Extender over Cat.5** comprises a local unit (transmitter) and a remote unit (receiver). The local unit is connected directly to the computer (or a KVM switch system) using the supplied cables. The user console (keyboard, mouse and monitor) is attached to the remote unit.

The remote and local units extend the keyboard, mouse and video signal along the Cat5/5e/6 cable. Moreover, the local unit offers dual access, enabling the connection of a second user console close to the computer.

Local Unit: Transmitter

Remote Unit: Receiver

1.1 Features

1. Extends the Keyboard / Video / Mouse signal by a Cat5/5e/6 cable.
2. Dual console operation - Control your system from both the local and remote unit.
3. Push button at local side to select active console.
4. Available active console options: local console / remote console / both consoles.
5. Supports connection of USB keyboard/mouse for local and remote console arbitrarily.
6. Supports keyboard/mouse connection of USB interface to computer at local side arbitrarily.
7. Supports high resolution video - Up to 1280x1024 @ 60Hz for distances of up to 200 meters.
8. Supports VGA, SVGA and multisync monitors.
9. DDC2B support for remote monitor.
10. Adjustable control of focus and brightness to improve video quality at remote side.
11. No software or driver installation required.
12. Compatible with most commonly used operating systems like DOS, Windows 98SE/ME/2000/XP/2003 Server/Vista/7, Linux, Mac OS9/OSX and Sun Microsystems.
13. Supports BIOS level operation.
14. Plug and Play.
15. Supports Microsoft Intellimouse 3 ~ 5 key mouse & Microsoft Natural Keyboard Pro series.
16. Supports SUNMICRO system function key emulation.
17. LEDs on each device to indicate the active console and connection status.
18. Firmware upgradeable.

1.2 Package Contents

The product you purchased should contain the equipment and accessories shown as follows:

1. 1 x Local Unit
2. 1 x Remote Unit
3. 1 x Custom combo 4-in-1 cable.
4. 2 x External power adaptor DC 5V 2A
5. 1 x User's Manual

1.3 Specifications

MODLE NAME			DS-51200	
			Transmitter	**Receiver**
Console Connectors	VGA Output		HDB-15 (Female)	HDB-15 (Female)
	USB	Keyboard	USB Type A (Female)	USB Type A (Female)
		mouse	USB Type A (Female)	USB Type A (Female)
PC Connectors	Video (KB/MS)		HDB-15 (Female) (PS/2 & USB signal combined)	N/A
Extension Port	RJ-45		FOR KB/MS/VGA Extension	
Video Adjustment	Focus		N/A	1 x VR
	Brightness			1 x VR
LED indicator	Local	Selected	Right Red LED	Right Red LED
		Active	Right Green LED	Right Green LED
	Remote	Selected	Left Red LED	Left Red LED
		Active	Left Green LED	Left Green LED
Local / Remote Switch Button			Yes.	No.
DDC Supported			REMOTE Support DDC2B	
Extension Cable Type & Length			CAT5, CAT5E, CAT6. Max. Length : 200M	
Video Resolution			1920 x 1200 – 50 m 1600 x 1200 – 100 m 1400 x 900 – 150 m 1280x1024(60HZ)@200m	
Firmware Upgrade			Yes	
Operating Systems Supported			Windows 98SE/ME/2000/XP/2003 Server/Vista/7, Linux	
			Mac OS9/OSX and Sun Microsystems	
Power Supply			DC 5V / 2A Adaptor	
Dimension (L x W x H)			127 x 67 x 27 mm	
Unit Weight			246 g	243 g
Housing material			Metal	
Operating Temperature			32~ 122°F (0~ 50°C)	
Humidity			0%~80%RH	

2 Installation

2.1 System Requirements

■ **Console**

1. VGA, SVGA, Multisync monitor capable of the highest resolution.
2. USB keyboard/mouse.

■ **Computer**

1. VGA, SVGA or multisync card.
2. Type A USB port or PS/2 6 pin mini-DIN for keyboard and mouse.
3. Operating systems: Windows 98/98SE/2000/ME/XP/2003/Vista/7, Mac OS9/OSX, Linux Kernel 2.3 or later, Solaris 8 or later, Sun Micro OS.
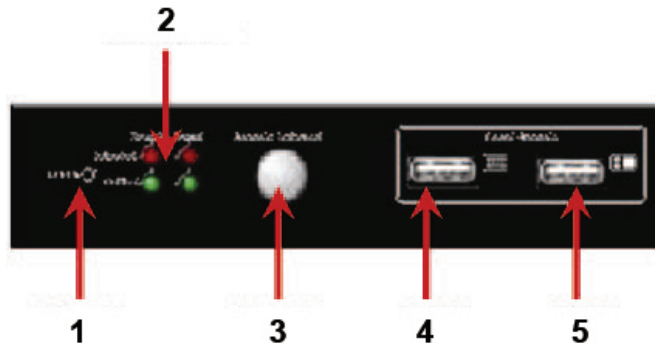
■ **Cables**

1. CAT5/CAT5E/CAT6 cable to connect the remote and local unit, the supported maximum length of this cable is 200 meters.
2. Custom combo 4-in-1 cable (accessories).
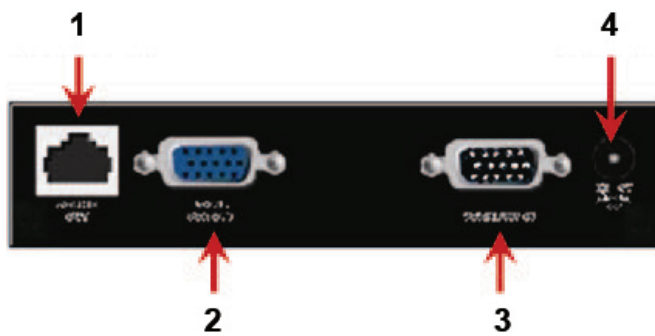
2.2 Physical Diagram

■ **Transmitter**

◆ Front View

1 Reset switch
2 LED indicators
3 Push button
4 USB keyboard
5 USB mouse

◆ Rear View

1 Cat5
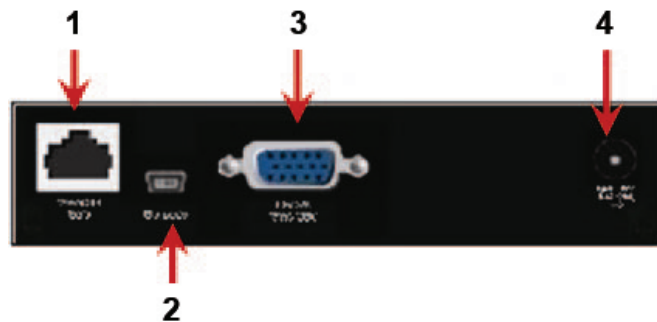2 Video to local monitor
3 Video/KB/MS to PC
4 Power jack

■ **Receiver**

◆ Front View

1	Reset switch
2	LED indicators
3	USB keyboard
4	USB mouse
5	Video adjusted skews

◆ Rear View

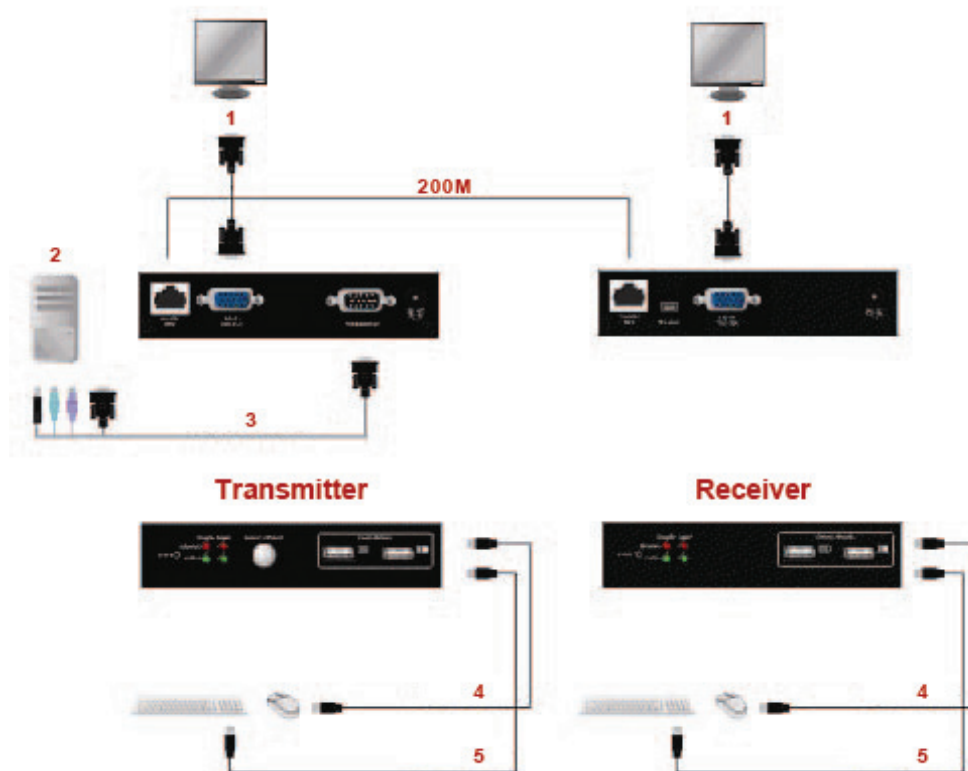|	
1	Cat5
2	Upgrade
3	Video to local monitor
4	Power jack

■ **Reset Switch :**

Press the Reset switch if you want to reset the system. This switch must be pushed with a thin object like the end of a paper clip, or a ball point pen.

■ **Firmware download connector**

The min-USB female connector on the rear of the KVM switch is for a firmware upgrade function. To update your KVM firmware, please contact your dealer.

■ **Cable Connection Diagram**

1 Monitor
2 PC
3 Video/KB/MS
4 USB mouse
5 USB keyboard

2.3 Hardware Installation

1. Switch off all devices.

2. Connect your monitor, USB keyboard/mouse to the local unit, if you want to control your system at the local console.

3. Connect your monitor, USB keyboard/mouse to the remote unit, if you want to control your system at the remote console.

4. Connect the remote and local unit by using a CAT5/CAT5E/CAT6 cable; the supported maximum cable length is 200 meters.

5. Connect the 5V power supply to power on the local unit.

6. Connect the 5V power supply to power on the remote unit.

7. Connect video and/or USB keyboard/mouse of local unit and computer/KVM by using the supplied cables.

8. Turn on your computer if it was turned off.

9. Adjust video quality by using brightness or focus skew if necessary.

3 Operations

3.1 Active Console Selection by Push Button

You can press the push button on the local unit to change the active console of operation. There are three types of active console configurations:

1. **Local Console Only**

   You can operate the system only from the local unit**.**

2. **Remote Console Only**

   You can operate the system only from the remote unit**.**

3. **Both Consoles**

   You can operate the system from both the local and remote unit**.**

The default configuration is "Both Consoles" mode. Once you change the active console configuration, it will be saved and will not be affected by unit reset.

The active console can be shown via "Selected Indicators" of LED indicator, please refer the description of next sections
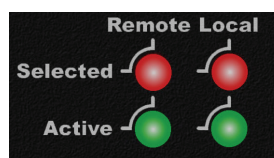
3.2 LED Indicators

The LED indicators of the remote console are the same as the local ones, if both units are connected successfully; or all LED indicators at remote console will turn OFF.
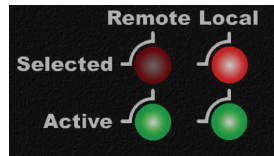
● Selected Indicators (RED)
■ **Both Selected:**
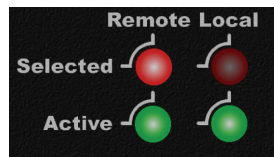Indicates that you can control your system from both the local and remote console.

■ **Local Selected:**

Indicates that you can control your system from the local console only.

■ **Remote Selected:**

Indicates that you can control your system from the remote console only.

● Active Indicators (GREEN)

Indicates the connection status:

■ **Local Indicator:**

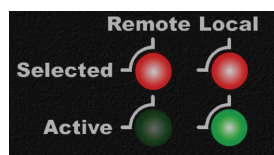Indicates whether the connection between the local unit and computer is ready or not.

■ **Remote Indicator:**

Indicates whether the connection between the local and remote unit is ready or not.
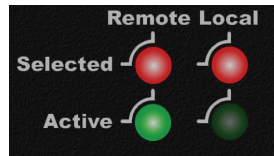
● Examples of LED Indicators:

■ Both consoles are selected, local active is **ON**, remote active is **OFF:**
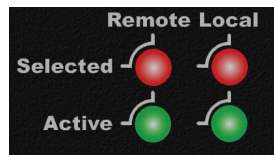
It means that the connection between the local unit and the computer is ready, but the CAT5 connection between the local and remote unit is not ready. In this case, you can only control your system at the local console, because the remote console is not connected successfully. The following indicators are shown at the local console, all LED indicators will be OFF at the remote console because of disconnection.
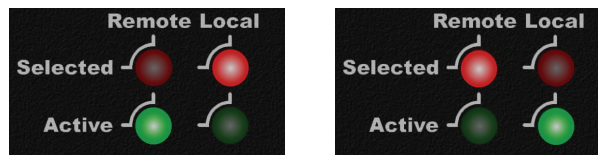
- Both consoles are selected, local active is **OFF**, remote active is **ON:**
    It means that the CAT5 connection between the local and remote unit is ready, but the local unit is not connected to the PC correctly or the PC is not turned on. In this case, you cannot control your system from any console, because the PC is not available to control.

- Both consoles are selected, local active is **ON**, remote active is **ON:**
    Connection of the local and remote unit is successful; you can control your system at the local and the remote console.

- Active console is inconsistent with selected console:
    You cannot control your system if the active console is inconsistent with the selected.

3.3 Buzzer sound Disable / Enable by Hotkey

- Press **<Left Shift> or <Right Shift>** twice, then **<B>** and **<Enter>**. The buzzer sound will be disabled / enabled alternately. The buzzer sound default setting is **ON**.

< Shift > → < Shift > → <B> → <Enter>

3.4 Sun Micro System Function Key Emulation:

There are 16 special functions on the Sun Micro system keyboard, the KVM Switch can emulate these function keys. Here is the mapping table for Sun Micro function key emulation. To activate this emulation, you have to press the **LEFT Window KEY** first (this key usually is located between the left **[Ctrl]** and left **[Alt]**), then choice the second relative key.

Sun Micro System Function Key	Emulation Key
Stop	L_Win & L_Alt
Props	L_Win & L_Ctrl
Compose	L_Win & L_Shift
Front	L_Win & F1
Open	L_Win & F2
Find	L_Win & F3
Again	L_Win & F4
Undo	L_Win & F5
Copy	L_Win & F6
Paste	L_Win & F7
Cut	L_Win & F8
Help	L_Win & F11
Power	L_Win & F12
Mute	L_Win & 1
Volume Down	L_Win & 2
Volume UP	L_Win & 3

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FCC Statement

This device generates and uses radio frequency and may cause interference to radio and television reception if not installed and used properly. This has been tested and found to comply with the limits of a Class B computing device in accordance with the specifications in Part 15 of the FCC Rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this device does cause harmful interference to radio or television reception, which can be determined by plugging the device in and out, the user can try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the device and receiver.
- Connect the computer into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.