



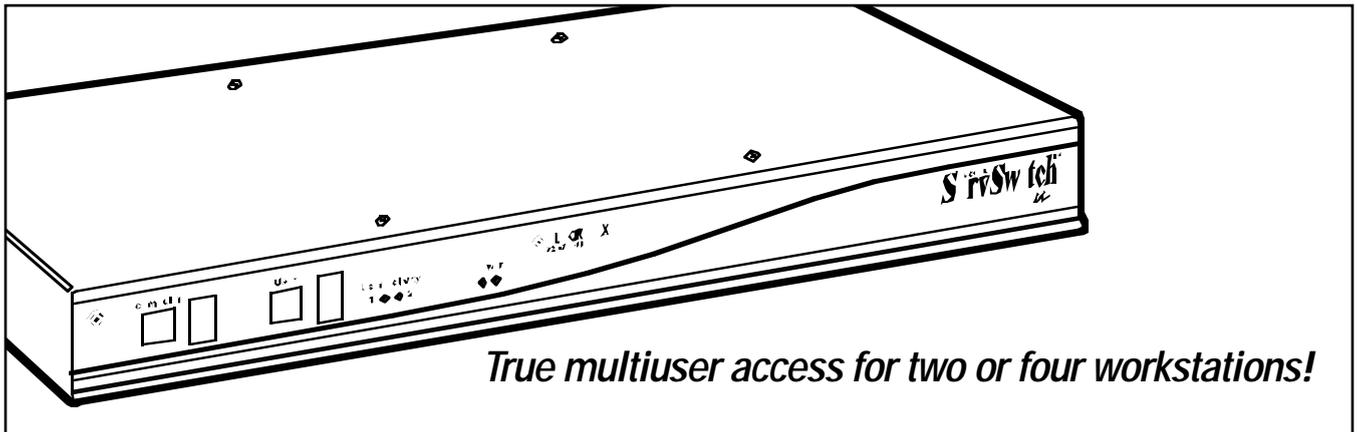
BLACK BOX[®]

NETWORK SERVICES

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Black Box Corporation.

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SERVSWITCH[™] DUO/QUADRO



True multiuser access for two or four workstations!

Key Features

- ▶ **True multiuser access for two or four stations.**
- ▶ **Place CPUs up to 100 feet from switch.**
- ▶ **Can be cascaded to control a large number of CPUs.**
- ▶ **Enhanced video resolution—up to 1600 x 1280 at Hz.**
- ▶ **Easy-access onscreen menus make CPU selections easy.**
- ▶ **Autoscan for monitoring all CPUs in a sequence.**
- ▶ **Redundant power capabilities.**
- ▶ **Flash-upgradable.**
- ▶ **Rackmount hardware included.**

This improved version of the BLACK BOX[®] ServSwitch Duo/Quadro enables two or four workstation users to independently access servers at the same time. It's a multipoint access switching solution that has true multiuser functionality, so your users can control multiple computer CPUs from two or four keyboard/monitor/mouse stations.

The Duo/Quadro, are high-performance keyboard-, video-, monitor-, and mouse-sharing (KVM-sharing) devices, supporting a wide range of IBM[®] PC compatible hardware and software platforms, including some high-end IBM PS/2[®] compatible computers (IBM RS/6000[®], Compaq[®] Alpha[®], and SGI[®]).

The ServSwitch Duo comes in four versions, the Quadro in one:

- 4-Port (KV6104SA-R2) and 8-Port (KV6108SA-R2) Duos, which are housed in a slimline 1U-high chassis. You can attach four and eight computers to them, respectively.

- 12-Port (KV6112FA-R2) and

16-Port (KV6116FA-R2) Duos, which are housed in a full-size 2U-high chassis. You can attach 12 and 16 computers to them, respectively. And last but not least the ServSwitch Quadro (KV6416FA-R2) is a 16-port enabling 4 users to operate at the same time.

Connecting your equipment.

The complexity of your ServSwitch Duo/Quadro installation depends on the distance and number of connections you want in your application. In general, you connect your local user equipment (keyboards, PS/2 mice, and monitors) using Control Port connectors on the switch's rear panel. One user port supports

both a local and a remote user that share access to the CPUs on a timeout basis. Continuous keyboard and mouse emulation on all ports ensures reliable computer bootup. And because all ports are simultaneously active, all attached CPUs can be booted at the same time.

If you intend to place the Duo/Quadro further from the user equipment than the equipment's native cables will reach—up to an additional distance of 30 feet (9 m)—you'll want to order our Premium KVM User Cable for extending the native cables.

Want to set equipment further than 30 feet from the Duo/Quadro? Well, if it's *one set of user*

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Typical ServSwitch Duo/Quadro Configurations

- A pair of local keyboards, monitors, mice, and 2 to 16 computer CPUs directly attached to a single Duo/Quadro.
- A remote keyboard, monitor, and mouse indirectly attached to the Duo's/Quadro's user Port #1 through a ServSwitch Duo/Quadro Extender (page 4).
- Multiple Duos/Quadros cascaded for switching between more than 16 CPUs or CPUs not in the same location.



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equipment, you'll have to make it a remote user station and connect it to User Port #1 through a ServSwitch Duo Extender (see page 4). User Port #1 is actually a "dual-access" one. It has one set of connectors for plugging in a local keyboard, mouse, and monitor and an RJ-45 connector for attaching remote CPUs or control stations via the Duo Extender. The remote user attached to the extender can be as far as 200 meters (656 ft.) of Category 5 cable away. (However, keep in mind, you can't attach this port to a LAN. Doing so could damage the Duo and possibly the network!)

If you want to place both sets of user equipment farther away than 30 feet, you'll also need to use one of our other ServSwitch brand KVM extenders to connect the second set to User Port #2 (call Tech Support for help in choosing the right extender).

CPUs can have either PS/2® or PC/AT® keyboard ports and either PS/2 or RS-232 mouse ports. CPU connections to the Duo are made by running cabling from the CPU's keyboard, mouse, and video ports to the matching connectors in one of the Duo's "CPU ports." Standard PC98-compliant color-coded connectors on the chassis make cabling easy.

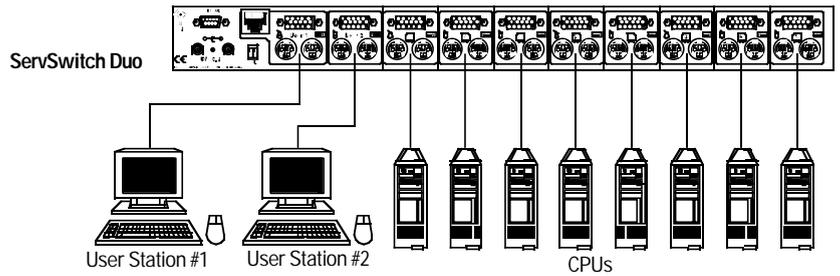
The actual CPU cabling can be either separate male-to-male keyboard-, mouse-, and video-extension cables, or our three-in-one Premium KVM CPU Cable. Keep in mind: Video quality will be at its highest if you can keep this cabling no longer than 10 feet (3 m), but Premium KVM CPU Cable will work at distances up to 100 feet (30.4 m).

If you need to run farther than 100 feet to a CPU, you'll need to use one of our ServSwitch brand KVM extenders. Our Tech Support will help you order the right one.

Cascade multiple Duos.

The ServSwitch Duo is cascadable, too, so can link multiple units together in order to increase the maximum number of available CPU and user ports in your KVM-switching system. This

A sample of common ServSwitch Duo applications:



Here are a few applications that use the 8-Port ServSwitch Duo:

Top diagram: shows a system directly attached to a single Duo via extension cabling.

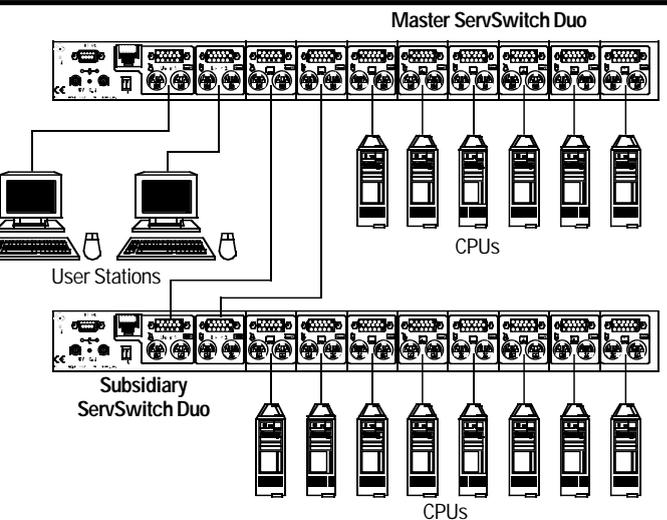
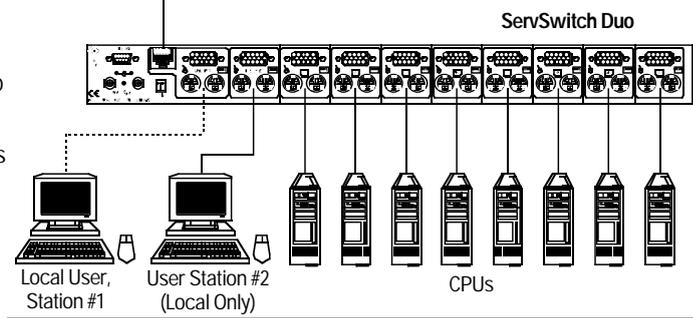
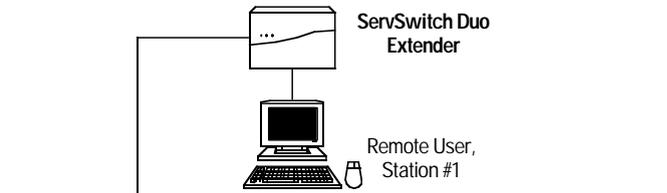
Middle diagram: shows a system attached to a single ServSwitch Duo and Duo Extender. Twisted-pair cabling up to 200 meters (656 ft) is used between the Duo and Duo Extender, and extension cabling is used between the ServSwitch units and the stations as well as the CPUs. The dotted line between the Duo and local user signifies that this station is optional.

Bottom diagram: shows a simple cascaded system with two ServSwitch Duos. For clarity, each set of extension cables and peripheral cables is shown as a single line. The top row of CPUs connect to CPU Ports #7 and #8 (Group 24) on the Master ServSwitch Duo.

NOTE: For a closer look at the individual ports on the rear panel of the ServSwitch Duos, see page 3.

can be particularly useful where clusters of computers are located some distance from each other, because each Duo/Quadro acts as a kind of signal booster or repeater and can be long distances away from the other Duos/Quadros in the system. (You can mix 4-, 8-, 12-, and 16-Port Duos/Quadros in the same cascade.)

What's more, because it has an intelligent communication system, the ServSwitch Duo/Quadro can detect and communicate with other Duos/Quadros through the keyboard cabling that runs between them. The master Duo/Quadro in a cascade can positively verify that the other



attached Duos/Quadros have correctly responded to a switching request from the user. Duos/Quadros also intelligently manage the cascade links, allocating them on a "first-come, first-served" basis.

The typical cascade configuration is a logical "inverted tree" with one, two, or three "layers" of subsidiary Duos/Quadros attached to a single master Duo/Quadro. In turn, two users on the master Duo/Quadro can independently access every CPU in the system by using a single switching pathway.

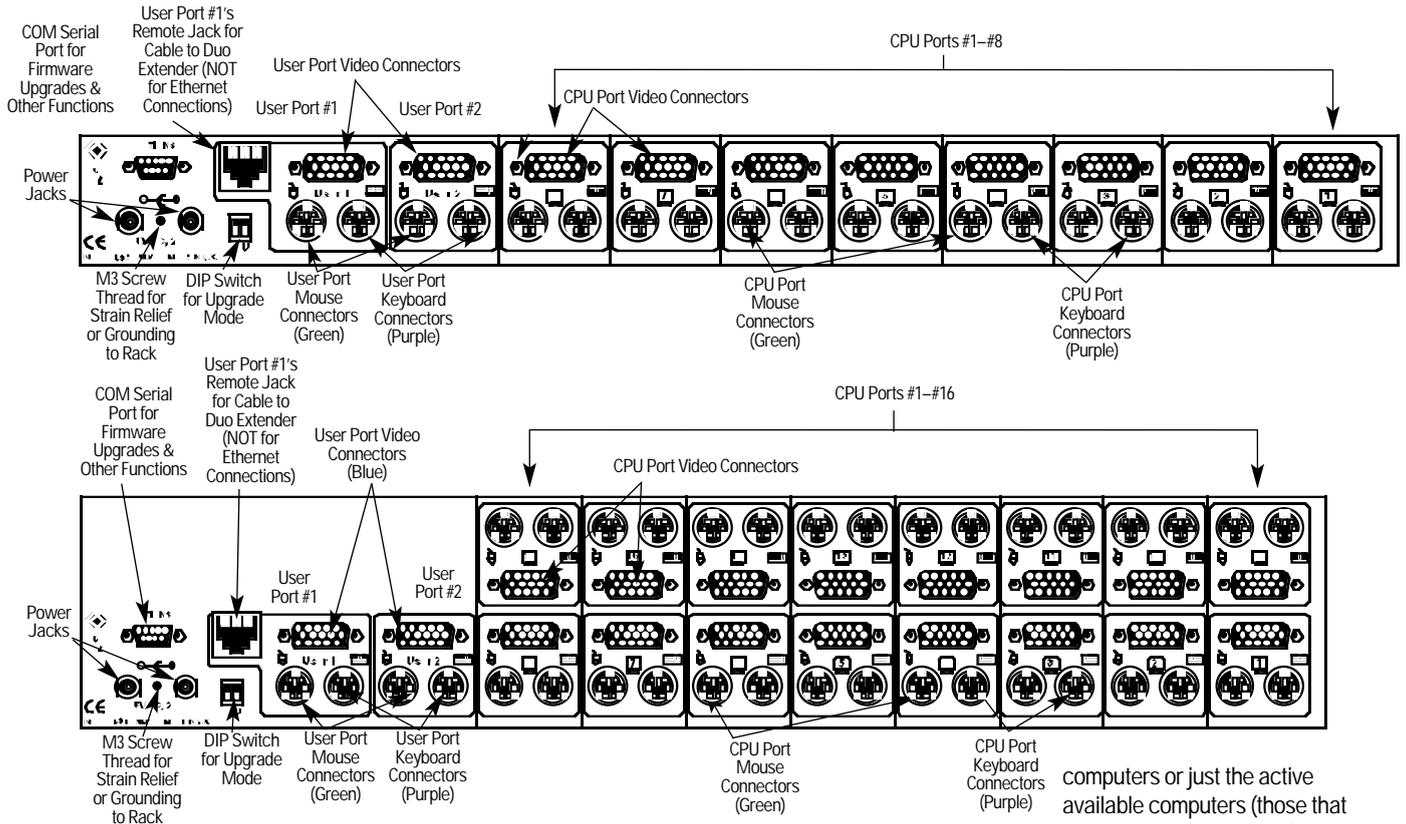
You can even create branches that merge at lower levels and provide redundant pathways that can be used to get around a Duo/Quadro chassis that might fail.

On-screen displays for control.

With the Duo/Quadro, you configure your PCs in the same way that you would if your keyboard, mouse, and monitor were all connected directly to your PCs. Most of the ServSwitch Duo's/Quadro's functions can be controlled through an on-screen display (OSD) that appears on the

(continued on page 3)

Back panels of 8-port (top) and 16-port (bottom) models.



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users' monitors. Activated by default when you first power on the system, the OSD can also be accessed by using the keyboard "hotkeys" or by using the Duo's/Quadro's front-panel pushbuttons.

The OSD includes a pop-up menu system for easy computer selection and control. This way, you can select your computers by name or description instead of having to remember which port the computer is attached to. You can keep your current server name onscreen at all times or just for a few seconds after switching. An optional OSD reminder banner permanently displays which computer is selected. Each user can even independently configure their own OSD's position and colors.

All total, the ServSwitch™ Duo/Quadro support up to 16 user profiles and 512 named computers.

The Duo/Quadro also has onscreen menus through which a system administrator can set up access rights to each user on a

login basis and maintain network security. You can, however, run the Duo/Quadro with its security features disabled (which is how the Duo/Quadro is shipped to you). With security disabled, all user ports have full access to all of the computers and full administration rights. This mode is suitable for simple installations with a small number of users. But if you have a lot of users or your system processes sensitive data, you'll likely want to enable the Duo's/Quadro's password security. In addition to using onscreen menus, access rights can be set using keyboard hotkeys or the Duo's/Quadro's front-panel controls.

If your system has just a few computers, you may find using a three-button mouse to select CPU channels on the Duo/Quadro most convenient. But for systems with more computers, it's usually easier to use the on-screen menu for computer selection.

No matter which switching method you prefer, you need only to look at the Duo's/Quadro's front-panel LEDs to know it's working. These indicators keep you informed of which computer is

selected and whether the connected user station keyboards and mice are functioning correctly.

High video resolution.

The Duo/Quadro supports high-bandwidth monitors at resolutions up to 1600 x 1280 pixels and refresh rates up to 100 Hz with low distortion. Its video channels support Display Data Channel (DDC™/DDC1/DDC2) signaling, so the switch is always calibrated to the attached monitor's highest possible resolution and scan rates.

The Duo/Quadro also regenerates the video signals using wideband amplifiers in order to minimize any loss of video quality. To get the best video quality for your Duo/Quadro installation, we recommend ordering high-quality cables, such as our 10-ft. (3-m) Premium KVM Cables.

Additionally, the Duo/Quadro is capable of "autoscanning" (that is, automatically scanning between all of the connected computers in sequence, briefly displaying each computer's video in turn). The Duo can be set to scan either all of the available

computers or just the active available computers (those that are currently powered on).

For maximum workstation compatibility, the Duo/Quadro supports:

- keyboard modes 1, 2, and 3, as well as both "prompt" and "stream" mouse modes.
- keyboards with extra audio- and Internet-related function keys.
- Microsoft® IntelliMouse® and many other "wheel mice."
- IBM® ThinkPad® notebooks and their "Y" cables.

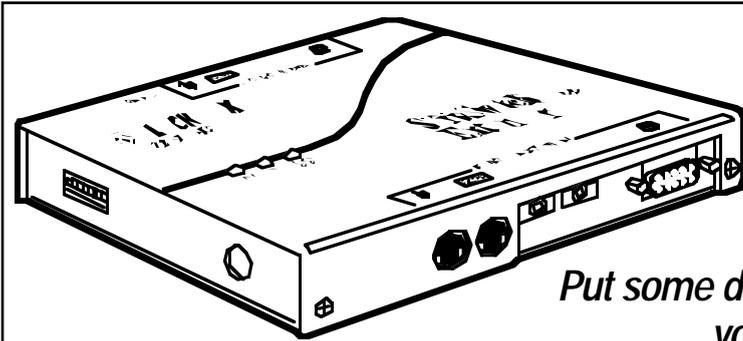
However, to connect computers with serial mouse ports and/or PC/AT® style keyboard ports, you'll need to order special adapters.

You're also provided with a serial port for upgrading firmware plus future capabilities to upload and download configuration information.

To power the ServSwitch Duo/Quadro, you can simply use the single power supply that's shipped with the unit, or you can purchase a second one separately and plug them both in to create a redundant power system. This setup will enhance system reliability and provide you with added peace of mind.



SERVSWITCH™ DUO/QUADRO EXTENDER



Put some distance between a Duo/Quadro and your control station or CPU!

Key Features

- ▶ **Place CPUs or control stations up to 200 m from the Duo/Quadro switch.**
- ▶ **Video compensation equalizers for fine-tuning monitors.**
- ▶ **Metal case ensures good shielding and video quality.**
- ▶ **Rackmount kit available.**
- ▶ **Password protection.**

For establishing distant user station connections to the ServSwitch Duo/Quadro switch, we offer the ServSwitch Duo/Quadro Extender.

The extender enables you to control your ServSwitch Duo/Quadro system from a remote keyboard, monitor, and mouse up to 200 meters (656 ft.) away. You can control a directly attached PC as well, whether it's an IBM PS/2®, PC/AT®, RS/6000®, or compatible computer.

Use the Duo/Quadro Extender in applications where you want to put a control station more than 30 feet (9.1 m) from the Duo/Quadro switch or extend Duo/Quadro-to-CPU connections more than 100 ft (30.4 m).

Link the device to the Duo's/Quadro's User Port #1 with single twisted-pair cable, preferably Category 5.

You can also attach a CPU directly to the extender and switch back and forth between that CPU and the CPUs in the Duo/Quadro system. To switch between CPUs, you use a keyboard "hotkey" sequence or by clicking a 3-button or wheel mouse. The ServSwitch Duo/Quadro Extender automatically restores keyboard and mouse states when you switch between CPUs.

And because the Duo/Quadro Extender emulates the presence of a keyboard and mouse, any attached computer can boot up automatically at any time.

Unlike the Duo/Quadro switch, the Duo/Quadro Extender does not support onscreen displays or stream mode compatibility.

Sharpen the video.

The extender contains video-compensation equalizers that maximise the picture quality for your system even though the video signal is being sent across twisted-pair cable. For the best possible video quality at any supported cable length, the

Duo/Quadro Extender features user-adjustable video compensation amplifiers, which you need only to fine-tune once, when installing the unit extender. The compensation setting is saved in EEPROM memory—even when the extender is powered OFF.

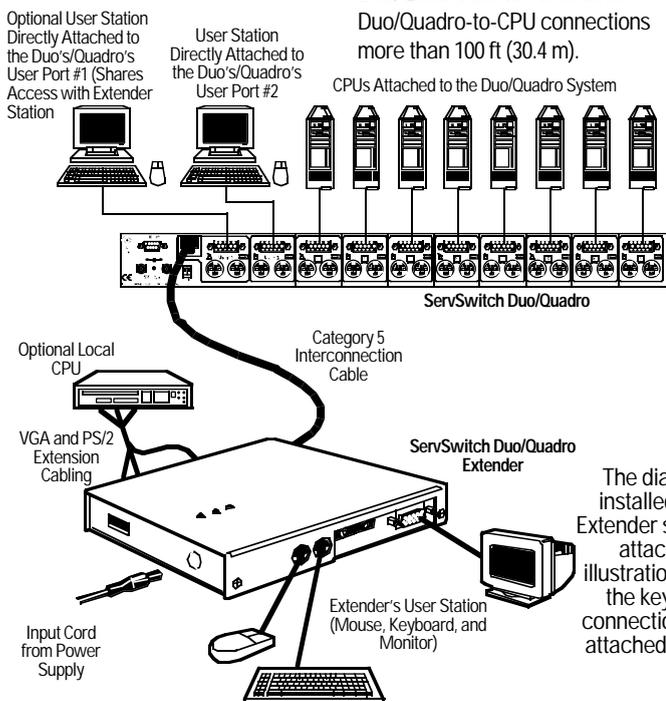
As with the Duo/Quadro switch, the Duo/Quadro Extender supports high-bandwidth monitors at resolutions up to 1600 x 1280 pixels. It also supports VGA, SVGA, XGA, and XGA-2 type monitors (but *not* the automatic detection features available with some plug-and-play monitors and video cards).

Also, for maximum compatibility, the Duo/Quadro Extender supports keyboard modes 1, 2, and 3; both "prompt" and "stream" mouse modes; Microsoft® IntelliMouse® and other common "wheel" mice; and IBM ThinkPad® and its "Y" cables.

LEDs on the extender indicate power status, data activity, and whether the Duo/Quadro or the local CPU is selected. The unit also flashes keyboard LEDs to tell you when it's in compensation, control, or locked modes.

The Duo/Quadro Extender is designed to be set on a desktop or some other flat horizontal surface. But you can also use a pair of double-sided adhesive strips to mount it on a wall or other vertical surface. To mount the extender in a 19" rack, order the Rackmount Kit.

Password protection prevents unauthorised use.



The diagram at left shows a fully installed ServSwitch Duo/Quadro Extender system, including all optional attachments. (For clarity, this illustration uses a single line to show the keyboard, mouse, and video connections to each CPU and station attached to the Duo/Quadro switch.)



Specifications

**KV6104SA-R2, KV6108SA-R2,
KV6112FA-R2, KV6116FA-R2,
KV6416FA-R2:**

Standards: VGA, SVGA, XGA, XGA-2, SXGA, or UXGA video; supports VESA DDC, DDC1, and DDC2 signaling

Interfaces: Video: VGA;
Keyboard and mouse: IBM® PS/2® compatible; with appropriate adapters, also supports IBM PC/AT® type keyboards, CPUs with PC/AT keyboard ports, and CPUs with EIA/TIA RS-232 mouse ports;
Serial: EIA/TIA RS-232 pinned according to TIA-574 (IBM PC serial-port compatible)

Resolution: Up to 1600 x 1280 noninterlaced at up to 100 Hz

Protocol: RS-232: Asynchronous

Data Format: RS-232: 8 data bits, no parity, 1 stop bit

Data Rate: RS-232: 1200 bps

Flow Control: RS-232: None

Maximum Distance: 10 m (32 ft.) from the Duo's user ports to any directly attached keyboard, monitor, and mouse or cascaded KVM switch; 200 m (656 ft.) from the Duo's/Quadro's user Port #1 to a Duo/Quadro Extender (KV6EXT-R2); 30 m (98 ft.) from the Duo's/Quadro's CPU ports to any directly attached CPU or cascaded KVM switch

User Controls: On-screen menus; keyboard commands; mouse-click functions; (1) front-mounted pushbutton for CPU selection; (1) front-mounted pushbutton for user selection; (1) rear-mounted 2-position DIP switch for firmware upgrade

Indicators: All front-mounted; (2) Power LEDs, (1) for each power supply; (2) Activity LEDs, (1) for each user port; (1) Single-character 7-segment display to show the selected user; (1) 7-segment display to show selected computer and other messages: Single-character on KV6104SA-R2, KV6108SA-R2 models and dual-character on KV6112FA-R2, KV6116FA-R2 models

Connectors: All rear-mounted; (2) barrel jacks for power input;

- (1) DB9 F serial port;
- (2) local user ports, each consisting of (1) HD15 F for monitor attachment and (2) 6-pin mini-DIN F for keyboard and mouse attachment;
- (1) RJ-45 F remote user port for Duo/Quadro Extender attachment;
- CPU ports, each consisting of (1) HD15 F for video-port attachment and (2) 6-pin mini-DIN F for keyboard- and mouse-port attachment:
 - KV6104SA-R2: (4);
 - KV6108SA-R2: (8);
 - KV6112FA-R2: (12);
 - KV6116FA-R2: (16)

Maximum Altitude: 3048 m

Temperature Tolerance: 0 to 40°C

Humidity Tolerance: 5 to 60% noncondensing

Enclosure: Steel, aluminum, and plastic

Power: From utility-power outlet, through detachable power cord and IEC 320 M inlet, to external transformer: Input: 100–240 VAC at 50–60 Hz; Output: 5 VDC at up to 1 A; Consumption: 5 watts maximum

Size: KV6104SA-R2, KV6108SA-R2: 4.4 x 43.9 x 22.1 cm; KV6112FA-R2, KV6116FA-R2, KV6416FA-R2: 8.9 x 43.9 x 22.1 cm

Weight: KV6104SA-R2: 2.3 kg; KV6108SA-R2: 2.4 kg; KV6112FA-R2: 3.5 kg; KV6116FA-R2, KV6416FA-R2: 3.6 kg

KV6EXT-R2:

Cable Required: Between the Duo/Quadro switch and the Duo/Quadro Extender: Four-pair (eight-wire) Category 5 or higher unshielded twisted-pair (UTP); shielded twisted-pair (STP) can

also be used at shorter distances

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

Standards: VGA, SVGA, XGA, or XGA-2 video

Interfaces: Video: VGA;
Keyboard and mouse: IBM PS/2 compatible; with appropriate adapters, also supports IBM PC/AT keyboard and EIA/TIA RS-232 serial mouse on PS/2 ports;
Serial (nonfunctional): EIA/TIA RS-232, pinned according to TIA-574, DCE;
Audio (nonfunctional): 3.5-mm stereo

Resolution and Refresh Rate:

At Duo/Quadro-to-Duo/Quadro Extender distances to 65 m (213 ft.): Up to 1600 x 1280 noninterlaced at up to 85 Hz; At distances to 100 m (328 ft.): Up to 1600 x 1280 noninterlaced at up to 65 Hz; At distances to 200 m (656 ft.): Up to 1024 x 768 noninterlaced at up to 65 Hz

Maximum Distance: Between the Duo/Quadro and the Duo/Quadro Extender: Up to 200 m (656 ft.) of unshielded twisted-pair cable or 100 m (328 ft.) of shielded twisted-pair cable;
From Duo/Quadro Extender to the attached keyboard, monitor, or mouse: 10 m (32 ft.);
From Duo/Quadro Extender to any attached CPU: 20 m (66 ft.)

User Controls: Keyboard commands; mouse-click functions; (1) side-mounted 8-position DIP switch for "hotkey" selection; Duo/Quadro Extender users can also access the Duo's/Quadro's on-screen menus

Indicators: (3) Top-mounted LEDs: Power (green), Duo/Quadro (red), and Local CPU (red); Unit 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

Connectors: All side-mounted (CPU connections are optional): (2) HD15 F: (1) to monitor, (1) to CPU's video port; (4) 6-pin mini-DIN F: (1) to keyboard, (1) to mouse, (1) to CPU's keyboard port, and (1) to CPU's mouse port; (4) 3.5-mm stereo jacks (nonfunctional); (1) DB9 F (nonfunctional); (1) barrel jack for power supply attachment

Maximum Altitude: 3048 m

Temperature Tolerance: 0 to 40°C

Humidity Tolerance: 5 to 60% noncondensing

Enclosure: Steel and aluminum

Power: From utility-power (mains) outlet, through detachable power cord and IEC 320 inlet, to external transformer; Input: 100–240 VAC at 50–60 Hz; Output: 5 VDC at up to 2.5 A from transformer to Duo/Quadro Extender (normally draws only 1.5 A); Consumption: 7.5 watts typical

Size: 3.3 x 16.5 x 14.2 cm

Weight: 0.5 kg

What's included:

**KV6104SA-R2, KV6108SA-R2,
KV6112FA-R2, KV6116FA-R2,
KV6416FA-R2:**

- ServSwitch Duo/Quadro
- Power supply
- (6) adhesive rubber feet
- (2) brackets for mounting in 19" rack

- (1) DB9 female to DB9 male serial cable for configuration uploading/downloading and flash upgrades
- Screws for attaching the brackets to the Duo/Quadro: (4) with KV6104SA-R2 or KV6108SA-R2; (6) with KV6112FA-R2, KV6116FA-R2 or KV6416FA-R2
- (2) 5-pin DIN male to 6-pin mini-DIN female keyboard-port adapters

- A manual
- (2) DB9 female to 6-pin mini-DIN female mouse-port adapters

KV6EXT-R2:

- ServSwitch Duo/Quadro Extender
- Power supply
- Power cord
- A manual



You'll need:

For either the ServSwitch Duo/Quadro or the Duo/Quadro Extender:

- Monitors with standard VGA/SVGA (HD15) connectors that will work when connected directly to each of your PCs. The Duo/Quadro and Duo/Quadro Extender support low- and high-resolution monitors.
- A standard PC/AT* or PS/2* style keyboard. If you're using a PC/AT keyboard with a 5-pin DIN connector, you can connect it to the Duo/Quadro or Duo/Quadro Extender using a standard PC/AT to PS/2 keyboard adapter (such as product code FA211).
- A suitable mouse driver for your PCs. Supported types are:
 - PS/2 or RS-232 two-button mouse driver by any manufacturer; Microsoft® mouse drivers, including those for the IntelliMouse®. (You might be able to use other mouse drivers with IntelliMouse compatible data formats, but these might or might not work—trial-and-error testing might be necessary.)
 - Logitech™ mouse drivers, including those for two-button, three-button, and wheel mice.

For the ServSwitch Duo/Quadro:

- Cables to connect the ServSwitch Duo/Quadro to the keyboard, video, and mouse ports of each of your computers. (You don't need to connect mouse cabling to a CPU if you're not using a mouse with that CPU.) If you'll be installing cascaded Duos/Quadros, you'll also need cables to interconnect the Duos/Quadros. You'll need FA212 adapters to connect the Duo/Quadro to the keyboard and FA314 adapters to connect the Duo/Quadro to the mouse ports of PC/AT style computers.
- PS/2 style two- or three-button Microsoft® or Logitech™ compatible mice or Microsoft IntelliMouse® or IntelliMouse Explorer® compatible mice. If you want to use a mouse to switch channels on the Duo/Quadro, you'll need a three-button mouse or an IntelliMouse. (The Duo/Quadro supports other IntelliMouse compatible "Internet mice.") All of the mouse connections from Duo/Quadro to the attached computers support either PS/2 mouse ports or RS-232 serial mouse ports. The Duo/Quadro automatically converts PS/2 mouse data and commands to serial-mouse data and commands, but you'll still need the appropriate adapter—product code FA314—to connect the Duo/Quadro to a PC with a serial mouse port. **NOTE:** If you don't want to use a mouse, the Duo/Quadro will operate without one connected.

For the ServSwitch Duo Extender:

- Four-pair (eight-wire) twisted-pair cabling rated to at least Category 5 and long enough to reach from your extender to the ServSwitch Duo/Quadro, up to a maximum of 200 meters (656 ft).
- A PS/2 style two- or three-button Microsoft or Logitech compatible mouse or a Microsoft IntelliMouse compatible mouse. If you want to use a mouse to switch CPUs on the extender, you'll need a three-button mouse or an IntelliMouse. (The extender supports other "Internet mice" compatible with the IntelliMouse.) **NOTE:** The extender will operate without a mouse connected if you don't want to use one.
- If you're connecting a local CPU to the extender, you'll need VGA and PS/2 extension cabling. (We recommend using EHN408.) You can also use separate VGA and PS/2 extension cables such as EVNPS05 and EVNPS03.
- To attach a CPU with a PC/AT keyboard port, you'll need a PS/2 to PC/AT keyboard-port adapter (such as product code FA212).
- To attach a CPU with a serial mouse port, you'll need a PS/2 to serial mouse-port adapter (such as product code FA314).
- If you'll be mounting the extender on a wall or some other non-horizontal flat surface, you'll need adhesive mounting strips—preferably the two-part type made with Velcro® or other hook-and-loop fasteners.
- If you'll be mounting the extender in a 19" equipment rack, you'll need the RMK19WX Rackmount Kit.

Ordering Information

ITEM	CODE
ServSwitch Duo	
2 Users x 4 CPUs.....	KV6104SA-R2
2 Users x 8 CPUs.....	KV6108SA-R2
2 Users x 12 CPUs.....	KV6112FA-R2
2 Users X 16 CPUs.....	KV6116FA-R2
ServSwitch Quadro	
4 Users x 16 CPUs.....	KV6416FA-R2
<u>Select one cable for each attached CPU...</u>	
CPU Cables (from Switch to CPU or from Switch to the Extender)	
1.5-m.....	EHN408-0005
3-m.....	EHN408-0010
6.1-m.....	EHN408-0020
9.1-m.....	EHN408-0030
15.2-m.....	EHN408-0050
30.5-m.....	EHN408-0100
<u>Then choose a cable for each control station*:</u>	
Control-Station Cables (from Switch to Keyboard/Monitor/Mouse)	
3-m.....	EHN409-0010
6.1-m.....	EHN409-0020
9.1-m.....	EHN409-0030
* Unless the cables that came with your keyboard, monitor, and mouse are long enough.	
<u>For redundant power, order:</u>	
5-VDC Power Supply.....	PS649
<u>To put your control station more than 30 ft. from the Duo/Quadro or the CPU more than 100 ft. from the Duo/Quadro, order:</u>	
ServSwitch Duo/Quadro Extender.....	KV6EXTB-R2
<u>Connect the extender with:</u>	
CAT5 Unshielded 100-MHz Bulk Cable, Solid, 4-Pair, Beige, PVC, 304.8-m.....	EYN840A-1000
GigaBase™ CAT5e 200-MHz Bulk Cable, Solid, 4-Pair, Beige, PVC, 152.4-m.....	EYN737A-0500
<u>If you have a PC/AT keyboard with 5-pin DIN connector, you may need:</u>	
6-Pin Mini-DIN Male to 5-Pin DIN Female Adapter.....	FA211
<u>To connect the Duo/Quadro to the keyboard port of PC/AT style computers, order:</u>	
6-Pin Mini-DIN Female to 5-Pin DIN Male.....	FA212
<u>To connect the Duo/Quadro or Duo/Quadro Extender to a serial mouse port, order:</u>	
6-Pin Mini-DIN Female to DB9 Female Mouse Adapter.....	FA314
<u>To attach a CPU with a AT style keyboard port to the Duo/Quadro Extender, you may also need:</u>	
6-Pin Mini-DIN Female to 5-Pin DIN Male Keyboard Adapter.....	FA212
<u>If you want to rackmount the Duo/Quadro Extender, order:</u>	
Rackmount Kit.....	RMK19WX

