



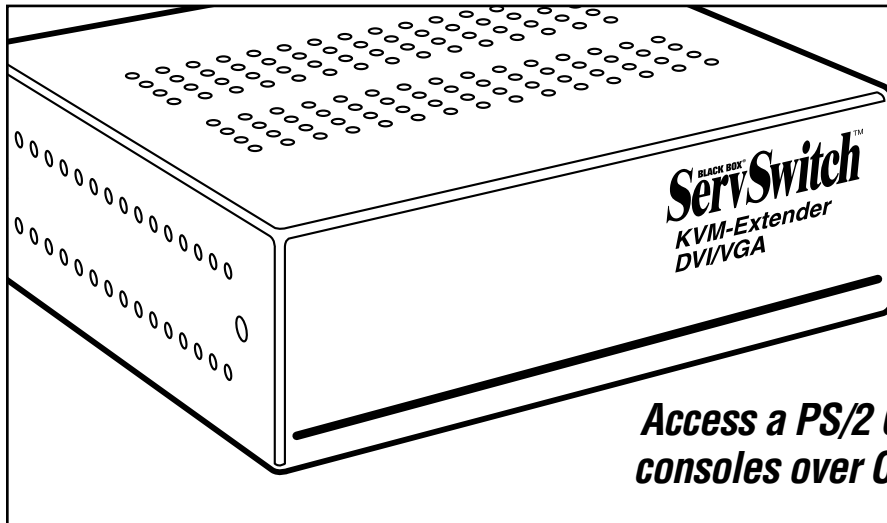
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# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

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## SERVSWITCH DVI/VGA FIBER EXTENDERS



***Access a PS/2 CPU via local or remote consoles over CATx or fiber optic cable.***

### Key Features

- ▶ ***Twisted-pair version lets you select Category 5, 5e, or 6 cable.***
- ▶ ***Fiber optic versions available for duplex multimode or duplex single-mode.***
- ▶ ***Access video equipment locally and remotely.***
- ▶ ***Upgradable firmware.***
- ▶ ***PS/2 cables and adapters are included.***
- ▶ ***Each extender includes a local and a remote unit.***

Suppose you have a PS/2<sup>®</sup> CPU at one location, but need dual access to it (from either a local or a remote PS/2 keyboard, DVI monitor, and PS/2 mouse). The ServSwitch™ DVI/VGA Fiber CATx (twisted-pair), Multimode (fiber), or Single-Mode (fiber) Extenders are ideal for any KVM application that demands flexible video connections and exceptional video quality. With these extenders, you get video resolution at the local console of up to 1600 x 1200 for VGA or 1280 x 1024 for DVI.

A PS/2 console is defined as a PS/2 keyboard/video/mouse combination. When the keyboard and mouse are being used at one PS/2 console, the extender blocks access at the other console until there is no keyboard or mouse

activity for a defined timeout period.

CATx twisted-pair cable is defined as either CAT5, CAT5e, or CAT6. Extend the distance from your PC up to 300 ft. (91.4 m) using CATx cable and a CATx extender.

For greater distances between consoles and the CPU, choose the fiber optic extender models. There's one for multimode and another for single-mode cable. The multimode model lets you run 62.5/125- $\mu$ m cable up to 650 ft. (198.1 m) between local and remote units, or connect 50/125- $\mu$ m cable up to 1300 ft. (396.2 m). And by using fiber cable, you get all its benefits, including immunity to electrical interference.

The single-mode version enables 9/125- $\mu$ m connections up

to 6.25 mi. (10.1 km) apart.

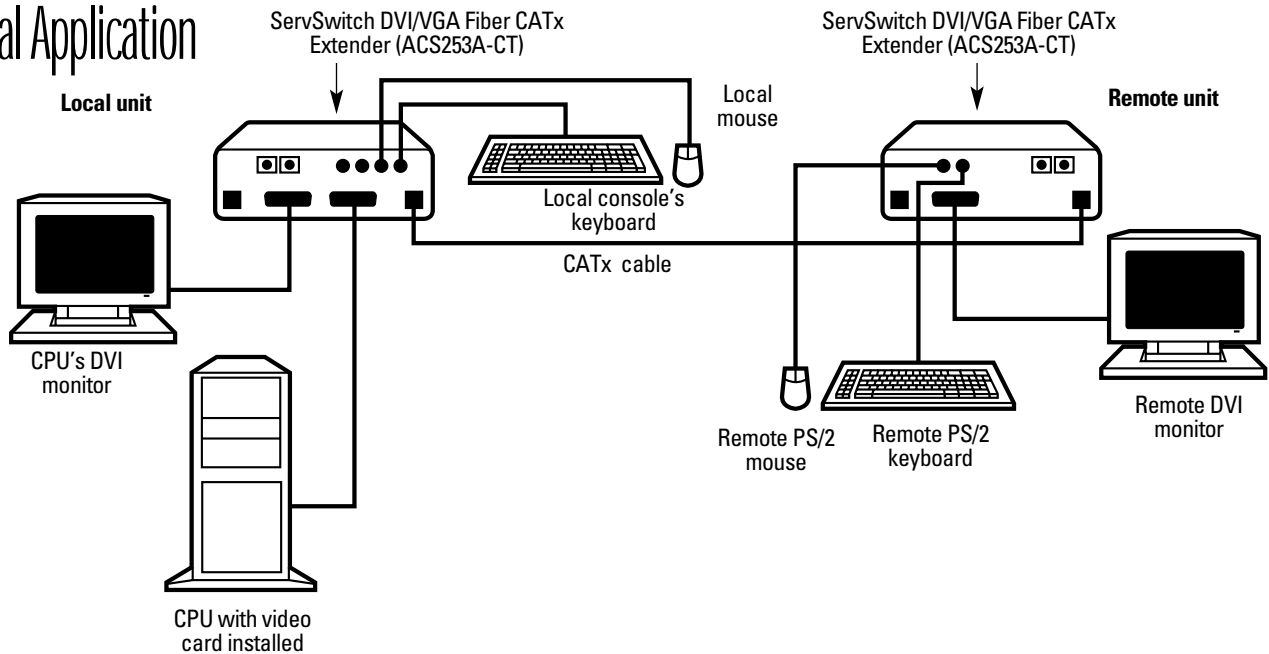
All models include a local unit (transmitter) and a remote unit (receiver). Connect the local unit to the computer's CPU or server directly with the included PS/2 cable, and attach the KVM console to the remote unit.

DVI and VGA adapters are also included.

The extenders work best with DVI (Digital Visual Interface) video displays. However, they also work with VGA displays, too, with an adapter cable.

Diagnostic LEDs on both local and remote units tell you link status, when the devices are ready, and when the units detect a video signal or valid mode. There's also an LED to indicate communication errors.

# Typical Application



## Specifications

**Video Compatibility:** Analog:  
VGA to XGA (separate sync,  
Composite sync, or sync-on-  
green);  
Digital: DVI

**Video Resolution (Maximum):**  
Monitor:  
VGA: 1600 x 1200 at 60 Hz;  
DVI: 1600 x 1200 at 60 Hz;  
Local access: VGA: 1600 x 1200;  
DVI: 1280 x 1024

**Distances (Maximum):**  
CATx: 300 ft. (91.4 m);  
Multimode:  
62.5  $\mu$ : 650 ft. (198.1 m);  
50  $\mu$ : 1300 ft. (396.2 m);  
Single-mode: 9  $\mu$ : 6.25 mi.  
(10.1 km)

**Fiber Optic Beam Divergence:**  
ACS253A-MM: 12°;  
ACS253A-SM: 4°

**Fiber Optic Wavelength:**  
ACS253A-MM: 850 nm;  
ACS253A-SM: 1300 nm

**Fiber Optic Total Output Power:**  
ACS253A-MM:  
< 400  $\mu$  W (as defined by IEC:  
50-mm aperture at 10-cm  
distance);  
< 70  $\mu$  W (as defined by FDA:  
7-mm aperture at 20-cm  
distance);  
ACS253A-SM:  
< 2000  $\mu$  W (as defined by IEC:  
50-mm aperture at 10-cm  
distance);  
< 180  $\mu$  W (as defined by FDA:  
7-mm aperture at 20-cm  
distance)

**Receiver Typical Sensitivity  
(Average Power):**  
ACS253A-MM: -20 dBm  
(-17 dBm maximum);  
ACS253A-SM: -22 dBm  
(-20 dBm maximum)

**Receiver Optical Budget Total:**  
ACS253A-MM: -14 dBm  
(-6.5 dBm minimum);  
ACS253A-SM: -18 dBm  
(-8 dBm minimum)

**Transmitter Typical Launch Power  
(Average) Into Fiber:**  
ACS253A-MM:  
50  $\mu$  or 62.5  $\mu$ : -5 dBm  
(-9.5 dBm minimum);  
ACS253A-SM: 9  $\mu$ : -3 dBm  
(-11 dBm minimum)

**Connectors:** ACS253A-CT: Local unit:  
(1) RJ-45 (CPU input);  
Remote unit: (1) RJ-45;  
ACS253A-MM, ACS253A-SM:  
Local unit: (1) pair of SC;  
Remote unit: (1) pair of SC;  
Video: Both local and remote  
units: (1) DVI-I M (for both DVI  
and VGA connections);  
Programming: Both local and  
remote units: (1) RJ-11

**Indicators:** (4) LEDs on both local  
and remote units:  
(1) Communication Error (flashing  
indicates errors detected);  
(1) Link Status (flashing indicates  
interconnection cable is not  
connected or not functioning);

(1) Device Ready (on indicates  
device is ready);  
(1) Video Signal (on indicates a  
video signal or valid mode is  
detected)

**Temperature Tolerance:** Operating:  
50 to 113°F (10 to 45°C);  
Storage: 23 to 131°F (-5 to +55°C)

**Humidity Tolerance:** 80%,  
noncondensing

**Power:** 90–240 VAC, 47–63 Hz,  
autosensing, external

**Size:** Each local and remote unit:  
5.2"H x 6.7"W x 1.7"D  
(13.2 x 17 x 4.3 cm)

**Weight:** Each local and remote unit:  
2.2 lb. (1 kg)

## What's Included

- (1) local unit
- (1) remote unit
- (2) universal power supplies ([1] for local unit, [1] for remote unit) and (2) power cords
- (1) DVI-I video cable (DVI-I male-to-female)
- (1) KVM CPU cable set, 6-ft. (1.8-m), with PS/2 (6-pin mini-DIN male-to-male) keyboard and mouse connector and a DVI-I video (DVI-1 dual-link male-to-male) connector
- (1) DB9 male to RJ-11 programming cable
- (2) DVI-I to VGA adapters (DVI-I male to HD15 female)
- (1) VGA to DVI-I adapter (HD15 male to DVI-I female)
- Users' manual

## Ordering Information

ITEM	CODE
ServSwitch DVI/VGA Fiber Extenders	
CATx .....	ACS253A-CT
Multimode.....	ACS253A-MM
Single-Mode.....	ACS253A-SM
<i>To rackmount your extenders, order...</i>	
19" Rackmount Kit.....	RMK253A
<i>If you need an extra power supply, order...</i>	
Power Supply .....	PS253A
<i>You may also need...</i>	
Ceramic Terminated Multimode Fiber Optic Cable, SC-SC, Duplex, Riser, Custom Lengths .....	
	EFN4025
Single-Mode Fiber Optic Cable, Duplex, 9- $\mu$ m/125- $\mu$ m, SC-SC, PVC, Custom Lengths .....	
	EFN5010