Smart KVM Extender

User Guide

MINICOM by

TRIPP·LITE

1111 W. 35th Street, Chicago, IL 60609 USA
www.tripplite.com/support

Table of Contents

1. Welcome

Thank you for buying the CAT5 Smart KVM Extender system. The system is produced by Minicom Advanced Systems Limited.

Technical precautions

This equipment generates radio frequency energy and if not installed in accordance with the manufacturer's instructions, may cause radio frequency interference.

This equipment complies with Part 15, Subpart J of the FCC rules for a Class A computing device. This equipment also complies with the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of the Canadian Department of Communications. These above rules are designed to provide reasonable protection against such interference when operating the equipment in a commercial environment. If operation of this equipment in a residential area causes radio frequency interference, the user, and not Minicom Advanced Systems Limited, will be responsible.

Changes or modifications made to this equipment not expressly approved by Minicom Advanced Systems Limited could void the user's authority to operate the equipment.

Minicom Advanced Systems Limited assumes no responsibility for any errors that appear in this document. Information in this document is subject to change without notice.

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Minicom Advanced Systems Limited.

Trademarks
All trademarks and registered trademarks are the property of their respective owners.

2. Introduction

The CAT5 Smart KVM Extender (KVM Extender) system from Minicom is an advanced KVM switch that performs the following functions:

- Extends KVM control over a computer* up to a distance of 110m / 360ft

- Gives 2 users at 2 workstations control of 1 computer*

- A 2-port KVM switch for 1 or 2 users

* Throughout this guide 'computer' also means a KVM switch

3. The system components

The KVM Extender system consists of:

- Transmitter

- Receiver

- 3 in 1 CPU cable

- 1 Power adapter for the Receiver

A Shielded CAT5 FTP (Foil Twisted Pair) Solid Wire 2x4x24 AWG cable with RJ-45M connectors connects the KVM Extender system.

The Receiver can be up to 110m/360ft away from the Transmitter.

4. The KVM Extender units

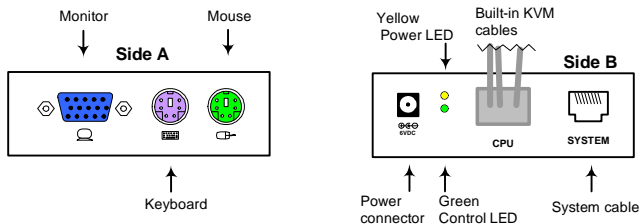The figures below illustrate the Transmitter and Receiver units.

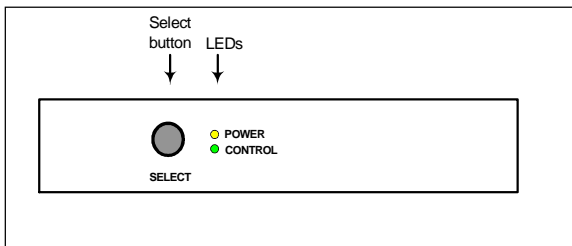**Figure 1 Transmitter side panels**

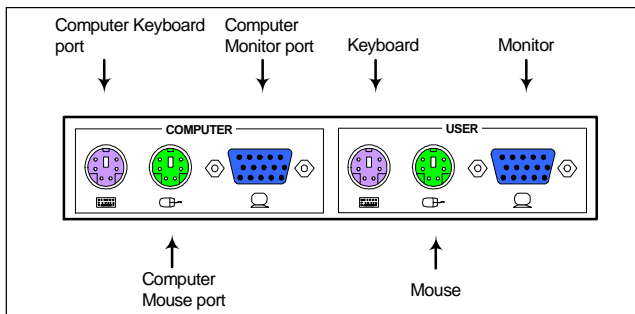**Figure 2 Receiver front panel**
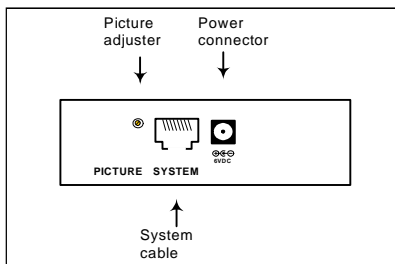
Figure 3 Receiver rear panel

Figure 4 Receiver side panel

5. Pre-installation instructions

Disconnect all computers from the power supply.

Place cables away from fluorescent lights, air conditioners, and machines that are likely to generate electrical noise.

6. The KVM Extender cables

The Transmitter comes with built-in KVM cables that connect to the computer's Video card, Mouse and Keyboard ports.

The 3 in 1 CPU cable

The 3 in 1 CPU cable –illustrated below – is only used when the Receiver connects to a computer. The cable connects to the Computer section of the Receiver rear panel.
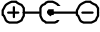
Figure 5 3 in 1 CPU cable

7. Power supply

Connect the Receiver to the power supply with the Power adapter and cord provided.

The Transmitter receives its power from the connected computer and does not generally need an external power supply. However, when cascading Smart Extenders, some of the Transmitters need an external power supply. Use a Minicom Power adapter p/n 5PS20025. The power supply specifications

are: Regulated 6VDC 2 Amp, minus on internal pin $\oplus\!-\!\!\subset\!\!-\!\!\ominus$. Cascading is discussed on page 16.

8. Using the KVM Extender as an extender

Extend the KVM workstation from the computer up to a distance of 110m/360ft.

1. Connect the Transmitter to a computer.

2. Connect a KVM workstation to the Receiver.

3. Connect a CAT5 FTP cable to the System ports of the Transmitter and Receiver.

4. Connect a Power adapter to the Receiver.

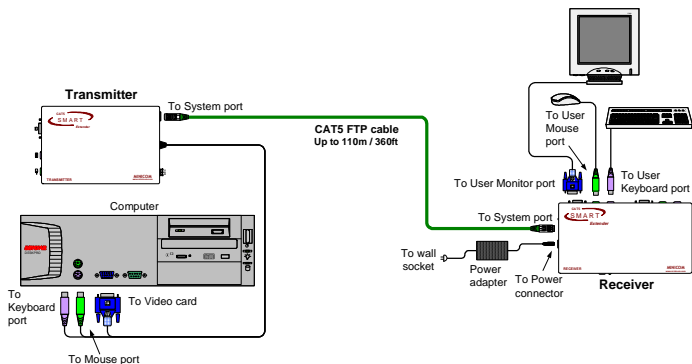Figure 6 illustrates the connections.

Figure 6 KVM Extender as an extender

9. Giving 2 users access to 1 computer

To give 2 users access to 1 computer, connect the system as in Figure 7. The connections are the same as in Figure 6, with the addition of a KVM workstation for user 2.

Access to the computer is on a first-come-first-served basis.
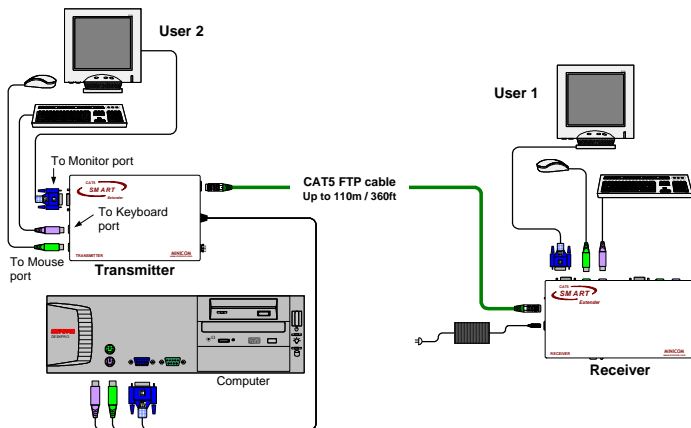
Figure 7 Giving 2 users access to 1 computer

10. The KVM Extender as a 2-port KVM Switch

Figure 8 illustrates the system connected to 2 computers and 2 workstations. User 1 can access his local computer or the remote computer. User 2 can only access his local computer. The connections are the same as in Figure 7, with the addition of the 3 in 1 CPU cable that connects a 2nd computer to the Receiver.

Figure 8 2-port KVM Switch

The option in Figure 8 can also work with only 1 user workstation connected at the Receiver.

There is another configuration diagram on the last page of this Guide, and more on the Marketing & Documentation CD.

11. Operating the KVM Extender

Once the system is connected there are 2 ways to switch between the 2 computers / KVM workstations.
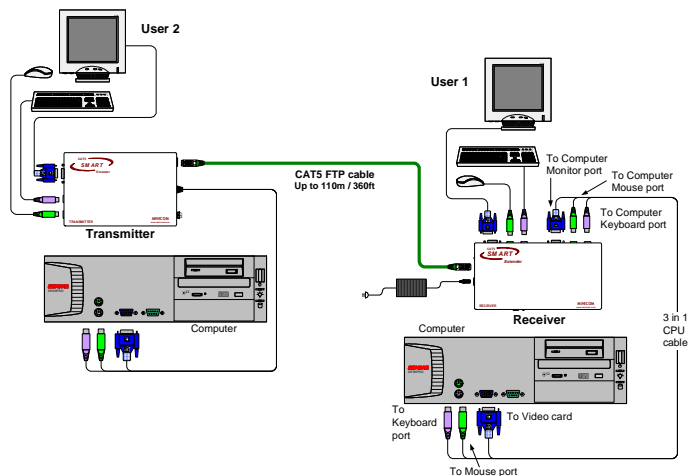
- At the Receiver, press the Select button

Or

- At the keyboard, press **Shift** followed by + or **-**.

Control LEDs

Control LED	On	Blinking	Off
Receiver	Receiver controls the Transmitter computer	Transmitter controls its own computer	Working at Receiver computer
Transmitter	Receiver controls the Transmitter computer	N/A	Working at Transmitter computer

Adjusting the picture

When the Transmitter computer is controlled from the Receiver, you can adjust the picture quality using a small flat screwdriver to turn the Picture adjuster located on the Receiver's rear panel. See Figure 4.

Timeout

When there are 2 workstations in the system you can gain control at either workstation when the other workstation is idle for 1 second. This timeout period can be altered in the Settings mode to between 1-99 seconds, as explained on page 12.

Locking KVM control

When there are 2 users in the system, either user can override the Timeout feature and retain control by locking the system.

To lock control:

On the keyboard press **Shift** then, **F12**.

To relinquish control:

On the keyboard press **Shift** then, **Esc**.

In the Settings mode you can disable the lock control function, as explained on page 12.

12. KVM Extender Settings mode

Enter the Settings mode to:

- Change the hotkey

- Change the Timeout period

- Enable/disable lock control

- Make advanced adjustments

- View settings

Note! Settings changed at the Receiver location are saved in the system. Settings changed at the Transmitter location are erased once the Transmitter is powered off.

To enter the Settings mode:

Press **Shift** then, **F2**. Release **Shift** before pressing **F2**. All 3 keyboard LEDs glow when in the Settings mode.

Changing the hotkey

At the Receiver you can change the hotkey from **Shift** to **Alt** or **Ctrl**. Once changed, all references in this Guide to **Shift** now refer to the new hotkey.

To change the hotkey:

To	Type the letters
Alt	HA
Ctrl	HC
Shift	HS

Changing the Timeout period

At the Receiver you can change the Timeout period.

To do so:

Press **T** followed by a 2-digit number of between 01-99 seconds. The 3 keyboard LEDs blink and the new setting is now functional.

Enabling/disabling lock control

By default both users can lock control. At the Receiver you can disable / enable lock control.

To disable lock control type **DL**.

To enable lock control type **EL**.

Making advanced adjustments

The KVM Extender operates with:

- Windows, Linux, Novell or UNIX systems

- 2 or 3 or 5 button PS/2 mouse, Intellimouse or Wheel mouse

When connected and switched on as set out above, the KVM Extender automatically operates with the computer and mouse types connected to it.

Replacing a computer

When a computer is replaced with a different computer type while the KVM Extender is in use, we recommend turning the new computer off before connecting it to the KVM Extender.

When turning the computers off is inconvenient, do the following:

At the Receiver or Transmitter location, enter the Settings mode to adjust the keyboard and mouse modes making them compatible with the new computer. See the tables below.

Keyboard settings when replacing a computer

For	Type the letters
PC (Windows, Linux, Novell)	PC
UNIX console mode	UC
UNIX graphics mode	UG

Set the keyboard mode to:

- **PC** when operating Intel based computers.

- **UC** when operating UNIX computers in console mode.

- **UG** when operating UNIX computers in graphics mode.

Mouse driver settings when replacing a computer

For	Type the letters
Wheel mouse or Intellimouse	IN
2 or 3 button mouse	PS
5-button mouse	EP

Set the mouse mode to **IN** when the computer has an operating system that supports Wheel mouse functionality: (Windows 98 and Linux*).

Set the mouse setting to **PS** when the computer has an operating system that does not support Wheel mouse functionality: (Windows 95, NT4, DOS, Linux*, UNIX and Novell).

*Depending on the version.

Set the mouse setting to **EP** when the computer has an operating system that supports Explorer mouse functionality: (Windows – ME, 2000, and XP).

Replacing a mouse type

After replacing a mouse with a different mouse type (as opposed to a different mouse of the same type) while the KVM Extender is in use. From the Receiver location:

1. Press and hold the Select button for more than 5 seconds.

2. Release the Select button after your monitor blinks once.

Viewing the settings

At the Receiver or Transmitter location, view the settings and firmware revision in any text editor.

To view the settings:

1. Before entering to the Settings mode switch the keyboard layout to English.

2. Open any text editor, e.g. Notepad.

3. Press **Shift**, then **F2** to enter the Settings mode.

4. Press **F**. The settings appear in the text editor.

Exiting the Settings mode

To save changes and exit the Settings mode:

Press **Esc**.

13. Cascading Smart Extenders

You can cascade two or more Smart Extenders to get more than one remote workstation working from one computer. One possible configuration is shown on the diagram below.
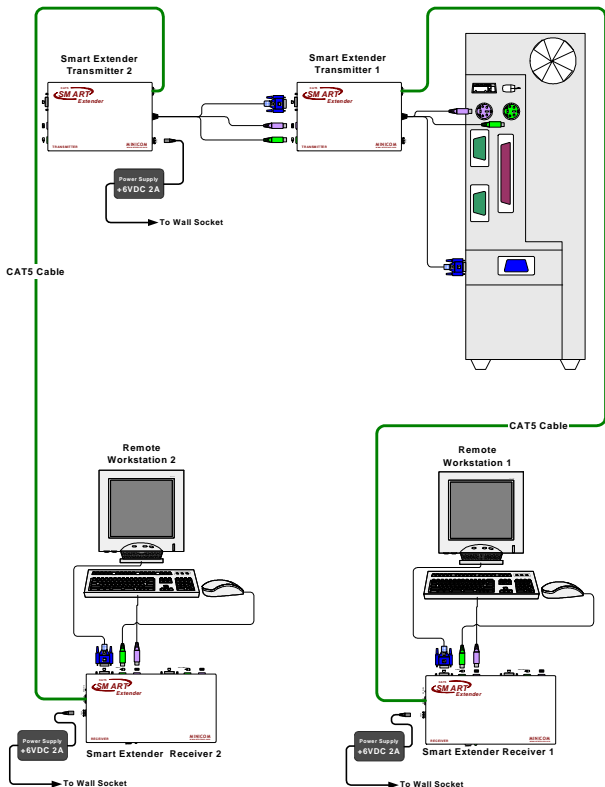
Figure 9 Cascading Smart extenders

Transmitter Power adapter

When cascading connect an external Minicom Power adapter +6VDC 2A (P/N 5PS20025) and Power cord to the second

Transmitter unit. This ensures mouse and keyboard functionality. See Figure 9 above.

Order of switching on

When cascading, switch the system on in the following order:

1. The second Smart Extender Transmitter unit

2. The rest of the system, including the shared computer.

14. Technical specifications

System

System cable	CAT5 FTP cable 2x4x24 AWG Solid Wire
Maximum distance	110m/360ft
Mouse support:	2 or 3 or 5 button PS/2, Wheelmouse
Operating systems	DOS, Windows, Novell, Linux, UNIX, HP UX, QNX, SGI, FreeBSD, BeOS, Open VMS
Screen resolution	Up to 1600X1200 @ 75Hz (depends on cable length)
Operating temperature	0° to 40°C/32° to 104°F
Storage temperature	-40°C to 40°C/-40°F to 104°F

	Transmitter	Receiver
Cables	Built-in KVM	3 in 1 CPU
Connectors	VGA – HDD15M Keyboard – MiniDin6M Mouse – MiniDin6M System – RJ45	VGA – HDD15F Keyboard – MiniDin6F Mouse – MiniDin6F System - RJ45
Dimensions	85 x 113 x 25mm/ 3.3 x 4.4 x 0.98"	85 x 49 x 25mm/ 3.3 x 1.9 x 0.98"
Weight	380g	
Shipping weight	1.70 Kg	
Power supply	From computer keyboard 5V 220mA	External power adapter 6VDC 2A

15. KVM Extender configuration

In Figure 10 the KVM Extender system is connected to a KVM
Switch and computer rack. User 1 can access his local computer
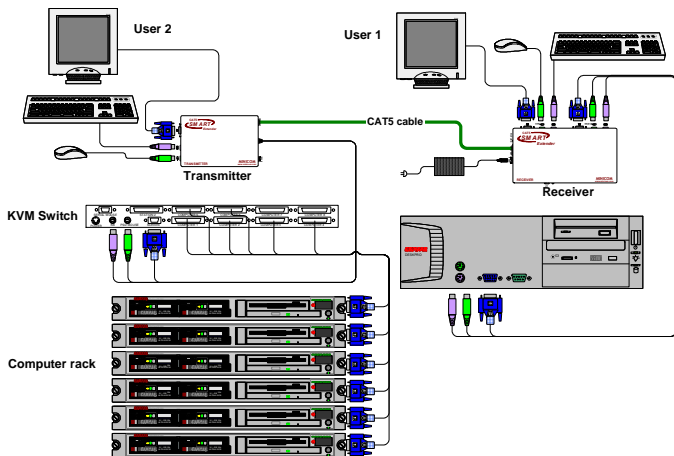or the computer rack through the KVM Switch. User 2 can
access the computer rack through the KVM Switch.

Figure 10 KVM Extender with a KVM switch