

CAT5 Smart KVM Extender

User Guide



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1. Welcome

The CAT5 Smart KVM Extender 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.

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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

* Wherever the word 'computer' appears in this guide it can equally refer to a KVM switch.

3. The system components

The KVM Extender system consists of the following:

- Transmitter
- Receiver
- 3 in 1 CPU cable
- 1 Power adapter for the Receiver

A Shielded CAT5 FTP (Foil Shielded Twisted Pair) Solid Wire 2x4x24 AWG cable terminated with RJ-45M connectors connects the KVM Extender system. The Receiver can be up to 110m/360ft away from the Transmitter.

This Guide illustrates the KVM Extender system and explains how to install and operate it.

4. The KVM Extender units

The figures below illustrate the Transmitter and Receiver units.

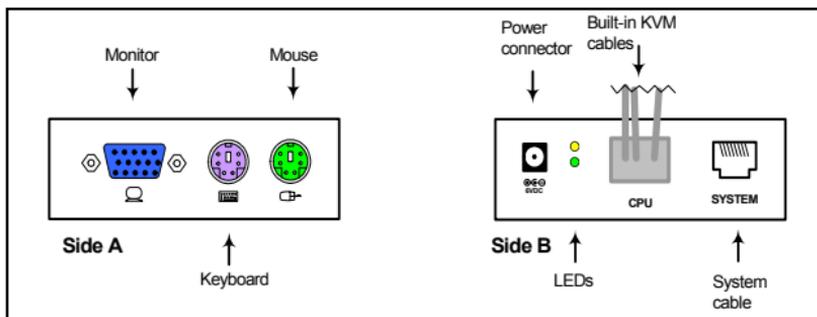


Figure 1 The 2 Transmitter side panels

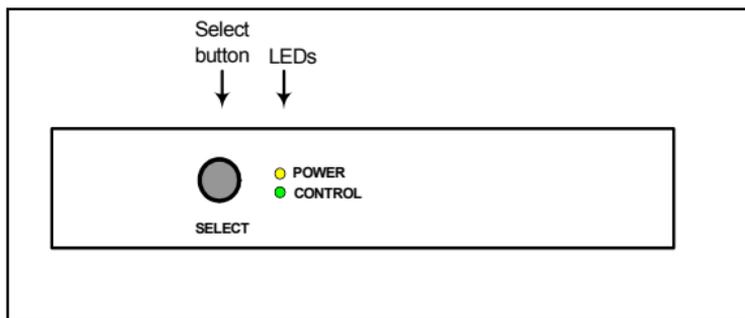


Figure 2 The Receiver front panel

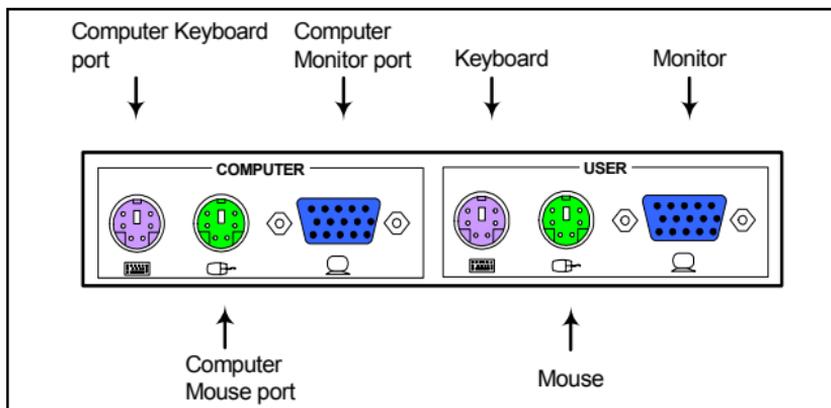


Figure 3 The Receiver rear panel

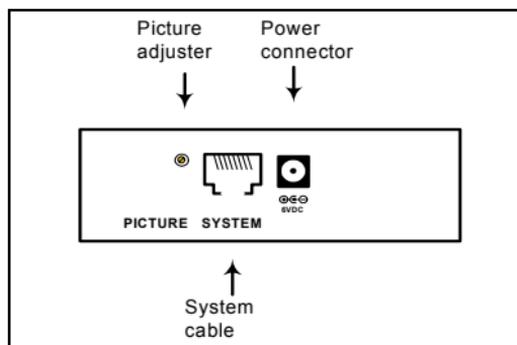


Figure 4 The Receiver side panel

5. Pre-installation instructions

Disconnect all computers from the electrical 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, see Figure 3.



Figure 5 The 3 in 1 CPU cable

7. Power supply

Connect the Receiver to the power supply with the Power adapter and Power 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



. Cascading is discussed on page 17.

8. The KVM Extender as an extender

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

To use the KVM Extender as an extender, connect the system as in Figure 6.

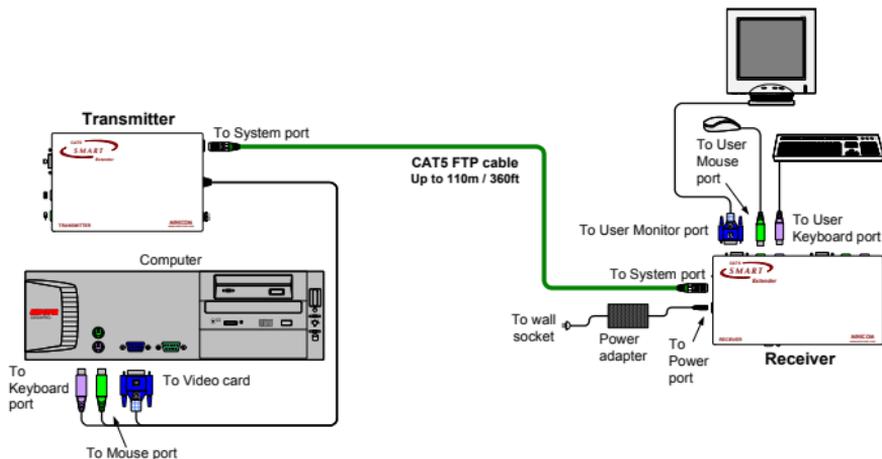


Figure 6 The KVM Extender as an extender

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.

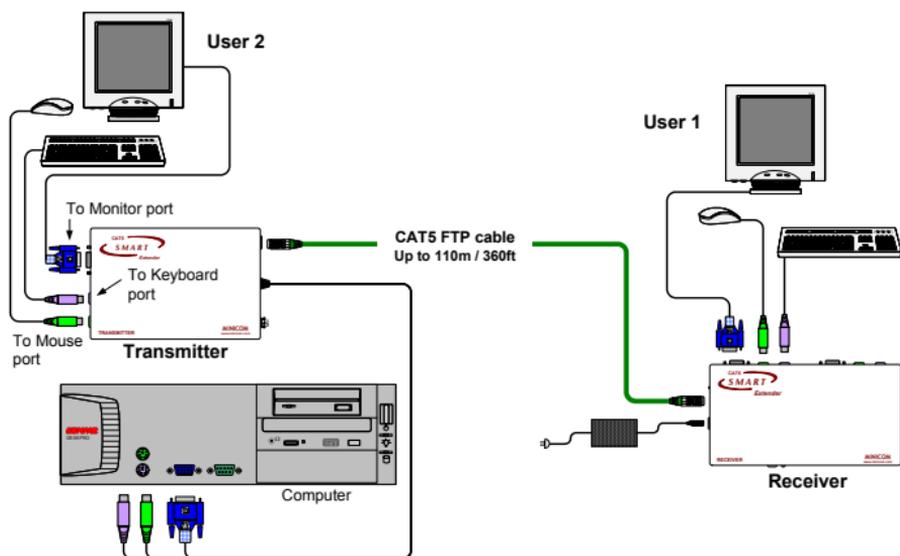


Figure 7 Giving 2 users access to 1 computer

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.

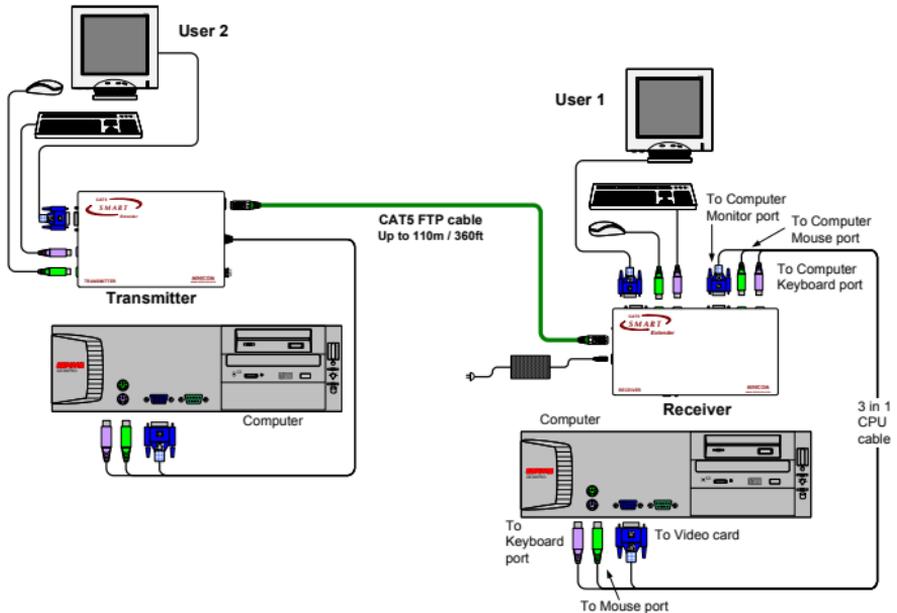


Figure 8 As a 2-port KVM Switch

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.

- On the Receiver press the Select button

Or

- On the keyboard press **Shift** followed by + or -.

When the Receiver works at its computer, its Control LED is off. When the Receiver controls the Transmitter computer its LED is on. The Receiver's LED blinks when the Transmitter controls its own computer.

At the Transmitter its Control LED remains off unless the Receiver is working on the Transmitter computer.

Adjusting the picture

When the Receiver has control of the Transmitter's computer, adjust the picture quality where necessary 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 each workstation when the other workstation is idle for 2 seconds. This timeout period can be altered in the settings mode to between 1-99 seconds, as explained below.

Locking KVM control

When there are 2 users using the system, either user can override the Timeout feature and retain control indefinitely. Do so by locking the system so that only one user has control.

To lock control:

On the keyboard press **Shift** followed by **F12**.

To relinquish control:

On the keyboard press **Shift** followed by **Esc**.

In the settings mode you can disable the lock control function. This is explained in the Settings mode paragraph below.

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

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

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 in the Settings mode:

To	Type the letters
Alt	HA
Ctrl	HC
Shift	HS

Changing the Timeout period

To change the Timeout period in the Settings mode:

Press **T** followed by a 2-digit time period 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. You can disable the lock control function.

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:

In the Settings mode adjust the KVM Extender keyboard and mouse modes to be 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 setting 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 setting 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

When a mouse is replaced with a different mouse type (not necessarily a different mouse) while the KVM Extender is in use, press and hold the Select button for more than 5 seconds. Release the Select button after your monitor blinks once.

Viewing the settings

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**, followed by **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

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.

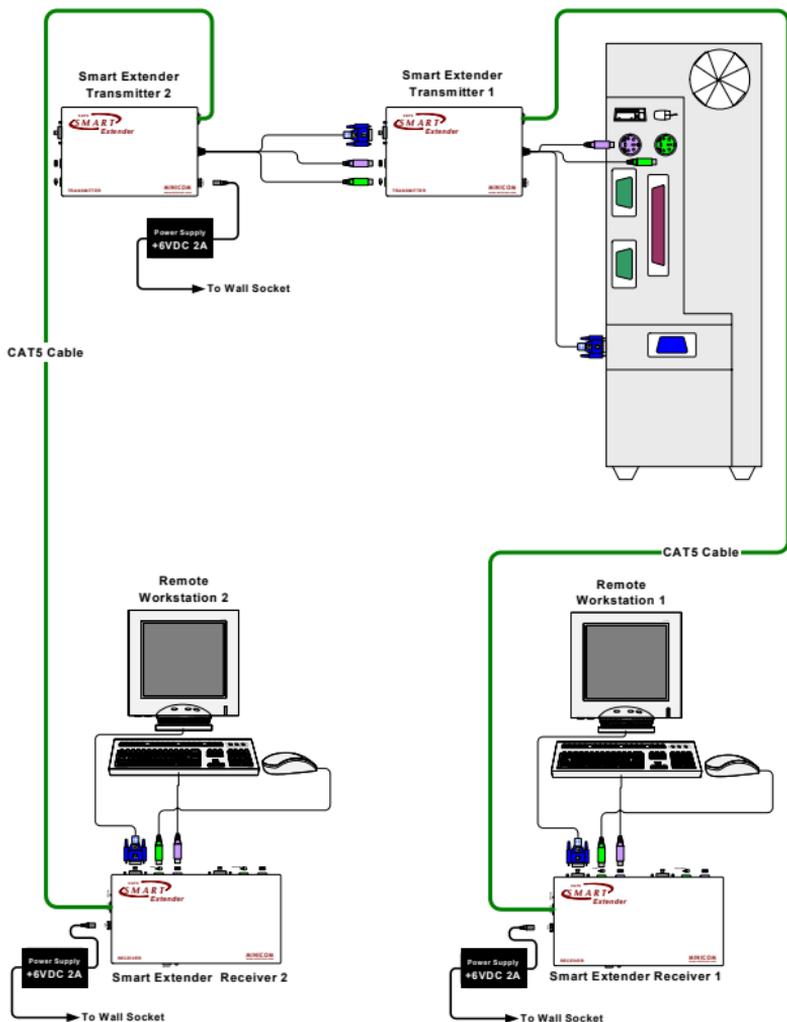


Figure 9 Cascading Smart extenders

Transmitter Power adapter

To ensure mouse and keyboard functionality when cascading, connect an external Minicom Power adapter +6VDC 2A (P/N 5PS20025) and Power cord (P/N 5CB60431) to the second Transmitter unit. See Figure 9 above.

Switching on

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 (3x, 9x, 2000, NT, ME, XP), Novell, Linux, UNIX, HP UX, QNX, SGI, FreeBSD, BeOS, Open VMS
Screen resolution	Up to 1600X1200 @ 75Hz (depends on cable length)
Operating temperature	0°C to 50°C
Storage temperature	-40°C to 70°C

	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/ 0.28 x 0.37 x 0.08ft	85 x 49 x 25mm/ 0.28 x 0.49 x 0.08ft
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.

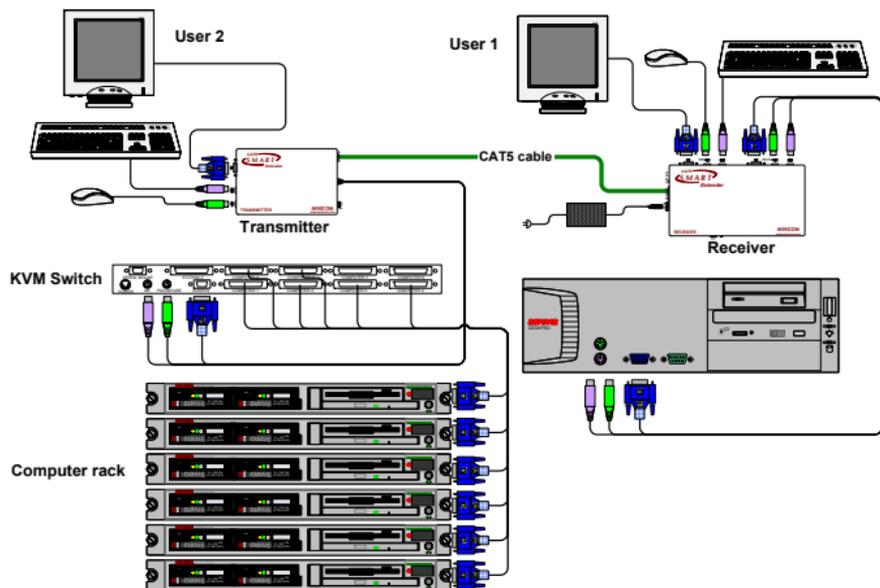


Figure 10 KVM Extender with a KVM switch

