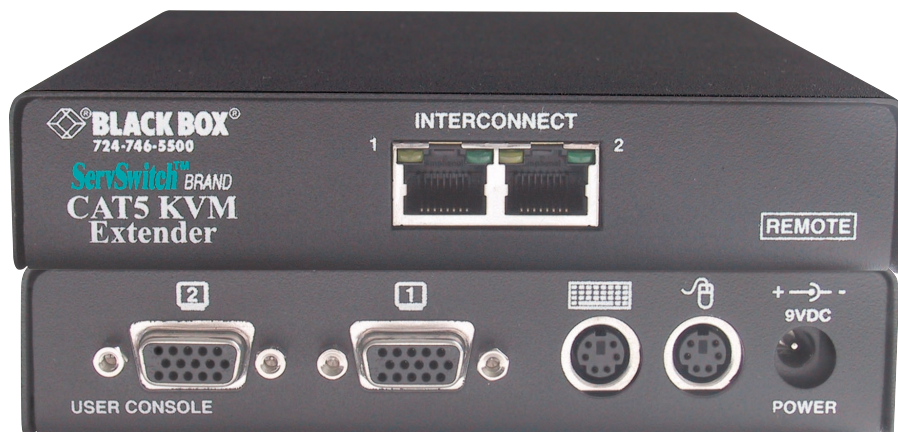


ServSwitch Cat X KVM Extender



Key Features

- ▶ Drives KVM signals up to 300m /1000ft.
- ▶ Outstanding Video Performance
- ▶ Color DeSkew
- ▶ Flash-upgradable
- ▶ Multi-Video capable
- ▶ Cat 5, 5e, 6 and 7 cable compliant

The ServSwitch Cat X Extender transmits keyboard, video and mouse signals up to 300m/1000ft of distance over standard Cat 5 (or higher) specified cable. From the outside the extender system basically consists of two devices: The local unit connects either directly into a CPU or to a user port of any KVM switch. Using a dedicated single Cat 5 or higher (=> aCat X a) certified cable (all 4 pairs are used) it is linked to the remote unit where the keyboard, mouse and monitor is connected to.

While the local unit takes its power from the CPU interface (keyboard), the remote unit is powered by an external auto-sensing power supply.

But what really makes the difference is what's inside the units!

Emulation

The local unit emulates keyboard and mouse protocols according to the PS/2 specifications and guarantees a fully functioning CPU even if the Cat 5 interlink to the remote unit gets lost or the peripherals are disconnected accidentally. These digital signals are transmitted over only one of the 4 pairs of the structured aCat Xa cable.

Skew

The other 3 pairs carry colour and synchronisation signals (one colour per pair). As especially higher rated cables than Cat 5 are not having equal pair length to fulfil their intended Ethernet specifications, the colour signals arrive at different time at the remote end.

This runtime caused signal delay is called SKEW. Of course, the longer the cable the higher the skew can be. This effects the video signal visible by having a smearing picture on the remote screen.

The faster arriving colour (over shorter pair) is moved more to the left hand side of the screen, the later arriving colour signal (over longer pair) more to the right hand side.

All colours displayed on a screen are put together out of red, green and blue. A simple black character may appear blurred just because of this effect.

The ServSwitch Cat X Extender provides an individual colour DeSkew of up to 42ns (42x10⁻⁹ sec) in steps of 2,8 ns (app. half a pixel size at 1600x1200 resolution) via simple keyboard commands. Preset modes help to find the right settings in less than a minute!

Apart from skewing the attenuation losses can be compensated as well via easy keyboard commands. All changes are saved in non-volatile flash memory.

Results

These extremely precise equalisation options allow to run S-XGA resolutions (1280x1024) at a refresh rate of 75Hz over 300m ! Or 1600x1200 (U-XGA) up to 200m at 60 Hz.

Variety

There are several versions of the ServSwitch Cat X KVM Extender available:

Single Access Extension

extends KVM (keyboard, video and mouse) signals from CPU to KVM

Dual Access Extension

provides connectivity for a second KVM console on the local unit sharing access control with remote

Single Access Extension of KVM plus Serial RS-232 and bi-directional Stereo Audio extends additionally to KVM RS-232 serial signals and bi-directional Stereo/Audio signals from CPU to KVM

Dual Access Extension of KVM plus Serial RS-232 and bi-directional Stereo Audio provides connectivity for a second KVM console on the local unit sharing access control with remote

and extends additionally to KVM RS-232 serial signals and bi-directional Stereo/Audio signals from CPU to KVM

Single Access Dual Video Extension KV₁V₂M

extends keyboard and mouse signals together with 2 video signals over 2 pairs of Cat 5 (or higher) to a remote console

Single Access Dual Video Extension KV1V2M plus Serial RS-232 and bi-directional Stereo Audio

extends keyboard, mouse, serial RS-232 and bi-directional Stereo/Audio signals together with 2 video signals over 2 pairs of Cat 5 (or higher) to a remote console

Quad Video Systems to be released soon!

Variety

To protect customer investments Black Box has put a lot of afford in backward compatibility.

For all those having already ServSwitch Brand Cat 5 KVM Extenders (ACU10xxA) in use easy upgrading their systems by just replacing the remote unit is possible! Black Box Tech Support will help identifying and advise what's needed.

CATx Standard Family

Standard family units are compatible with the following CAT5 KVM Extender products:

ACU1001A, ACU1009A, ACU3001A, ACU3009A, ACUREM, ACUMREM, ACU1006RA, ACU1006DRA, ACU1012RA, ACU1049A, ACUREMSW, ACU1006MRA

CATx Audio Family

Audio family units are compatible with the following CAT5 KVM Extender products:

ACU1022A, ACU1028A, ACU3022A, ACUVREM, ACUWREM, ACU1006VRA, ACU1006DVRA, ACU1006MRVA

Specifications

Supports High Video Resolutions for use with TFT displays —

1600x1200 (60Hz) @ 200 Metres
1280x1024 (75Hz) @ 300 Metres
Higher resolutions may be possible at shorter distances Maximum distances quoted will be less with higher refresh rates.

Integrated Skew Compensation for operation with any CATx cable —

Skew compensation available on all video channels Skew compensation available on any (or all) colours Maximum compensation of 42nS is sufficient for most applications. Compensation step size is 2.8nS

Independent Low-Frequency (LF) and High-Frequency (HF)

Equalization Adjustment —

Ensures optimum video tuning

Settings stored in EEPROM

Memory —

Set the system up once only
Settings restored on power up

Flash Upgradeable (cable required)

Single and Multi-Head (Dual/Quad) Video Support —

One CATx cable required per Video channel

Status Indicator LED(s) —

on each RJ45

Small Footprint Chassis —

ACUR001A, ACUR002A: 140x145x29mm
ACURA001A, ACURA002A: 140x145x44mm (1U)
ACU2201A (Local) 110x146x29mm
ACU2222A (Local) 110x146x29mm (1U)

Rack Mount Option —

Plate will be available to mount three units across 1U
Power — 9V (Isolated) Universal PSU (Supplied for Remote Unit)

Ordering information

ITEM

CODE

Cat X Single Access KVM Extender Kit w/ DeSkew	ACU2001A
Cat X Dual Access KVM Extender Kit w/ DeSkew	ACU2009A
Cat X Single Access KVM Extender Kit plus Serial RS-232 and bi-directional Stereo Audio w/ DeSkew	ACU2022A
Cat X Dual Access KVM Extender Kit plus Serial RS-232 and bi-directional Stereo Audio w/ DeSkew	ACU2028A
Cat X Single Access Kit Dual Video (KV1V2M) Extender Kit w/ DeSkew	ACU2201A
Cat X Single Access Kit Dual Video (KV1V2M) Extender Kit plus Serial RS-232 and bidirectional Stereo Audio w/ DeSkew	ACU2222A
Standalone Remote Units	
Cat X KVM Remote Unit PS/2 w/ DeSkew	ACUR001A
Cat X KVM Dual Video Remote Unit PS/2 w/ DeSkew	ACUR002A
Cat X KVM Remote Unit PS/2 w/ DeSkew	ACURA001A
Cat X KVM Dual Video Remote Unit PS/2 w/ DeSkew	ACURA002A

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