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USB DVI KVM Console Extender with Serial & Audio Over MM Fiber - 2km

SV565FXDUSA

*actual product may vary from photos

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Manual Revision: 05/23/2013

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

•   Reorient or relocate the receiving antenna.

•   Increase the separation between the equipment and receiver.

•   Connect the equipment 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.

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Table of Contents

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Introduction

The SV565FXDUSA USB DVI KVM Console Extender w/ Serial & Audio Over MM Fiber (2km) lets you control a server, computer or multiple computers (connected through KVM Switch) over a multi-mode fiber link, at distances of up to 2000m (6562 ft) away.

By transmitting the digital DVI video (or HDMI with a DVI to HDMI adapter) over a multi-mode optical fiber link there is no loss of signal quality, so the video is as sharp and vivid as if the monitor was connected directly to the PC.

For added convenience, the Console/KVM extender supports USB computer connections, and is compatible with any brand of USB KVM Switch.

Backed by a StarTech.com 3-year warranty and free lifetime technical support.
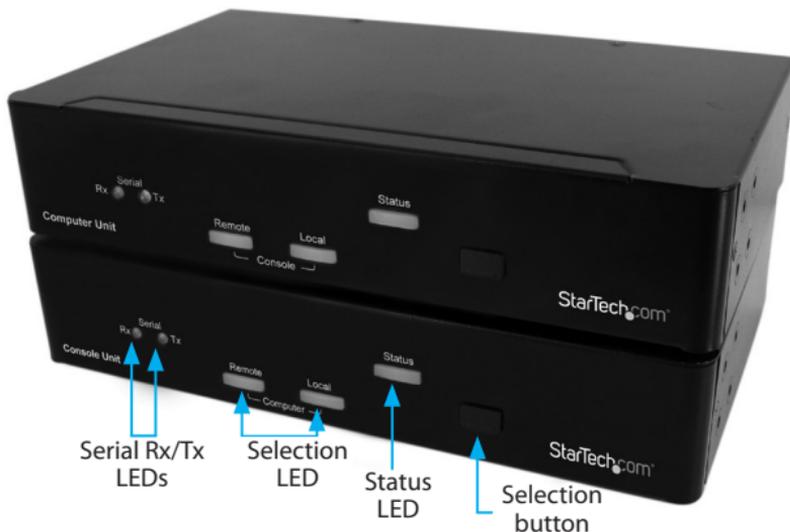
Packaging Contents

• 1x Computer Unit

• 1x Console Unit

• 4x Rackmount Brackets

• 2x Sets of DVI USB and Audio cables

• 1x 30m (98ft) MM Fiber cable

• 1x Rubber feet

• 2x Universal Power Adapter (US/UK/EU)
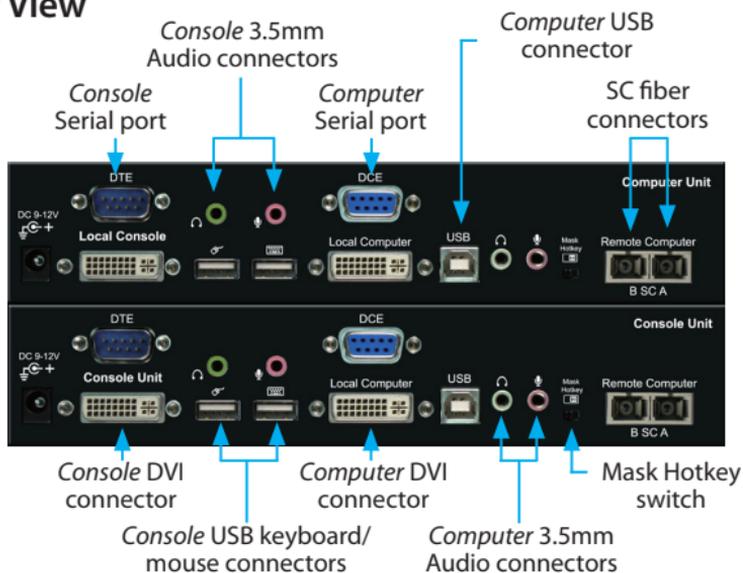
• 1x Manual

System Requirements

• USB enabled computer or KVM switch

• DVI-D enabled computer or KVM switch

• DVI-D enabled display device

• Standard 104-key wired USB keyboard

• Standard 3-button wired USB mouse

• Multi-Mode fiber cable (50/125 or 62.5/125)

• Available electrical outlet at both locations

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Front View

Serial Rx/Tx LEDs

Selection LED

Status LED

Selection button

Rear View

Console 3.5mm Audio connectors

Computer USB connector

Console Serial port

Computer Serial port

SC fiber connectors

Console DVI connector

Computer DVI connector

Mask Hotkey switch

Console USB keyboard/ mouse connectors

Computer 3.5mm Audio connectors

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Installation

WARNING! Do not stare into laser beam or look directly into the ends of the fiber, or look directly into the aperture ports of the fiber. Invisible laser radiation can cause eye injury.
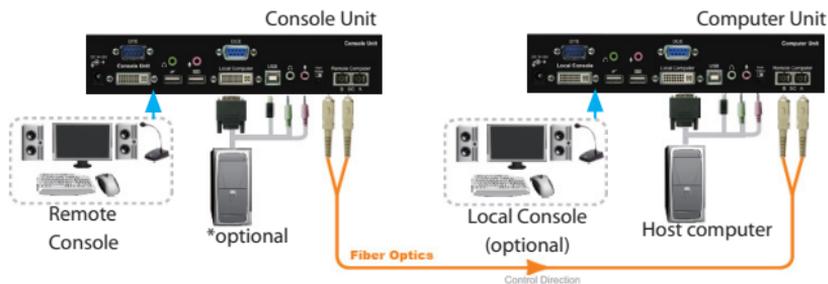
Preparing Your Site

Before you can install the product, you need to prepare your site.

1. Determine where the *host* computer will be located and set up the computer.

2. Determine where the console devices (mouse, keyboard, monitor) will be located and place them appropriately.

3. a) If you are using surface cabling, ensure you have enough Multi-Mode Fiber network cabling to connect the *Computer* Unit to the Console Unit's location, and that each end is terminated with an SC connector. The cabling should not go through any networking equipment (i.e. router, switch).

   OR

   b) If you are using premise cabling, ensure that the Multi-Mode Fiber network cabling between the *Computer* Unit and the Console Unit has been properly terminated in a wall outlet in each location and there is a patch cable long enough to connect the Console Unit and the *Computer* Unit to their respective outlets. The cabling should not go through any networking equipment (i.e. router, switch).

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Installing the Computer Unit

1. Place the Computer Unit near the computer that needs to be controlled.

2. Switch off the computer and disconnect any connected devices.

OPTIONAL: If you wish to have console access locally to the Host computer, connect a USB mouse, keyboard, and DVI monitor to the connectors marked as "Console" on the Computer Unit.

3. Connect the power adapter from an AC electrical outlet to the unit.

4. Using the provided StarTech.com USB, DVI, Audio KVM cable, connect the Host computer system to the KVM Extender's "Computer" connectors. Reconnect any necessary peripheral devices to the Host computer, removed in Step 2.

OPTIONAL: If you wish to have the *Host* computer to have access to a serial device, connect a DB9 serial cable from the *Host* computer to the *Computer* DB9 connector (DCE) on the Computer Unit. You may connect a serial device locally, by plugging the serial device into the *Console* DB9 connector (DTE).

5. Connect the fiber cable to the SC fiber connectors on the *Computer* Unit. Connect the opposite end to a terminated wall outlet (if you are using premise cabling) or directly to the Console Unit.

6. Power on the *Host* computer system.

Installing the Console Unit

1. Place the Console Unit near the remote keyboard/mouse/display.

2. Connect a USB keyboard and mouse, and a DVI monitor to the connectors marked as "Console" on the Console Unit.

OPTIONAL: If the serial connection was setup on the Computer Unit, connect the serial device to the *Console* DB9 connector (DTE) on the Console Unit.

3. Connect the power adapter from an AC electrical outlet to the unit.

4. Connect the fiber cable connection to the SC fiber connector on the Console Unit. Connect the opposite end to a terminated wall outlet (if using premises cabling) or directly to the Computer Unit.

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OPTIONAL: If connecting a computer system to the Console Unit, switch off the computer and disconnect any existing devices. Using the provided StarTech.com integrated USB, DVI, Audio KVM cable, connect the computer system to the Console Unit's "Computer" connectors. Reconnect any necessary peripheral devices to the *Host* computer, removed previously.

Before Cascading with KVM Switch

If connecting the Extender to a KVM switch, make sure that the following have been completed before connecting the KVM Switch to the Console or Computer Unit.

1. Determine whether a DVI or HDMI display will be used, and then, on the Computer Unit, set monitor display mode to DVI ([Press and hold Selection button for 2 seconds] - [V] - [D]) or HDMI ([Press and hold Selection button for 2 seconds] - [V] - [M]) accordingly. (The signal from the Computer Unit is transmitted to the Console Unit in one direction only, so it is not necessary to make this setting on the Console Unit)

2. Enable Compatibility Mode by entering the hotkey command ([Ctrl] - [Ctrl] - [Alt] + [E]) and then two beeps should be generated as the confirmation. In Compatibility Mode, set the control to Local or Remote by inputting the hotkey ([Ctrl] - [Ctrl] - [T]).
OR
If the KVM Switch is directly connected to Computer Unit, switch ON the Mask Hotkey switch on both Units. If the KVM Switch is directly connected to the Console Unit, switch ON the Mask Hotkey switch on the Console Unit only.

Connect the KVM Switch to the Console or Computer Unit after above set up completed.

Driver Installation

The KVM Extender is a complete hardware solution so no software or driver installation is required on any computer system.

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Using the KVM Extender

This section details how to use your KVM extender at both the *local* and remote locations.

Using the Computer Unit

The *Computer* Unit allows users connected to the *Computer* and *Console* units to share control of devices (computers, KVM Switches) connected to it.

The *Computer* Unit has three modes that control which user may access the Host system (Computer A) at a given time: *Auto* (the KVM extender looks for keyboard or mouse activity from both Local and Remote and automatically accepts input from the active console), *Local* (only the user seated at the *Computer* Unit can access the system), and *Remote* (only the user at the *Console* Unit can access the system).

You can use either keyboard shortcuts (if there is a keyboard and mouse attached) or the mode switch on the front of the *Computer* Unit to control which user has access to devices connected to the *Computer* Unit, by pressing the button in sequence.

By default, the *Computer* Unit operates in *Auto* mode, and switches to the next mode in sequence each time the switch is pressed as follows:

$$\rightarrow Auto \longrightarrow Local \longrightarrow Remote$$

Having a keyboard and mouse attached to the Console ports on the *Computer* Unit is recommended, since it offers access to a number of extended features.

LED Indicators

Mode	Local	Remote
Auto (Auto senses activity)	Flashing	Flashing
Local (User at Computer Unit has exclusive control)	On (solid)	Off
Remote (User at Console Unit has exclusive control)	Off	On (solid)

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Keyboard Shortcut Command Sequences

Standard Command	With Compatibility Mode Enabled	Description
[Ctrl] - [Ctrl] - [T]	[Ctrl] - [Ctrl] - [T]	Toggles control of Computer A between *Auto*, *Local*, and *Remote* modes
[Ctrl] - [Ctrl] - [Esc]	[Ctrl] - [Ctrl] - [Esc]	Cancels the hotkey sequence
[Ctrl] - [Ctrl] - [Alt]+[E]	[Ctrl] - [Ctrl] - [Alt]+[E]	*Enables* (2 beeps) or *disables* (1 beep) Compatibility Mode so that the KVM extender will work with a KVM switch that also uses a [Ctrl] hotkey sequence
[Ctrl] - [Ctrl] - [1]	[Ctrl] - [Ctrl] - [E] - [1]	**Local Mode**: Allows the user at Computer *A* exclusive access to the system; remote access from Console Unit *B* is disabled
[Ctrl] - [Ctrl] - [2]	[Ctrl] - [Ctrl] - [E] - [2]	**Remote Mode:** Allows the user at Console Unit *B* exclusive access to Computer *A*; access to the computer from the Computer Unit is disabled
[Ctrl] - [Ctrl] - [3]	[Ctrl] - [Ctrl] - [E] - [3]	**Auto Mode:** Wait for console activity
[Ctrl] - [Ctrl] - [F3]	[Ctrl] - [Ctrl] - [E] - [F3]	Sets the interval of inactivity in seconds (5,15,30,60) that Computer Unit will wait before returning to Auto Mode after a Unit has assumed control.
[Ctrl] - [Ctrl] - [V] - [D]	[Ctrl] - [Ctrl] - [E] -[V] -[D]	Connected display is a DVI monitor without Audio.
[Ctrl] - [Ctrl] - [V] - [M]	[Ctrl] - [Ctrl] - [E] -[V] -[M]	Connected display is an HDMI® monitor with Audio.
[Ctrl] - [Ctrl] - [V] - [C]	[Ctrl] - [Ctrl] - [E] - [V] -[C]	EDID Copy Copy Local monitor EDID

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Standard Command	With Compatibility Mode Enabled	Description
[Ctrl] - [Ctrl] - [V] - [4digits]	[Ctrl] - [Ctrl] - [V] - [4digits]	EDID Emulation Prevent the video resolution setting from exceeding the capability of the connected display (require CPU reboot); the following options of video resolution are available for selecting: Input 4 digits with 1007 for resolution of 1024 x 0768 1210 for resolution of 1280 x 1024 1612 for resolution of 1600 x 1200 ⋮ ⋮ ⋮ 1912 for resolution of 1920 x 1200 1914 for resolution of 1920 x 1440 2011 for resolution of 2048 x 1152 (See the preceding page for the complete option list).

Resolution Table

4 Digits	Resolution	4 Digits	Resolution
1007	1024x768	1612	1600 x 1200
1208	1280 x 800	1610	1680 x 1050
1210	1280 x 1024	1910	192 x 1080
1307	1366 x 768	1912	1920 x 1200
1409	1440 x 900	1914	1920 x 1400
1410	1440 x 1050	2011	2048 x 1152
1609	1600 x 900		

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Beep Codes

Some of the keyboard command sequences you issue to the *Computer* Unit have multiple possible settings. The unit will beep to indicate what setting you have selected for the command you issued. (A short beep followed by a long beep indicates an invalid command.)

[Ctrl] - [Ctrl] - [Alt]+[E] (Compatibility Mode)

   1 beep: disabled

   2 beeps: enabled

[Ctrl] - [Ctrl] - [F3] (Inactivity Interval for *Auto* Mode)

   1 beep: 5 seconds

   2 beeps: 15 seconds

   3 beeps: 30 seconds

   4 beeps: 60 seconds

Note: Commands described in the [Key] - [Key] format are keys that must be pressed in order on the keyboard. Commands described in the [Key]+[Key] format must be pressed simultaneously.

Note: If the *Num Lock*, *Caps Lock*, and *Scroll Lock* lights are flashing in unison on the keyboard, the other Unit has control of the Host computer. You will not be able to use the computer or issue commands until the other unit has finished using the computer.

Using the Console Unit

The *Console* Unit allows a user at the *Console* Unit to assume control of devices connected to the *Computer* Unit (Computer A), if the *Computer* Unit is set to *Auto* or *Remote* mode. It also permits the user at the *Console* Unit to use any directly connected system (Computer B) as though the KVM Extender was transparent.

You can use either keyboard shortcuts or the mode switch on the front of the *Console* Unit to alternate control between A and B. Unlike the *Computer* Unit, however, the switch on the front of the Console Unit only offers two selectable modes:

Local ⟶ *Remote*

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LED Indicators

Mode	Remote	Local
Remote Access (Computer A)	On (solid)	Off
Local Access (Computer B)	Off	On (solid)

Keyboard Shortcut Command Sequences

Standard Command	With Compatibility Mode Enabled	Description
[Ctrl] - [Ctrl] - [T]	[Ctrl] - [Ctrl] - [T]	Toggles console control between Computer A and Computer B
[Ctrl] - [Ctrl] - [Esc]	[Ctrl] - [Ctrl] - [Esc]	Cancels the hotkey sequence
[Ctrl] - [Ctrl] - [Alt]+[E]	[Ctrl] - [Ctrl] - [Alt]+[E]	Enables (2 beeps) or disables (1 beep) Compatibility Mode so that the KVM extender will work with a KVM switch that also uses a [Ctrl] hotkey sequence
[Ctrl] - [Ctrl] - [1]	[Ctrl] - [Ctrl] - [E] - [1]	Switches control to Computer B
[Ctrl] - [Ctrl] - [2]	[Ctrl] - [Ctrl] - [E] - [2]	Switches control to Computer A (input allowed only if the Computer Unit is in *Remote* or Auto mode)
[Ctrl] - [Ctrl] - [F2]	[Ctrl] - [Ctrl] - [E] - [F2]	Toggles console control between Computer A and Computer B

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Standard Command	With Compatibility Mode Enabled	Description
[Ctrl] - [Ctrl] - [Q] - [L]	[Ctrl] - [Ctrl] - [E] - [Q] - [L]	Set DVI Video Equalization to Low
[Ctrl] - [Ctrl] - [Q] - [A]	[Ctrl] - [Ctrl] - [E] - [Q] - [A]	Set DVI Video Equalization to Enhanced
[Ctrl] - [Ctrl] - [Q] - [H]	[Ctrl] - [Ctrl] - [E] - [Q] - [H]	Set DVI Video Equalization to High
[Ctrl] - [Ctrl] - [V] - [4digits]	[Ctrl] - [Ctrl] - [E] - [V] - [4digits]	EDID Emulation Prevent the video resolution setting from exceeding the capability of the connected display (require CPU reboot); the following options of video resolution are available for selecting: Input 4 digits with 1007 for resolution of 1024 x 0768 1210 for resolution of 1280 x 1024 1612 for resolution of 1600 x 1200 : : : 1912 for resolution of 1920 x 1200 1914 for resolution of 1920 x 1440 2011 for resolution of 2048 x 1152
[Ctrl] - [Ctrl] - [V] - [D]	[Ctrl] - [Ctrl] - [E] - [V]-[D]	DVI display mode setting Set the display on both Console and Computer Units to DVI mode that is incapable of carrying any audio signals. (factory default setting)
[Ctrl] - [Ctrl] - [V] - [M]	[Ctrl] - [Ctrl] - [E] - [V] -[M]	HDMI display mode setting Set the display on both Console and Computer Units to HDMI mode that is capable of carrying high-denition digital audio and video signals.

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Beep Codes

Some of the keyboard command sequences you issue to the Console Unit have multiple possible settings. The Unit will beep to indicate what setting you have selected for the command you issued. (A short beep followed by a long beep indicates an invalid command.)

[Ctrl] - [Ctrl] - [Alt]+[E] (Compatibility Mode)

   1 beep: disabled

   2 beeps: enabled

Note: Commands described in the [Key] - [Key] format are keys that must be pressed in order on the keyboard. Commands described in the [Key]+[Key] format must be pressed simultaneously.

Note: If the Num Lock, Caps Lock, and Scroll Lock lights are flashing in unison on the keyboard, the other Unit has control. You will not be able to control the Host computer system until the other Unit releases access to that computer.

Mask Hotkey Switch

The Mask Hotkey switch on the rear panel of both the Computer and Console Units can be used when an external KVM switch is present. Setting the switch to ON will 'Mask' (disable) the units built-in hotkey detection, allowing the controls keys to be sent directly to the KVM switch.   OFF   ON

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Alternative Hot-Key Control

For some commands, an alternative to using the keyboard leading control key, [CTRL]-[CTRL], pressing and holding the physical "Selection" button on the unit itself can be used. These sequences can be used regardless if the Mask Hotkey feature is enabled or disabled.

Computer Unit

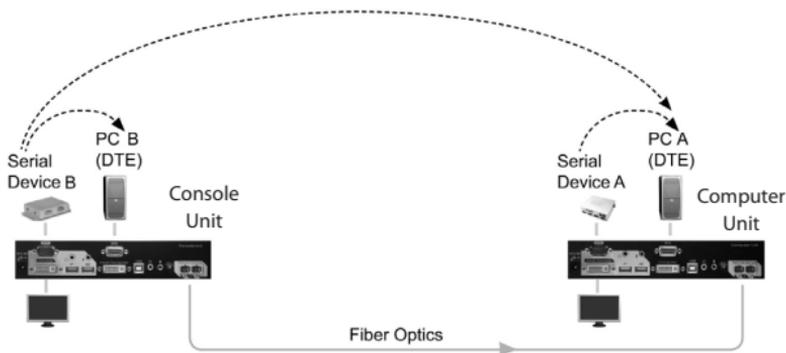| Alternative Hotkey	Description
[Press and hold Selection button for 2 seconds] - [F3]	Sets the interval of inactivity in seconds that the Computer Unit will wait before returning to Auto Mode after a Unit has assumed control. Selectable from 5, 15, 30 and 60.
[Press and hold Selection button for 2 seconds] - [V] - [D]	Connected display is a DVI monitor without Audio.
[Press and hold Selection button for 2 seconds] - [V] - [M]	Connected display is an HDMI monitor with Audio.

Console Unit

Alternative Hotkey	Description
[Press and hold Selection button for 2 seconds] - [Q] - [L]	Set DVI Video Equalization to Low
[Press and hold Selection button for 2 seconds] - [Q] - [A]	Set DVI Video Equalization to Enhanced
[Press and hold Selection button for 2 seconds] - [Q] - [H]	Set DVI Video Equalization to High

NOTE: Before changing the video equalization setting, please make sure that the Computer/Console Units are properly connected using the appropriate fiber optic cable and that the Console Unit has been set to Remote mode ('Remote' LED will flash, and 'Local' will be off).

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Serial Device Setup

This KVM Extender provides DB9 serial ports on both the Computer and Console Units, which can be connected to serial devices such as POS, Barcode Scanners, Card Readers, and Touch screens. The KVM Extender units provide a passageway for data transmission without any baud rate limitation or configuration required.

The serial terminal baud rate setting must match the serial baud rate of the connected serial device, as figure shown below:

Fiber Cable Limitations

Fiber Diameter (micron)	50/125		62.5/125	
Maximum Video Resolution	1080i	1080p	1080i	1080p
Maximum Cable Length (meter)	2000	1000	700	350

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Specifications

Connectors (Computer Unit)	2 x SC fiber 1 x DC Power **Console:** 1 x 29-pin DVI-I female 1 x DB9 serial male 2 x USB type A 2 x 3.5mm audio mini-jack **Computer:** 1 x 29-pin DVI-I female 1 x DB9 serial female 1 x USB type B 2 x 3.5mm audio mini-jack
Connectors (Console Unit)	2 x SC fiber 1 x DC Power **Console:** 1 x 29-pin DVI-I female 1 x DB9 serial male 2 x USB type A 2 x 3.5mm audio mini-jack **Computer:** 1 x 29-pin DVI-I female 1 x DB9 serial female 1 x USB type B 2 x 3.5mm audio mini-jack
LEDs	1 x Status 2 x Serial Tx/Rx 1 x Remote 1 x Local
Maximum Cable Length	2000m / 6562ft
Maximum Video Resolution	1920x1200 / 1080p

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HDCP Support	Yes
Audio Support	Yes
Control Methods	Front Push-button, Hot-keys
Power Adapter	12VDC, 1500mA, type M plug
Operating Temperature	0°C ~ 40°C (32°F ~ 104°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Humidity	0 ~ 80% RH
Dimensions (LxWxH)	135.0mm x 220.0mm x 44.0mm
Weight	1030g (each)

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For the latest drivers/software, please visit **www.startech.com/downloads**

Warranty Information

This product is backed by a three year warranty.

In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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