

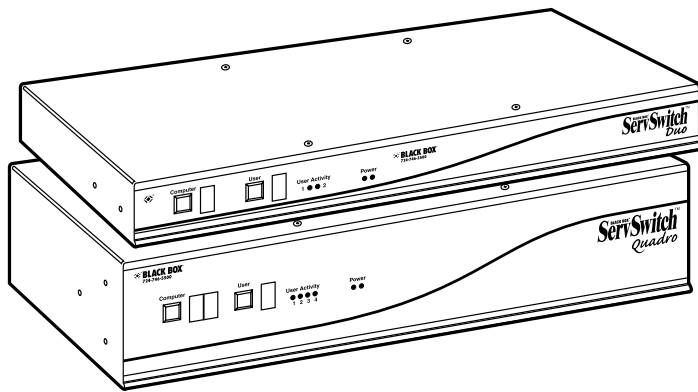


BLACK BOX[®]

NETWORK SERVICES

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SERVSWITCH UNO, DUO, AND QUADRO SERVSWITCH DUO/QUADRO EXTENDERS



*Single-user and multiuser
PC keyboard/video/mouse
switching with more features
network administrators need.*

Key Features

- ▶ ***The Uno enables you to access and control up to 16 CPUs with one keyboard, monitor, and mouse.***
- ▶ ***The Duo and Quadro enable true multiuser access from two or four user stations.***
- ▶ ***Use all three ServSwitch units for long-distance runs. All are flash upgradable and compatible with either PS/2 or PC/AT style keyboards, mice, and ports—even laptops.***
- ▶ ***Control all functions with on-screen menus or hotkey commands.***

Maybe you've been thinking about installing a KVM-switching system, but you've been reluctant to because you can't find one that has the features you need—security features, an on-screen display, laptop support. And isn't there a system out there that will let you run farther to a CPU or user station than just across the room?

The ServSwitch Uno is a high-performance KVM switch that supports a wide range of IBM[®] compatible computers and enables you to access and switch between 16 computers with ease.

The Uno's on-screen menus enable you to assign names to computers and select them by name. Password security can be set up in order to gain access to the CPU. Video resolutions up to 1200 x 1600 @ 100 Hz can be supported.

How about multiple access points and system scalability? Our ServSwitch Duo or ServSwitch Quadro might be just what you're looking for. Two or four users can control any of the attached IBM PC compatible computers at the same time, although two users can't access the same server at the same time.

Use the switch's configuration mode to set a password for the system, set scan intervals, choose a hotkey sequence, and customise other functions.

You can use the switch's hotkey commands to scan ports, blank the video display, lock the system, or bring up the switch's on-screen display, with which you can name your computers and select ports.

You can attach from 4 to 16 computers to each ServSwitch Duo (depending on model) and up

to 16 computers to the ServSwitch Quadro. You can cascade the switches to reach dozens, hundreds, or even as many as 4096 CPUs (although you'll only be able to assign names to about 300 of them). You can mix the ServSwitch Duo and the ServSwitch Quadro within the same system.

These ServSwitches are compatible with both older IBM PC/AT[®] keyboards and serial mice and newer PS/2[®] type equipment, including the Microsoft[®] IntelliMouse[®]. They can also handle mouse communication in either "stream mode" (used by regular desktop PCs) or "prompt mode" (used by laptops such as the IBM ThinkPad[®] and other portables). So you can attach many models of IBM compatible laptops and docking stations.

The switches have standard

connectors, so you can plug your keyboard, mouse, and monitor right in, and use regular extension cables to attach your CPUs. But if you want to attach distant

devices, we offer high-quality three-in-one cables: User-Extension Cables to reach user stations as far as 30 ft. (9.1 m) away, or CPU-Extension Cables

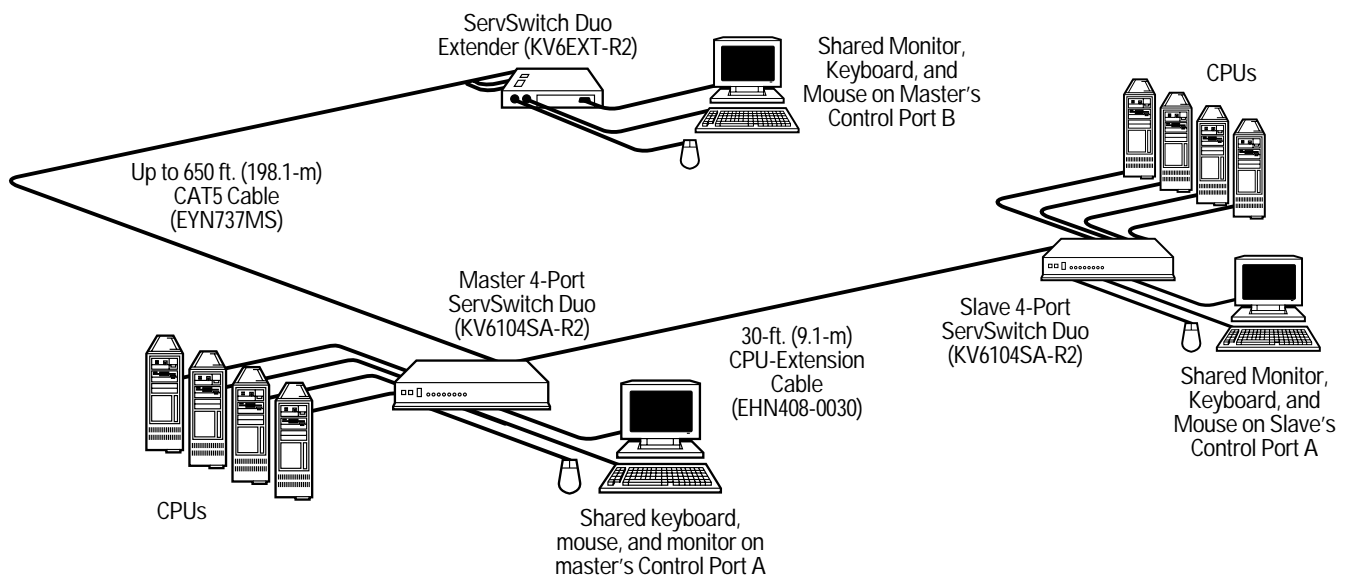
to reach CPUs up to 100 ft. (30.5 m) away.

If you need to run a long way to a user station, use a ServSwitch Duo Extender

together with ordinary CAT5 UTP cable to drive keyboard and mouse signals and great-looking video as far as 650 ft. (198.1 m).

Typical Application

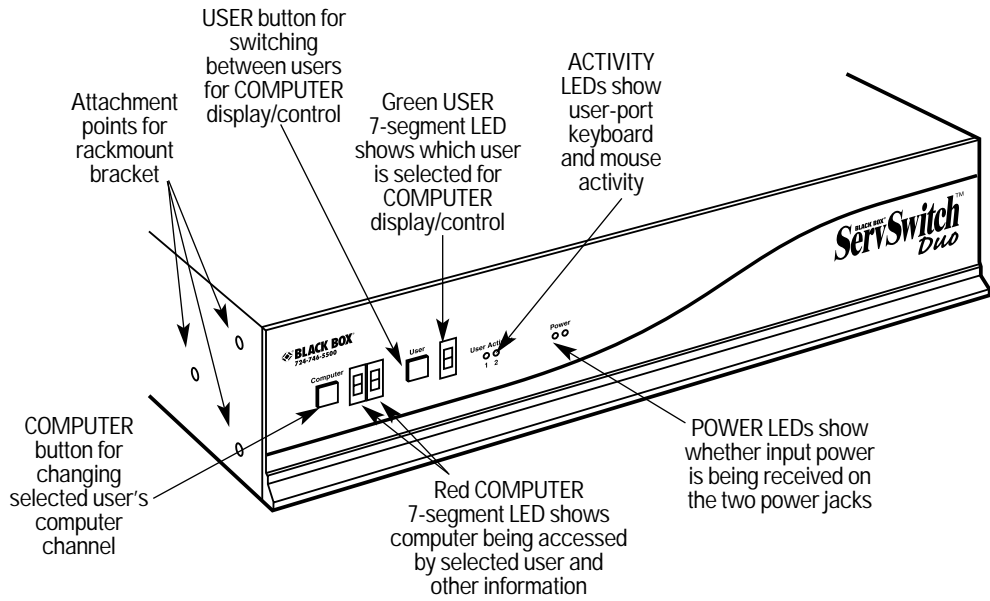
Use one user station (keyboard, mouse, and monitor) in your office to control a set of PC servers. Use another station in the data centre down the hall when you need to be there instead. When you're not using the system at all, set a password to lock the switch and prevent unauthorised access.



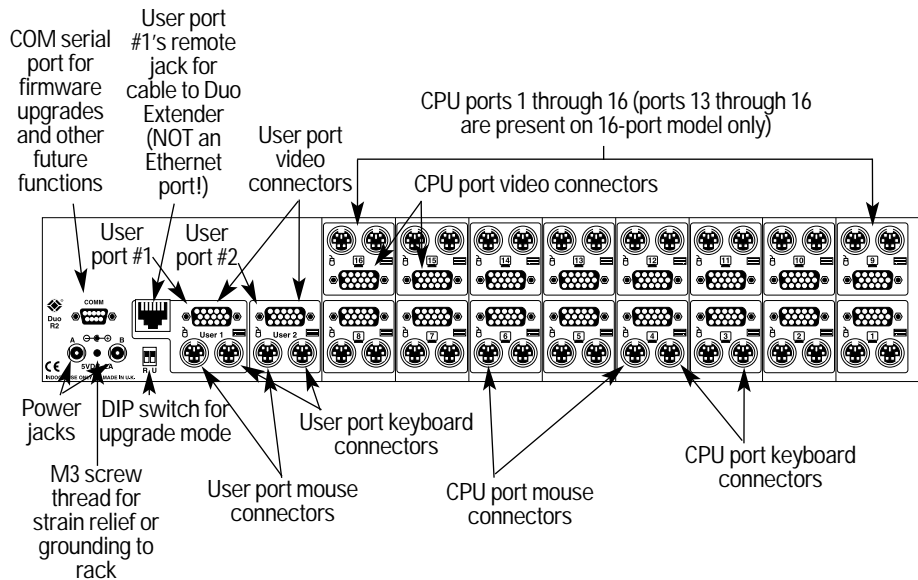
Technically Speaking

- In addition to its configuration mode, hotkey commands, and on-screen display, the ServSwitch Duo and Quadro have AUTO and SELECT buttons you can use to scan and select ports respectively. You can also press the two of them together to lock the switch (quick release) or reset the keyboard and mouse (hold for five seconds).
- You can set the switch to go into "screen saver" mode (blank the monitor screens) after a given period of inactivity. If it does, and you've set a password for the system, the switch will lock itself automatically.
- The switch's front-panel display shows you which port is selected and whether it's active. It also shows whether the system is scanning, locked, or in configuration or screen-saver mode.
- The ServSwitch Duo and Quadro come with brackets and screws for mounting in a 19" rack. ServSwitch Duo Extenders are not designed to be rackmounted.

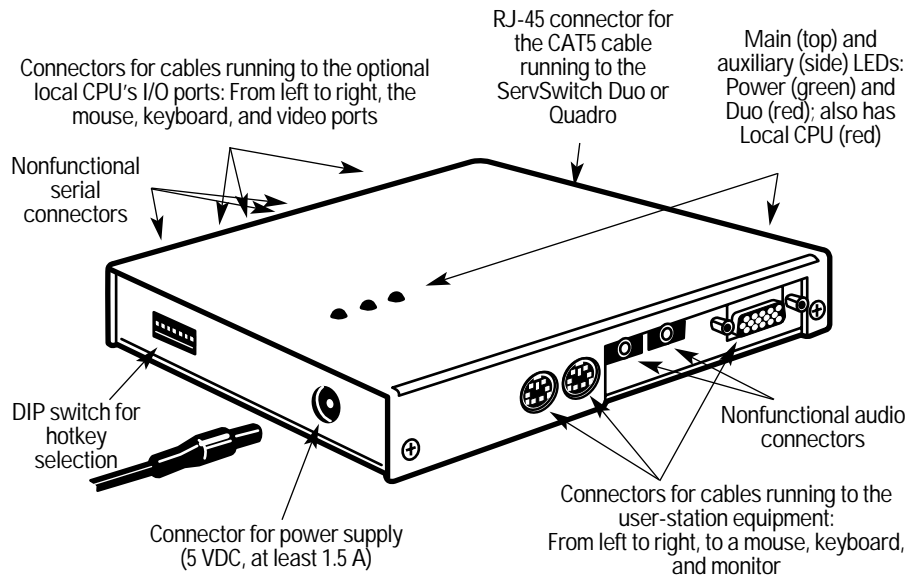
Control and monitor the 16-port ServSwitch Duo through its front panel...



...and attach equipment to its rear panel.



The ServSwitch Duo Extender has its controls and connectors on its top panel and sides.



ServSwitch Uno, Duo, and Quadro Specifications

<p>Compliance: CE (EN55022 Class B), FCC Part 15 Subpart B Class A, DOC Class/MDC classe A</p> <p>Data Format: RS-232: 8 data bits, no parity, 1 stop bit</p> <p>Data Rate: RS-232: 19.2 kbps</p> <p>Distance (Maximum): 10 m (32.8 ft.) to any attached keyboard, mouse, and monitor; 30 m (98.4 ft.) to attached CPU or cascaded KVM switch; 40 m (131.2 ft.) to an attached ServSwitch Duo/Quadro Extender across extender cable</p> <p>Flow Control: RS-232: None</p> <p>Protocol: RS-232: Asynchronous</p> <p>Resolution: Up to 1600 x 1200 noninterlaced at up to 100 Hz</p> <p>Standards: VGA, SVGA, XGA, or XGA-2 video</p> <p>User Controls: Keyboard commands; Mouse-click functions; (1) or (2) front-panel pushbuttons; On-screen menus</p> <p>Interface: Video: VGA; Keyboard and mouse: IBM PS/2 compatible; Serial expansion port: Proprietary variant of</p>	<p>TIA RS-232</p> <p>Connectors: KV6016FA-R2: User port: (1) HD15 F for monitor, (2) 6-pin mini-DIN F for keyboard and mouse; CPU ports: (16) with each consisting of: (1) HD15 F for video-port attachment and (2) 6-pin mini-DIN F for keyboard and mouse attachments; Serial port: (1) DB9 F; Power: (2) barrel jacks</p> <p>KV6104SA-R2: (1) HD15 F for monitor attachment; (2) 6-pin mini-DIN F for keyboard and mouse; (16) CPU ports with each consisting of (1) HD15 F for video-port attachment and (2) 6-pin mini-DIN F for keyboard and mouse attachments; (1) DB9 F for serial port; (2) barrel jacks for power;</p> <p>KV6416FA-R2: (4) HD15 F for monitor attachment; (8) 6-pin mini-DIN F for keyboard and mouse attachment; (2) RJ-45 extender ports; (1) HD15 F for each monitor port for each computer (maximum of 6);</p>	<p>(2) 6-pin mini-DIN F for keyboard and mouse for each computer for up to a maximum total of 32;</p> <p>All other models: (2) HD15 F for monitor attachment; (4) 6-pin mini-DIN F for keyboard and mouse attachment; (1) DB15 F for channel switching or future upgrades; (2) barrel jacks for power; (1) RJ-45 extender port;</p> <p>For each computer port, a set of (1) HD15 F (for video attachment) and (2) 6-pin mini-DIN F (for keyboard-port and mouse-port attachment): KV6104SA-R2: (4); KV6108SA-R2: (8); KV6112FA-R2: (12); KV6116FA-R2: (16)</p> <p>Indicators: KV6016FA-R2: (4) LEDs, (2) LCDs; KV6104SA-R2, KV6108SA-R2: Single 7-segment status display with activity LED; KV6112FA-R2, KV6116FA-R2: Dual 7-segment status display with activity LED; KV6104SA-R2: (4) Port LEDs;</p>	<p>KV6108SA-R2: (8) Port LEDs; KV6112FA-R2: (12) Port LEDs; KV6116FA-R2: (16) Port LEDs; KV6416FA-R2: Single 7-segment user port status display, dual 7-segment computer port status display, (4) User Activity LEDs, (2) Power LEDs</p> <p>MTBF: 500,000 hours</p> <p>Power: Input: 100 to 240 VAC at 50 to 60 Hz from utility-power outlet; through detachable power cord and IEC 320 M inlet, to internal transformer; Output: 5 VDC at up to 1 A from transformer to switch; Consumption: 5 watts maximum</p> <p>Size: KV6104SA-R2, KV6108SA-R2: 1.75"H (1U) x 17.3"W x 8.7"D (4.4 x 43.9 x 22.1 cm); KV6016FA-R2, KV6112FA-R2, KV6116FA-R2, KV6416FA-R2: 3.5"H (2U) x 17.3"W x 8.7"D (8.9 x 43.9 x 22.1 cm)</p> <p>Weight: KV6016FA-R2: 8.8 lb. (4 kg); KV6104SA-R2: 4.8 lb. (2.2 kg); KV6108SA-R2: 5.1 lb. (2.3 kg); KV6112FA-R2: 6.8 lb. (3.1 kg); KV6116FA-R2: 7 lb. (3.2 kg); KV6416FA-R2: 8 lb. (3.6 kg)</p>
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ServSwitch Duo/Quadro Extenders Specifications

<p>Distance (Maximum): Between the Duo/Quadro and the extender: Up to 200 m (656.1 ft.) of unshielded twisted-pair cable or 100 m (328 ft.) of shielded twisted-pair cable; From extender to the attached keyboard, monitor, or mouse: 10 m (32.8 ft.); From extender to any attached CPU: 20 m (65.6 ft.)</p> <p>Resolution (Maximum): KV6EXTB-R2: At Duo/Quadro-to-Extender distances to 65 m (213.2 ft.): 1600 x 1280 noninterlaced at up to 85 Hz; At distances to 100 m (328 ft.): 1600 x 1280 noninterlaced at up to 65 Hz; At distances to 200 m (656.1 ft.): 1024 x 768 noninterlaced at up to 65 Hz; ACU5011A, KV6EXT-R2: 1600 x 1280 noninterlaced at up to 65 Hz</p>	<p>Interface: Video: VGA; Keyboard and mouse: IBM® PS/2® compatible; with appropriate adapters, IBM PC/AT® and TIA/EIA RS-232 serial mouse ports; Serial (nonfunctional): TIA/EIA RS-232, pinned according to TIA-574, DCE; Audio (nonfunctional): 3.5-mm stereo</p> <p>User Controls: KV6EXTB-R2: Keyboard commands; Mouse-click functions; (1) side-mounted 8-position DIP switch for hotkey selection; On-screen menus</p> <p>Compliance: CE (EN55022 Class B), FCC Part 15 Subpart B Class A, DOC Class/MDC classe A</p> <p>Connectors: KV6EXTB-R2: (2) HD15 F, (4) 6-pin mini-DIN F, (1) DB9 F, (4) 3.5-mm stereo jacks, (1) barrel jack;</p>	<p>ACU5011A: (1) HD15 F, (2) 6-pin mini-DIN F, (1) RJ-45, (1) barrel jack; KV6EXT-R2: (3) HD15 F, (1) DB15 F, (6) 6-pin mini-DIN F</p> <p>Indicators: KV6EXTB-R2: (3) top-mounted LEDs: Power, Duo/Quadro, Local CPU; Also indicates compensation, control-lockout, and password-lockout modes by flashing various patterns on the Num Lock, Caps Lock, and Scroll Lock LEDs of the attached keyboard</p> <p>MTBF: 500,000 hours (based on the historical reliability of similarly designed and manufactured products)</p> <p>Temperature Tolerance: KV6EXTB-R2: 32 to 104°F (0 to 40°C); ACU5011A, KV6EXT-R2: 32 to 176°F (0 to 80°C)</p>	<p>Humidity Tolerance: KV6EXTB-R2: 5 to 60% noncondensing; ACU5011A, KV6EXT-R2: 5 to 85% noncondensing</p> <p>Power: KV6EXTB-R2: 100 to 240 VAC at 50 to 60 Hz from utility-power outlet; through detachable power cord and IEC 320 M inlet, to internal transformer; ACU5011A, KV6EXT-R2: 100 to 240 VAC at 47 to 63 Hz from utility-power outlet; through detachable power cord and IEC 320 M inlet, to external transformer</p> <p>Size: KV6EXTB-R2: 1.3"H x 6.5"W x 5.6"D (3.3 x 16.5 x 14.2 cm); ACU5011A, KV6EXT-R2: 1"H x 2.9"W x 4.7"D (2.5 x 7.4 x 11.9 cm)</p> <p>Weight: KV6EXTB-R2: 1.1 lb. (0.5 kg); ACU5011A, KV6EXT-R2: 1 lb. (0.5 kg)</p>
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What's Included with Your ServSwitch

- A power-supply transformer and output cord.
- A power-supply input cord suitable for your country or region.
- A users' manual.

The Duo and Quadro also include:

- (1) PS/2 to serial mouse adapter and (1) PS/2 to PC/AT keyboard adapter for every (4) CPU ports on the switch.
- (6) stick-on adhesive rubber feet (for desktop applications).
- (2) mounting brackets and, depending on the switch's size, (4) or (6) screws (for mounting the switch in a 19" rack).

What's Included with Your ServSwitch Duo/Quadro Extenders

- A power-supply transformer and output cord.
- A power-supply input cord suitable for your country or region.
- A users' manual.

The ACU5011A also includes:

- (4) stick-on adhesive rubber feet (for desktop applications).

Ordering Information

ITEM	CODE
ServSwitch Uno	
16-Port	KV6016FA-R2
ServSwitch Duo	
4-Port.....	KV6104SA-R2
8-Port.....	KV6108SA-R2
12-Port	KV6112FA-R2
16-Port	KV6116FA-R2
ServSwitch Quadro	
16-Port	KV6416FA-R2
<i>To add a redundant power supply, order...</i>	
Power Supply	PS649
<i>Order one cable for each attached CPU...</i>	
CPU Cables (from ServSwitch to CPU, from ServSwitch to ServSwitch, or — with the Duo and Quadro — from ServSwitch to Duo/Quadro Extenders)	
5-ft. (1.5-m)	EHN408-0005
10-ft. (3-m)	EHN408-0010
20-ft. (6.1-m)	EHN408-0020
30-ft. (9.1-m)	EHN408-0030
50-ft. (15.2-m)	EHN408-0050
100-ft. (30.4-m)	EHN408-0100
<i>If your current keyboard/monitor/mouse cables aren't long enough, select a cable for each control station...</i>	
Control Station Cables (from ServSwitch to Keyboard/Monitor/Mouse)	
10-ft. (3-m)	EHN409-0010
20-ft. (6.1-m)	EHN409-0020
30-ft. (9.1-m)	EHN409-0030
<i>To place Duo or Quadro control stations up to 200 metres (656.1 ft.) from the ServSwitch, order...</i>	
ServSwitch Duo/Quadro Extenders	
Basic Model (User Station Only)	KV6EXTB-R2
Receiver (Remote) Module	ACU5011A
Full Model (Supports Local/Remote CPU)	KV6EXT-R2
<i>To connect the Duo/Quadro Extenders, order...</i>	
CAT5 Unshielded 100-MHz Patch Cable, Solid, 4-Pair, PVC, 100-ft. (30.4-m)	EYN737MS-0010
CAT5 Unshielded 100-MHz Bulk Cable, Solid, 4-Pair, PVC, 1000-ft. (304.8-m).....	EYN840A-1000