



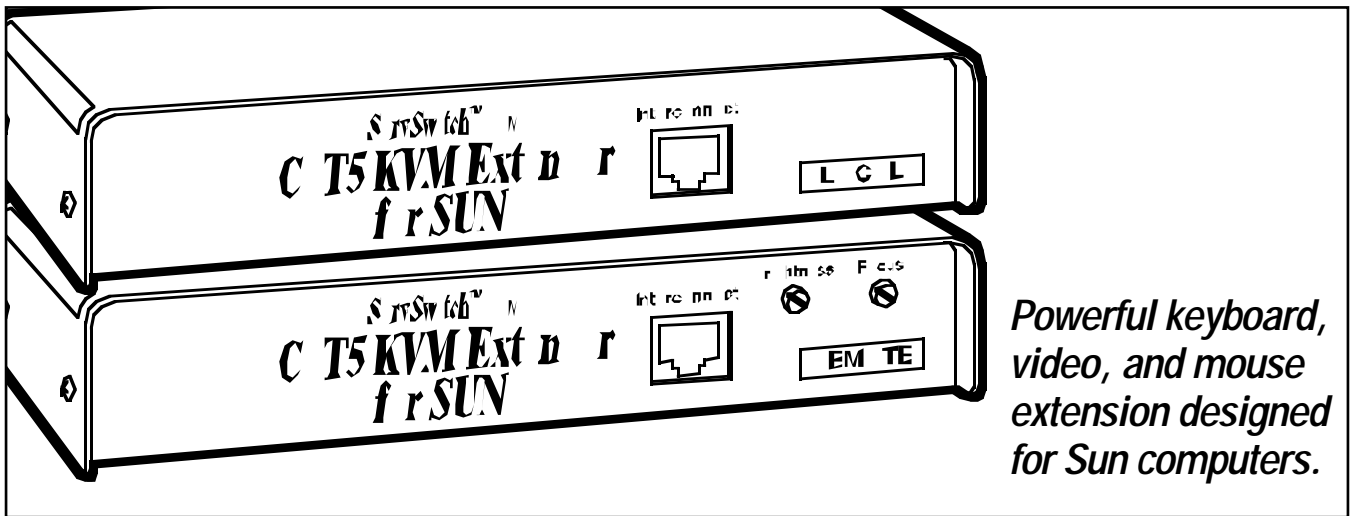
# BLACK BOX<sup>®</sup>

## NETWORK SERVICES

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## SERVSWITCH BRAND CAT5 KVM EXTENDER FOR SUN



*Powerful keyboard, video, and mouse extension designed for Sun computers.*

### Key Features

- ▶ **Drives Sun keyboard, video, and mouse signals over as much as 1000 feet (304.8 m) of Category 5 cable.**
- ▶ **Supports resolutions up to 1600 x 1280 at shorter distances.**
- ▶ **Fully adjustable video equalization and fully buffered signals.**
- ▶ **Intelligent keyboard and mouse emulation for hot-plugging and autobooting.**
- ▶ **Rackmountable.**
- ▶ **Dual-access model supports both local and remote user stations.**

People asked us, "Why don't you offer a keyboard/video/mouse extender for Sun<sup>®</sup> Microsystems<sup>®</sup> computers?" We do now! Use the ServSwitch<sup>™</sup> Brand CAT5 KVM Extender for Sun to control a Sun Microsystems CPU from a monitor, keyboard, and mouse as much as 1000 feet (304.8 m) away.

The single-access extender (ACU1004A) consists of a local unit to which you'll attach the CPU and a remote unit to which you'll attach the monitor/keyboard/mouse user station. You can also attach a *local* user station to the dual-access extender (ACU1005A).

You can run inexpensive Category 5 cable between the extender's local and remote units. (To use CAT5e or CAT6 cable, call Technical Support.) The extender can transmit video resolutions as high as 1600 x 1280 across this cable, although cable runs must

be kept shorter than the absolute maximum length to faithfully reproduce any resolution higher than 1024 x 768. Refer to the **Resolution** specification on the next page.

User-station equipment attaches directly to the extender, and a CPU can be attached to the local unit with included extension cables. ServSwitch family KVM switches can also be attached to the extender with the proper CPU or user cables—call Tech Support if you want to do this.

The extender buffers all of the signals it carries, so you'll enjoy smooth, transparent control. Use the remote unit's Brightness and Focus dials to get the best possible images on screen at the remote user station.

Because the local unit always emulates a directly attached keyboard and mouse, you can unplug and replug any keyboard

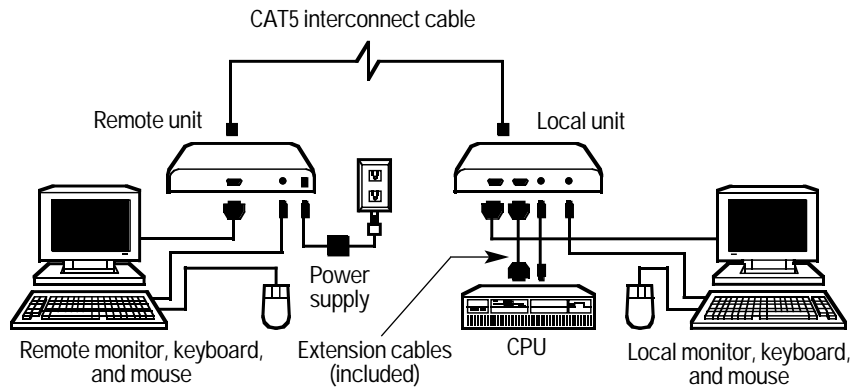
or mouse attached to the extender at any time without disrupting the booting or operation of your Sun CPU.

You can mount a local or remote unit of either extender model in a 19" rack using an extender rackmount kit (available separately). The units take up only 1U of rack space.

Ordinarily the two user stations attached to a dual-access extender will contend for access. One station will be granted control while the user at that station is typing at their keyboard or moving the mouse. Once this activity stops and a two- or fifteen-second "inactivity timeout" (you set how long) elapses, the user at the other station can take control.

However, in sensitive situations, users can put the extender in private mode to take exclusive, uninterruptible control.

*Installations with KVM switches are a little trickier, but—as you can see in this illustration of a dual-access extender system—CPUs, monitors, keyboards, and mice just plug right in.*



## Specifications

### Cable Required:

Between local and remote units: Category 5 solid unshielded or shielded twisted pair (UTP or STP), wired to the TIA/EIA-568A or (preferred) -568B standard, terminated with RJ-45 M connectors

**Compliance:** CE Class B, FCC Part 15 Subpart B Class A, IC Class/classe A

### Distance (Maximum):

16 ft. (4.9 m) from the local unit to the attached CPU or KVM switch;  
 16 ft. (4.9 m) from the remote unit to the attached monitor, keyboard, and mouse or the attached KVM switch;  
 1000 ft. (304.8 m) between local and remote units;  
 Dual-access (ACU1005A) model: 16 ft. (4.9 m) from the local unit to the attached keyboard and mouse; 100 ft. (30.5 m) from the local unit to the attached monitor

NOTE: With high-quality cables, it might be possible to run farther than 16 ft. (4.9 m) from the extender to attached equipment.

### Resolution:

Up to 1600 x 1280 noninterlaced at up to 200 ft. (61 m);  
 Up to 1280 x 1024 noninterlaced at up to 400 ft. (121.9 m);  
 Up to 1152 x 900 (standard Sun resolution) at up to 425 ft. (129.5 m);  
 Up to 1024 x 768 noninterlaced at up to 1000 ft. (304.8 m)

### Synchronisation:

H/V or composite, TTL signal levels; sync polarity is preserved

### User Controls: Remote unit:

(2) Front-mounted dials: Brightness and Focus;  
 (3) Internal video-distance (cable-length) jumpers;  
 (1) Internal 4-position DIP switch for various private-mode options (dual-access systems only)

### Video Bandwidth (to -3 dB):

Local unit: 150 MHz;  
 Remote unit: 300 MHz;  
 Across 328 ft. (100 m) of UTP: 95 MHz (with equalization)

**Video Compatibility:** VGA, SVGA, XGA, XGA-2, or RGB (sync on green), with adapters, can support older Sun monitors and/or video output from older Sun CPUs (call Black Box for technical support)

### Video Compensation:

3-stage continuously variable

### Video Coupling: DC

**Video I/O Signal Levels:** 0.7 volts peak-to-peak

### Interface:

Video: VGA;  
 Keyboard and mouse: Sun

### Connectors:

On local unit:  
 Front-mounted: (1) RJ-45 for local/remote interconnection;  
 Rear-mounted: (1) HD15 F for video input from computer; (1) 8-pin DIN F for keyboard and mouse output to computer;  
 Dual-access model (ACU1005A):  
 (1) HD15 F for video output to monitor;  
 (1) 8-pin DIN F for input from keyboard and mouse;  
 On remote unit:  
 Front-mounted: (1) RJ-45 for local/remote interconnection;  
 Rear-mounted:  
 (1) HD15 F for video output to monitor;  
 (1) 8-pin DIN F for input from keyboard and mouse;  
 (1) 2.5-mm center-positive barrel jack for power

### Temperature Tolerance:

32 to 104°F (0 to 40°C)

### Humidity Tolerance: 5 to 90%

noncondensing

### Enclosure: Steel

### Power:

Local unit: 5 VDC at up to 120 mA from CPU's keyboard port;  
 Remote unit: From desktop power supply, PSU1002E (certified to the relevant international safety standards);  
 Input: 100 to 240 VAC at 47 to 63 Hz from utility-power (mains) outlet, through detachable power cord and IEC 320 male inlet, to external transformer;  
 Output (isolated from mains ground): 9 VDC regulated, at up to 1 amp, from transformer to extender

**Size:** Each unit: 1.4"H x 8.8"W x 4"D (3.6 x 22.4 x 10.2 cm)

**Weight:** Each unit: 1.1 lb. (0.5 kg)

## The complete package

- (1) Extender local unit.
- (1) Extender remote unit.
- (1) 9-VDC 1-amp power-supply transformer and output cord.
- (1) Power-supply input cord suitable for your country or region.
- (2) Extension cables that will run from your CPU to the local unit:
  - (1) 6-ft. (1.8-m) Sun keyboard/mouse-extension cable with male 8-pin mini-DIN connectors.
  - (1) 5-ft. (1.5-m) VGA video-extension cable with one HD15 male connector and one HD15 female connector.
- (1) Users' manual.

## What else you might need

- Solid-core 4-pair Category 5 UTP or STP, pinned and paired according to TIA/EIA-568A or (preferably) TIA/EIA-568B, to run from your local unit to your remote unit. (Bulk CAT5 cable should be terminated with high-quality RJ-45 plugs.) If possible, do not use cable such as Category 5e or Category 6. If such cable is already installed at your site, you will need a delay line module or skew compensator. Call Black Box for details.
- A monitor for each user station (each monitor must work when attached directly to any of the CPUs connected to the extender).
- A standard 118-key Sun keyboard for each user station where users will need keyboard control.
- A standard 3-button Sun mouse for each user station where users will need mouse control.
- AC-power and data-line surge protectors.
- Rackmount kits.
- *If you're attaching ServSwitch family KVM switches: compatible user cables and/or CPU cables.*

## Ordering Information

ITEM	CODE
ServSwitch Brand CAT5 KVM Extender for Sun	
Single-Access Model.....	ACU1004A
Dual-Access Model.....	ACU1005A
<i>You might also need...</i>	
Solid 4-Pair CAT5 UTP Cable:	
Preterminated Patch Cable (specify length) .....	EYN737MS
Unterminated Bulk Cable, 1000-ft. (304.8-m)	
PVC	
Spool .....	EYN840A-1000
Box .....	EYN840A-B
Plenum	
Spool .....	EYN860A-1000
Box .....	EYN860A-B
Pack of (10) RJ-45 Plugs for CAT5 Bulk Cable .....	FM732
<i>To rackmount the extender, order...</i>	
Rackmount Kit for ServSwitch Brand CAT5 KVM Extenders .....	RMK19U-R2
<i>If you want to use CAT5e or CAT6 cable, order...</i>	
ServSwitch Brand CAT5 Extender Delay Line Module .....	ACUDLY
<i>For better twisted-pair performance, choose...</i>	
ServSwitch Wizard Skew Compensator .....	ACU5100A
<i>Call Black Box Tech Support for help determining your best options for AC-power and data-line protection.</i>	