



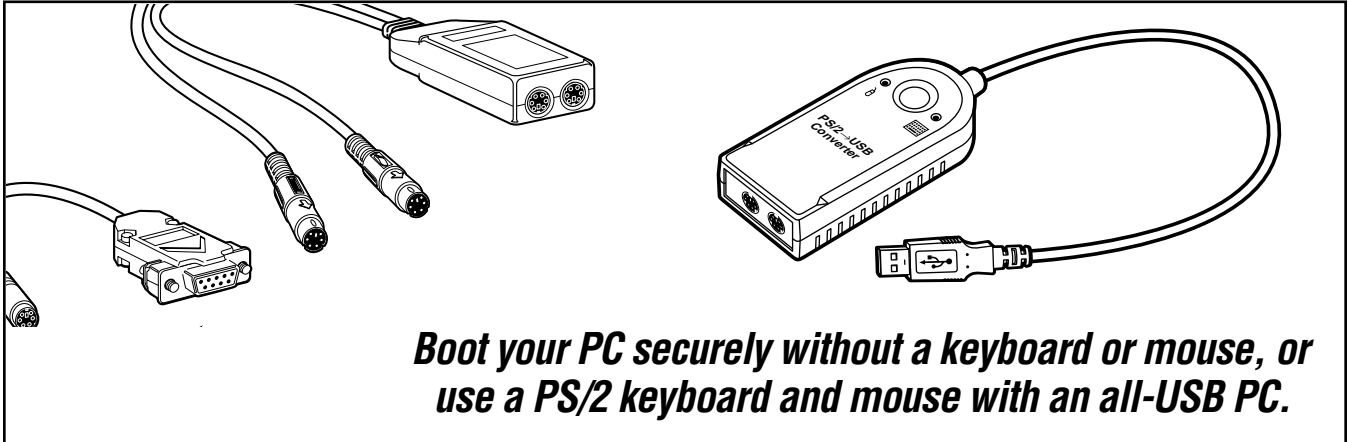
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# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

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## GHOST EMULATORS • USB → PS/2 CONVERTER



***Boot your PC securely without a keyboard or mouse, or use a PS/2 keyboard and mouse with an all-USB PC.***

### Key Features

- ▶ **USB → PS/2 Converter connects a keyboard and mouse to a USB port or an all-USB computer to a PS/2 switch.**
- ▶ **Keyboard and Mouse GHOST Emulator plugs into a PC in lieu of a keyboard, so the PC boots but can't be used without authorization.**
- ▶ **Both GHOST Emulators plug into a PC in lieu of a mouse.**
- ▶ **AC245A has a pass-through port for the keyboard.**
- ▶ **AC244A converts PS/2 mouse data to serial.**

#### USB → PS/2 Converter

You can use the USB → PS/2 Converter (AC249A) to attach an IBM® PS/2® type keyboard and mouse to a desktop, laptop, or handheld computer that uses USB (Universal Serial Bus) instead of the PS/2 keyboard/mouse bus. This is especially useful for laptops, because you can attach an external mouse and keyboard to them at the same time through the converter without causing conflicts.

On one end, the converter has two 6-pin mini-DIN connectors that you'll plug the mouse and keyboard into, marked with the appropriate icons. On the other end, it has an 11.8-inch (30-cm) cable with a USB Type A plug that you can attach to the USB port of a computer.

If your computer, like many of today's models, only has one or two USB ports, you might want to attach the converter to the computer through a "USB hub" such as our USB Director

(IC165A). The hub will provide additional USB ports so that you can connect more devices to the computer at the same time.

The converter can also be used to attach PS/2 keyboards and mice to the user ports of all-USB KVM switches, or to attach iMac® and other computers that have only USB ports to the computer ports of PS/2 type KVM switches.

The USB → PS/2 Converter gets all its power from the attached computer through the Universal Serial Bus, so you don't need an external power supply for it. And because it's fully USB compliant, the converter also supports energy-saving "suspend" and "resume" operations.

#### GHOST Emulators

These days it seems you can never have too much data security. Hackers aside, there are any number of well-intentioned people who can, just by typing at

the keyboard, accidentally compromise your unattended IBM PC type computer systems. It'd help if you could lock up these computers' keyboards and mice, wouldn't it? But how can you, when PCs don't boot without a keyboard attached?

The Keyboard and Mouse GHOST Emulator can keep unauthorized users from poking around on your PCs. When, instead of a keyboard, you attach this emulator to a computer, the emulator sends the booting PC the responses that a keyboard would. So the PC boots and operates normally, without an attached keyboard to attract the itchy fingers of the uninvited.

The AT → PS/2 Mouse GHOST Emulator and the Keyboard and Mouse GHOST Emulator do the same thing with the PC's mouse port (which must be serial for the AT → PS/2 Mouse GHOST Emulator, PS/2 type for the Keyboard and Mouse GHOST Emulator). A GHOST Emulator

attached to the mouse port sends mouse responses to the booting PC, so that the PC boots properly, loads its mouse driver, etc., without an attached mouse.

All of these emulators are easy to install, include cables, and don't require any user intervention once they are hooked up.

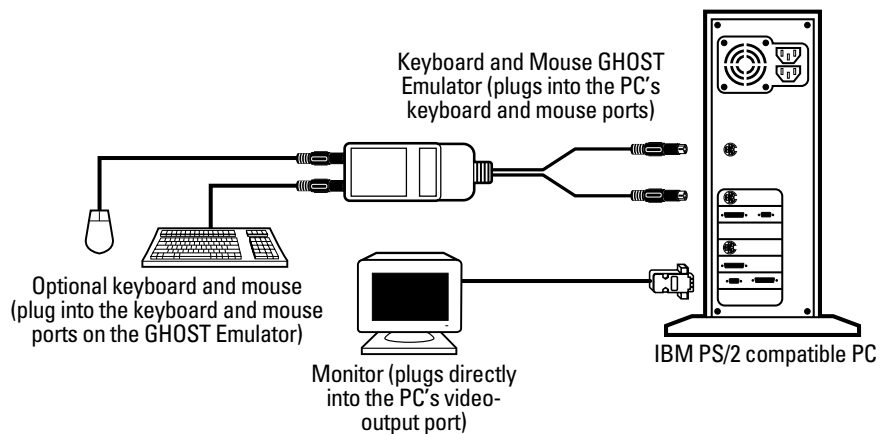
They are all powered by a PC interface rather than an external power supply: The Keyboard and Mouse GHOST Emulator is powered by the keyboard interface, while the AT→PS/2 Mouse GHOST Emulator is powered by the serial mouse interface.

The Keyboard and Mouse GHOST Emulator has both keyboard connectors, as well as both output and passthrough PS/2 mouse connectors for mouse emulation and hot-swapping.

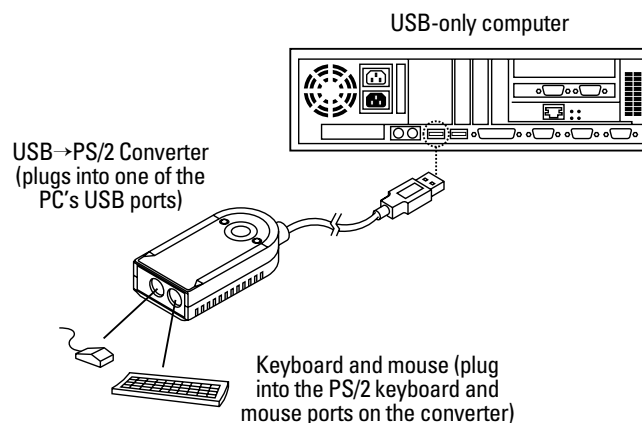
The AT→PS/2 Mouse GHOST Emulator also has a passthrough connector—designed for a PS/2

mouse, because it also functions as a PS/2 to serial mouse converter. (You can use it, in fact, to attach a PC/AT<sup>®</sup> to a KVM switch or extender that has only PS/2 mouse ports.) Like the Keyboard and Mouse GHOST Emulator, the AT→PS/2 Mouse GHOST Emulator is hot-swappable.

***With a Keyboard and Mouse GHOST Emulator in place, your system boots and runs whether or not there is a keyboard or mouse attached.***



***With a USB→PS/2 Converter, you can use regular PS/2 type equipment even with computers that have only USB ports.***



# Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- You wait more than 30 minutes to get through to a vendor's tech support.
- The so-called "tech" can't help you or gives you the wrong answer.

- You don't have a purchase order number and the tech refuses to help you.
- It's 9 p. m. and you need help, but your vendor's tech support line is closed.

According to a survey by Data Communications magazine, 90% of network managers surveyed say that getting the technical support they need is extremely

important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls far short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.

## Specifications

### Compliance:

AC244A: CE; FCC Part 15 Subpart B IC Class A/classe A;  
AC245A: FCC Part 15 Subpart B IC Class A/classe A;  
AC249A: CE; FCC Part 15 Subpart B IC Class B/classe B

### Operating System Required:

AC244A–AC245A: No operating system requirements;  
AC249A: Microsoft® Windows® 98 or 2000 (not Windows NT®); Mac® OS 8.6 or higher

### Standards: AC249A: USB 1.0, 1.1

### System Hardware Required:

AC244A: IBM PC/AT or compatible;  
AC245A: IBM PS/2 or compatible;  
AC249A: Computer with an unoccupied USB port

### User Controls:

AC244A–AC245A: None;  
AC249A: (1) bottom-mounted button for waking the attached computer from sleep mode

### Interface:

AC244A: IBM PS/2 mouse and TIA/EIA RS-232 (serial mouse);  
AC245A: IBM PS/2 keyboard and mouse;  
AC249A: USB, IBM PS/2 keyboard and mouse

**Connectors:** AC244A: (1) DB9 F to PC's mouse port; (1) 6-pin mini-DIN F to optional mouse;  
AC245A: (2) 6-pin mini-DIN M on nondetachable cable: (1) to PC's keyboard port; (1) to PC's mouse port;

### Connectors (continued):

AC249A: (1) USB Type A M at the end of an 11.8" (30-cm) cable, (2) 6-pin mini-DIN F mounted on the end of the converter body

### Indicators: AC244A–AC245A: None;

AC249A: (2) top-mounted LEDs: (1) keyboard activity, (1) mouse activity

### Temperature Tolerance:

AC244A, AC249A: Operating: 41 to 104°F (5 to 40°C); Storage: -4 to +176°F (-20 to +80°C);  
AC245A: Operating: 32 to 114°F (0 to 45°C); Storage: -40 to +176°F (-40 to +80°C)

### Humidity Tolerance:

AC244A, AC249A: Up to 80% noncondensing;  
AC245A: Up to 95% noncondensing

### Power: AC244A: Approximately

15 mA (DC voltage used depends on how much the PC provides) from PC's RS-232 serial mouse interface;  
AC245A: 4.75 to 5.25 VDC, 100 mA from PC's keyboard interface;  
AC249A: All power from USB bus

### Size: AC244A: 0.8"H x 1.3"W x 6"D

(2 x 3.3 x 15.2 cm);  
AC245A: 1"H x 1.5"W x 3"D (2.5 x 3.8 x 7.6 cm); attached cables are 14" (35.6 cm) long;  
AC249A: 0.9"H x 2.2"W x 3.2"D (2.3 x 5.6 x 8.1 cm)

### Weight: AC244A: 1 oz. (28 g);

AC245A: 5 oz. (142 g);  
AC249A: 2.6 oz. (74 g)

## Ordering Information

ITEM	CODE
AT→PS/2 Mouse GHOST Emulator .....	AC244A
Keyboard and Mouse GHOST Emulator .....	AC245A
USB→PS/2 Converter .....	AC249A
<i>You might also need...</i>	
USB Director (4-Port Hub) .....	IC165A
Keyboard Adapters	
PC/AT Keyboard to PS/2 Keyboard Port (5-Pin DIN Female to 6-Pin Mini-DIN Male).....	FA211
PS/2 Keyboard to PC/AT Keyboard Port (6-Pin Mini-DIN Female to 5-Pin DIN Male).....	FA212
Data Line Surge Protectors	
For PC/AT Type Keyboard.....	SP518A-R2
For PS/2 Type Keyboard or Mouse .....	SP519A-R2