



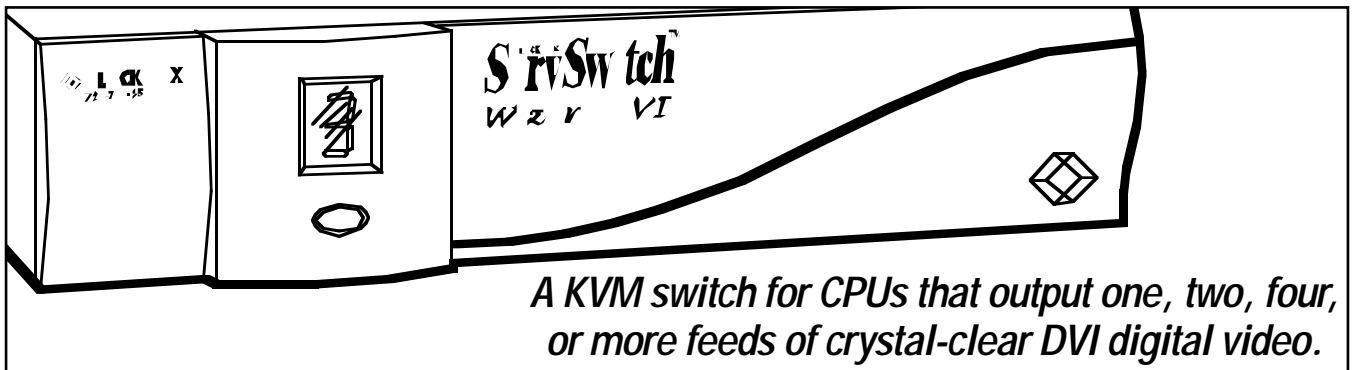
BLACK BOX[®]

NETWORK SERVICES

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SERVSWITCH WIZARD DVI



A KVM switch for CPUs that output one, two, four, or more feeds of crystal-clear DVI digital video.

Key Features

- ▶ **Control multiple CPUs that output DVI video with a keyboard, mouse, and one or more monitors.**
- ▶ **Single-, dual-, and quad-head models for either two or four CPUs.**
- ▶ **Supports 1600 x 1200 at up to 60 Hz.**
- ▶ **Dual-head and quad-head models support compositing video for even higher total resolutions.**
- ▶ **Can be cascaded to control more CPUs.**
- ▶ **Can be synchronized with compatible switches to control more heads or both DVI and analog CPUs.**

Do you have two or more computers that output Digital Visual Interface (DVI) video—perhaps even two, four, or more heads' worth? Would you like to monitor and control them with one keyboard and mouse and one monitor or set of monitors?

The ServSwitch Wizard DVI could be the KVM switch you need. Based on our proven ServSwitch Wizard technology, the Wizard DVI comes in six models that differ by the number of CPUs they support (2-Port or 4-Port) and the number of DVI video heads each attached CPU can have (Single-Head, Dual-Head, or Quad-Head).

The Wizard DVI supports resolutions up to 1600 x 1200 pixels at refresh rates up to 60 Hz. (In fact, its maximum pixel frequency of 165 MHz per port is the highest single-link bandwidth supported by the DVI specification.)

If you're using multi-head CPUs that output different segments of the same image on each head, which are assembled (composited) by the monitor to make a single screen, the Wizard DVI can pass these through to the

monitor as normal, so that it supports composited resolutions as high as 2400 x 1600 (Dual-Head models) or 3200 x 2400 (Quad-Head models).

If you have more than four CPUs to switch between, you can cascade Wizard DVIs to handle as many as 256 of them. If your CPUs output more than four video feeds (that is, they have more than four heads), you can "synchronize" a pair of Quad-Head Wizard DVIs by running a special serial cable between them. They will switch channels simultaneously—for example, when you switch to CPU 3 on one, the other will do the same. So, by running the "extra" video feeds through the same CPU channel on the second Wizard DVI, they can be handled transparently, as if the two Wizard DVIs were one larger switch.

Synchronizing is also useful when you need to switch both CPUs that output DVI and CPUs that output VGA-compatible analog video. In this case, you can synchronize a Wizard DVI with a regular ServSwitch Wizard or one of the other switches in the Wizard family. The Wizard DVI will

handle the video from the DVI computers and the keyboard and mouse signals from all of the computers, and the other switch will handle the video from the VGA-type computers. Because many DVI monitors autosen and auto-adapt to either DVI or analog input, you might be able to use a single monitor for the whole system.

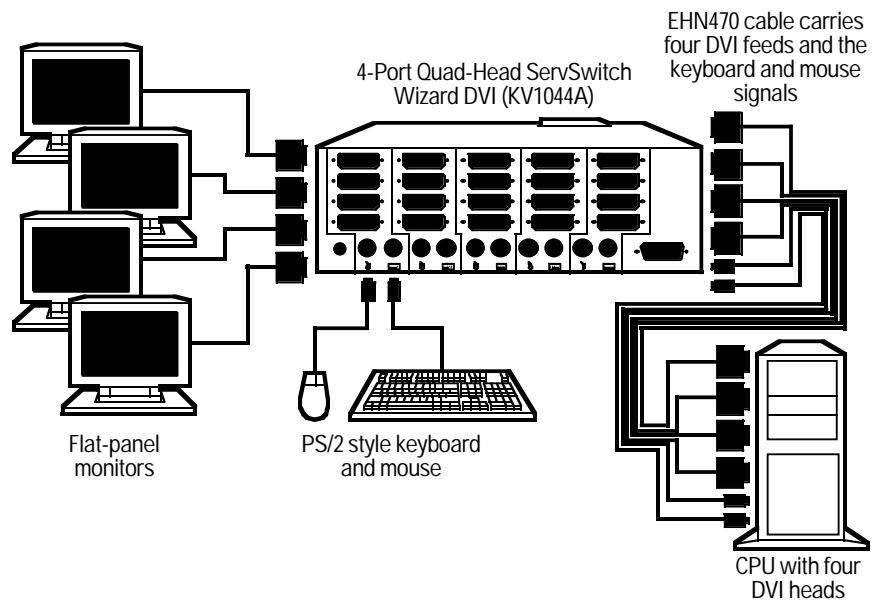
The Wizard DVI can be used with IBM[®] PC compatible computers running any popular operating system, as well as IBM RS/6000[®], Compaq[®] Alpha[®], and SGI[™] computers that output DVI.

To connect your CPUs to the switch, we offer special bonded cables that carry keyboard and mouse lines and one DVI line (EHN450), two DVI lines (EHN460), or four DVI lines (EHN470). Keep in mind that the maximum DVI distance on either side of the Wizard DVI is 5 m (16 ft.) as per the DVI spec.

All of the multi-head Wizard DVI models come with a power supply. The Single-Head models can usually get enough power from the CPUs' keyboard leads to operate; if not, the PS649 power supply is available separately.



If your CPUs output four independent video feeds, you can switch displays with resolutions up to 1600 x 1200 on four monitors as shown here. If your video card and monitor support composite pictures built from four video feeds, you can (with special monitor cables) switch spectacular 3200 x 2400 displays on a single screen.



Specifications

Compliance: CE (EN55022 Class A); FCC Part 15 Subpart B Class A, IC Class/classe A

Standard: Supports DDC2B signaling

Interfaces:

Video: Single-link DVI (Digital Visual Interface);
Keyboard and mouse: IBM PS/2 compatible; with appropriate adapters, also supports CPUs with EIA/TIA RS-232 mouse ports;
Serial port: EIA/TIA RS-232 proprietary pinned on DB15

Resolution and Refresh Rate:

Up to 1600 x 1200 noninterlaced at up to 60 Hz (higher refresh rates possible at lower resolutions); with video cards and monitors that support composite images transmitted on multiple heads, the KV1022A and KV1024A can support up to 2400 x 1600 and the KV1042A and KV1044A can support up to 3200 x 2400

Serial Characteristics:

Protocol: Asynchronous only;
Data rate: 8 data bits, no parity, 1 stop bit (fixed);
Data rate: 1200 bps (fixed);
Flow control: None

Maximum Distance:

2 m (6 ft.) if interface-powered or 5 m (16 ft.) if AC-powered to any attached keyboard, monitor, and mouse;
5 m (16 ft.) to any attached CPU or cascaded KVM switch;
50 ft. (15 m) from serial port to any attached serial device

User Controls:

Keyboard commands;
Mouse-click functions;
(1) Front-mounted pushbutton for channel change and configuration mode;
(1) Bottom-mounted 8-position DIP switch for bootup autoswitching, reset, and firmware upgrade;
Optional Remote Control Module for channel change;
Optional serial commands for channel change and multi-chassis synchronization

Indicator: (1) Front-mounted 7-segment status display

Connectors: All rear-mounted:

(1) Multipurpose DB15 female;
(1) Barrel jack for power-supply connection;

User port:

(2) 6-pin mini-DIN female for keyboard and mouse attachment;

Molex DVI-D female for monitor attachment:
KV1002A, KV1004A: (1);
KV1022A, KV1024A: (2);
KV1042A, KV1044A: (4);

CPU ports ([2] on KV10x2A models, [4] on KV10x4A models), each consisting of:
(2) 6-pin mini-DIN female for keyboard- and mouse-port attachment;

Molex DVI-D female for video-port attachment:
KV1002A, KV1004A: (1);
KV1022A, KV1024A: (2);
KV1042A, KV1044A: (4)

MTBF: 500,000 hours (based on the historical reliability of similarly designed and manufactured products)

Max. Altitude: 3048 m

Temperature Tolerance: 0 to 40°C

Humidity Tolerance: 5 to 60% noncondensing

Enclosure: Steel, aluminum, and plastic

Power:

KV1002A, KV1004A: Either:
5 VDC at up to 1 A from the keyboard interfaces of the attached computers; or
From optional power supply PS649:
Input: 100 to 240 VAC at 50 to 60 Hz;
Output: 5 VDC at up to 1 A;
Consumption: 5 watts max.;

Power (continued):

All other models: From utility-power (mains) outlet, through detachable power cord and IEC 320 male inlet, to external power supply:
Input: 100 to 240 VAC at 50 to 60 Hz;
Output: 5 VDC at up to 4 A;
Consumption: 20 watts maximum

Size: 4.4 x 26.2 x 15 cm

Weight: 1 kg

The complete package

- The only other thing that comes with the Single-Head (KV1002A and KV1004A) models of the ServSwitch Wizard DVI is a users' manual. All other models also come with a power supply. (We don't include a power supply with the Single-Head models because most applications for those models don't require one. If you need a power supply for a Single-Head Wizard DVI, it can be purchased separately as product code PS649.)
- The only other things that come with the Wizard DVI's optional Remote-Control Module (a CPU-port indicator and a channel-select pushbutton on the end of a long cable—the KV6REM series of product codes) are VELCRO® mounting strips.

Ordering Information

ITEM	CODE
ServSwitch Wizard DVI	
Single-Head	
1 User x 2 CPUs	KV1002A
1 User x 4 CPUs	KV1004A
Dual-Head	
1 User x 2 CPUs	KV1022A
1 User x 4 CPUs	KV1024A
Quad-Head	
1 User x 2 CPUs	KV1042A
1 User x 4 CPUs	KV1044A
<i>You might also need:</i>	
Single-Video ServSwitch DVI KVM Cable (one DVI-D male to male, two 6-pin mini-DIN male to male)	
0.9 m	EHN450-0003
1.8 m	EHN450-0006
3 m	EHN450-0010
Dual-Video ServSwitch DVI KVM Cable (two DVI-D male to male, two 6-pin mini-DIN male to male)	
0.9 m	EHN460-0003
1.8 m	EHN460-0006
3 m	EHN460-0010
Quad-Video ServSwitch DVI KVM Cable (four DVI-D male to male, two 6-pin mini-DIN male to male)	
0.9 m	EHN470-0003
1.8 m	EHN470-0006
3 m	EHN470-0010
DVI extension cable to CPUs, DVI-D male to male	
1.8 m	EVNDVI02-0006
3 m	EVNDVI02-0010
DVI extension cable to monitors, DVI-D male to female	
1.8 m	EVNDVI03-0006
3 m	EVNDVI03-0010
PS/2 extension cable to CPUs, 6-pin mini-DIN male to male	
0.9 m	EVNPS03-0003-MM
1.8 m	EVNPS03-0006-MM
3 m	EVNPS03-0010-MM
PS/2 extension cable to keyboard or mouse, 6-pin mini-DIN male to female	
0.9 m	EVNPS03-0003-MF
1.8 m	EVNPS03-0006-MF
3 m	EVNPS03-0010-MF
Optional power supply for Single-Head models	PS649
Replacement power supply for Dual-Head and Quad-Head models	PS650
Optional Remote-Control Module	
With 3-m cable	KV6REM
With 7.6-m cable	KV6REM-25
With 15.2-m cable	KV6REM-50
With 22.9-m cable	KV6REM-75

You might also want to call Black Box Tech Support for help determining your best options for power backup/protection.