

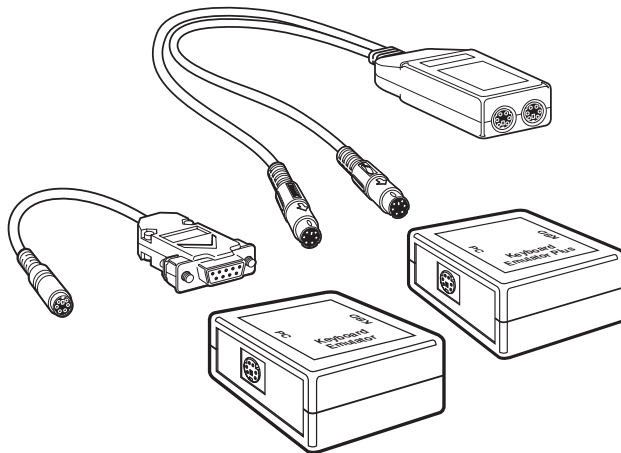
# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

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### Keyboard Emulators and Keyboard and Mouse GHOSTs

*Boot your PC without a keyboard or mouse and keep your system safe from casual tampering.*



#### Key Features

- ▶ All keyboard models plug into the PC in lieu of a keyboard, so the PC can boot without one and can't be used without authorisation.
- ▶ The Ghosts plug into the PC in lieu of a mouse.
- ▶ Powered by the PC.
- ▶ The Keyboard Emulator Plus and Keyboard and Mouse Ghost have a keyboard pass-through port.
- ▶ The PS/2→AT Mouse Ghost also converts PS/2 mouse data to serial mouse data.
- ▶ You can also use the PS/2→AT Mouse Ghost to attach a PC/AT computer to a KVM switch that only has PS/2 mouse ports.

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<sup>®</sup> 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 Emulators and Keyboard and Mouse GHOST emulator can keep unauthorised users from poking around on your servers or demonstration PCs. When you attach one of these emulators instead of a keyboard 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 PS/2→AT Mouse GHOST and the Keyboard and Mouse GHOST do the same thing with the PC's mouse port (which must be serial for the PS/2→AT Mouse Ghost, PS/2<sup>®</sup> type for the Keyboard and

Mouse GHOST). A GHOST 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: Both Keyboard Emulators and the Keyboard and Mouse GHOST are powered by the keyboard interface, while the PS/2→AT Mouse GHOST is powered by the serial mouse interface.

The plain Keyboard Emulator has one connector from which cable runs to the PC's keyboard port. The Keyboard Emulator Plus also

has a pass-through connector into which, at any time, an authorised user can plug a keyboard to operate the PC when necessary. This keyboard can be freely plugged and unplugged.

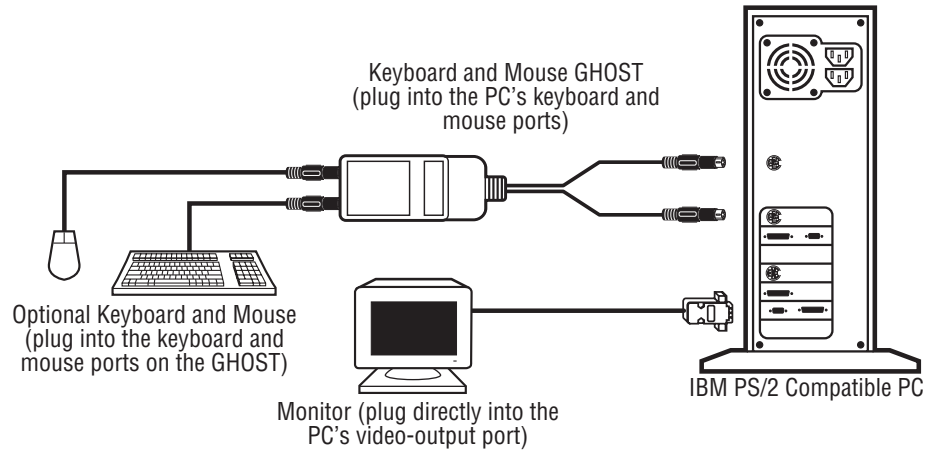
The Keyboard and Mouse GHOST goes one step further: It has both keyboard connectors, as well as both output and pass-through PS/2 mouse connectors for mouse emulation and hot-swapping.

The PS/2→AT Mouse GHOST also has a pass-through 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.) As with the other emulators, the PS/2 mouse is hot-swappable.

#### Typical Application

*Use a Keyboard Emulator Plus, an PS/2→AT Mouse GHOST, and a keyboard adapter to boot your legacy PC/AT type machine without an attached keyboard or mouse, securing it against unauthorised use. When you need to, you can operate it later—with a newer PS/2 type keyboard and mouse!*

*With a Keyboard and Mouse GHOST in place, your system boots and runs whether or not there is a keyboard or mouse attached. (The illustration is not to scale.)*



## Specifications

### System Hardware Required —

- AC242A, AC243A:  
IBM PC/AT, PS/2, or compatible;  
AC244A:  
IBM PC/AT or compatible;  
AC245A:  
IBM PS/2 or compatible

### Interfaces —

- AC242A, AC243A:  
IBM PS/2 keyboard;  
AC244A:  
IBM PS/2 mouse and EIA/  
TIA RS-232 (serial mouse);  
AC245A:  
IBM PS/2 keyboard and mouse

### User Controls — None

### Indicators — None

### Connectors —

- AC242A, AC243A:  
(1) 6-pin mini-DIN female to PC's keyboard port (across included cable);  
AC243A only:  
(1) 6-pin mini-DIN female to optional keyboard;  
AC244A only:  
(1) DB9 female to PC's mouse port;  
(1) 6-pin mini-DIN female to optional mouse;

### Connectors (continued) —

- AC245A:  
(2) 6-pin mini-DIN male on nondetachable cables:  
(1) to PC's keyboard port,  
(1) to PC's mouse port;  
(2) 6-pin mini-DIN female:  
(1) to optional keyboard,  
(1) to optional mouse

### Power —

- AC242A, AC243A, AC245A:  
+4.75 to +5.25 VDC, 100 mA from PC's keyboard interface  
AC244A: Approx. 15 mA (DC voltage used depends on how much the PC provides) from PC's RS-232 serial mouse interface

### Size —

- AC242A, AC243A:  
5.6H x 8.4W x 3D cm  
(2.2"H x 3.3"W x 1.2"D);  
AC244A:  
2H x 3W x 15.2L cm  
(0.8"H x 1.3"W x 6"L);  
AC245A:  
2.5H x 3.8W x 7.6D cm  
(1"H x 1.5"W x 3"D);  
attached cables are 14"  
(35.6 cm) long

### Weight —

- AC242A, AC243A, AC245A:  
0.1 kg (0.3 lb.);  
AC244A: 29 g (1 oz.)

## Technically Speaking

- If you attach a PS/2 mouse to the PS/2 mouse port of a PS/2→AT Mouse GHOST, it must be a low-powered mouse. Similarly, any KVM switch or extender you

attach to it must not draw power from the PC's mouse interface. Any mouse, switch, or interface that tries to draw more power than the serial mouse interface can provide will fail.

## Ordering Information

PRODUCT NAME	PRODUCT CODE
Keyboard Emulator .....	AC242A
Keyboard Emulator Plus .....	AC243A
PS/2→AT Mouse GHOST .....	AC244A
Keyboard and Mouse GHOST .....	AC245A
<b>OPTIONAL ACCESSORY</b>	<b>PRODUCT CODE</b>
Keyboard Adapters:	
5-Pin DIN F to 6-Pin Mini-DIN M.....	FA211
6-pin mini-DIN F to 5-Pin DIN M.....	FA212