

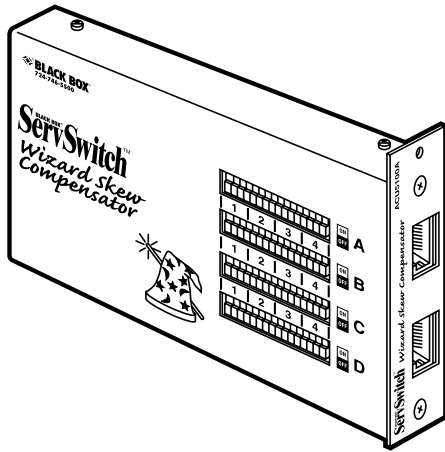


BLACK BOX[®]

NETWORK SERVICES

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SERVSWITCH[™] WIZARD SKEW COMPENSATOR



**Put a stop to color drift
on your video screen!**

Key Features

- ▶ **Corrects color split or separation when sending video over twisted pair.**
- ▶ **For use with higher cable grades, such as CAT5e and CAT6.**
- ▶ **DIP switches for fine-tuning color skew.**
- ▶ **Works with most analog KVM or video extenders.**
- ▶ **Daisychain units for greater distances.**
- ▶ **Installs at either the local or remote end.**
- ▶ **Interface powered.**
- ▶ **Mounts in Wizard Extender Chassis (ACU5000A).**

If you're experiencing shadows on your color screen, the problem may be in how the video signal is transmitted over twisted-pair wires. And the ServSwitch[™] Wizard Skew Compensator just may be the remedy.

The source of the skew

Twisted-pair cables typically have four pairs of wires and, to reduce crosstalk interference between the wire pairs, each of the pairs are normally twisted at slightly different rates. While this type of construction helps digital data transmission, it can be a problem when you use the same type of cable to transmit analog video signals.

In a video transmission, three different wire pairs are typically used to carry the red, green, and blue color components of the image. This arrangement can be problematic if a cable is too long and the twist rates of its wire pairs are different enough. Why? Because there's a significant difference in the total length of

wire that each color signal has to travel. This causes the color signals to arrive at their destination at different times and, in turn, skews the video colors when they're displayed. Colors may be slightly offset from one another, resulting in a red, green, or blue shadow around bright white objects.

Color-signal skew is more of a problem with higher-specification cables (such as CAT5e or CAT6), longer cables, and higher screen resolutions. If, for example, your installation runs a resolution of 1024 x 768 over 165 ft. (50 m) of CAT5 cable, you'll probably see minimal color separation. But an installation running a resolution of 1600 x 1200 over 330 ft. (100 m) of CAT6 cable will probably get a noticeable color split.

What the compensator does

The ServSwitch Wizard Skew Compensator is your answer if can't use a shorter or different type of twisted-pair cable or reduce your screen resolution.

Installed between your video source and destination, the device is designed to correct the video-color split or separation. It does this by deliberately delaying one or two of the color signals so that all the signals arrive at their destination at the same time.

The Wizard Skew Compensator has 16 banks of slide switches that correspond to colors on the different cable pairs. By adjusting these top-panel switches on or off, you change the control delay in nanoseconds on the individual wires until the color skew is to your liking and trailing shadows disappear.

This fine-tuning of the image "by eye" can be done in applications with or without a ServSwitch Wizard Extender (ACU5010A or ACU5011A) installed. The extender, however, can also be used to generate a report of recommended settings for the Wizard Skew Compensator. The extender compiles this report by applying signals to the cable to



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measure the differences between the twisted pairs. (Recommended settings should be fairly close to correct but can be fine-tuned manually by using the switches on the compensator.)

What you'll need

To install the Wizard Skew Compensator in your application, you'll need four-pair (eight-wire) shielded or unshielded twisted-pair cabling rated to at least CAT5. One cable segment should be long enough to connect the ACU5100A to your video source; and the other segment should be long enough to connect the ACU5100A to the video destination.

In order for you to experience optimal performance, both cable segments should pass through the fewest patch-panel connections as possible and the least possible length of lower-quality patch cabling.

Maximum cabling distances from the video source to video destination vary because a lot of it depends on the type of cable you use. Some cable with extreme skew can't be corrected by a single Wizard Skew Compensator if you intend to send signals greater than 100 m (328 ft.). Average cable, however, can

be corrected for over total distances up to 200 m (656 ft.). Higher-quality cable supports even greater distances. If your cable is good enough, you can daisychain two Wizard Skew Compensators together to compensate for skew over cabling distances up to 300 m (984 ft.)!

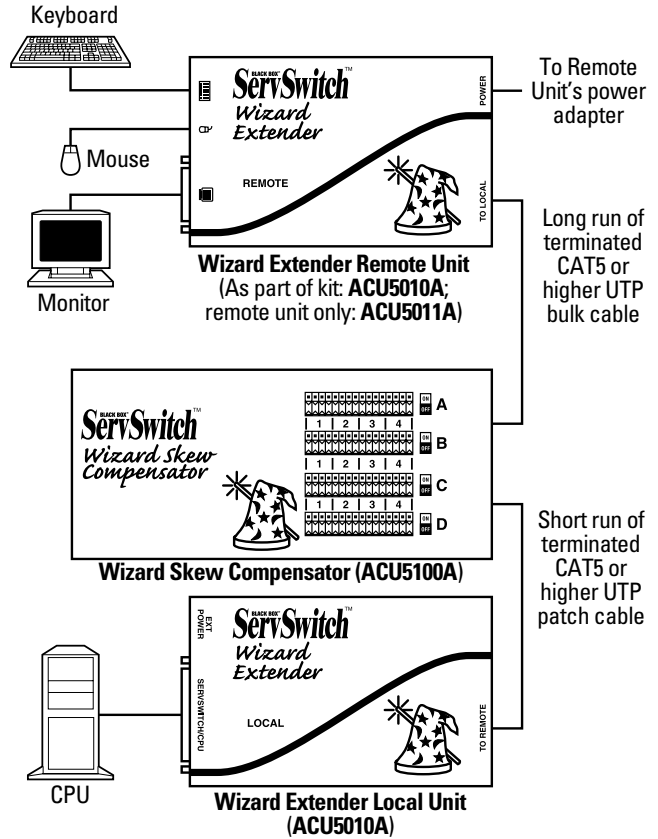
To install two compensators, run one cable from the video source to the first compensator, another cable from the first to second compensator, and a third cable from the second compensator to the video destination.

Mounting options

If you intend to use the ServSwitch Wizard Skew Compensator within a ServSwitch Wizard Extender system, the compensator unit can be mounted conveniently and easily in the Rackmount Chassis for ServSwitch Wizard Chassis (ACU5000A), which is designed to be mounted in a standard 19" equipment rack. The Skew Compensator comes with a pan-head screw for securing its endplate to the ACU5000A chassis.

To mount the unit on a wall or some other non-horizontal flat surface, you'll need adhesive mounting strips (not included).

Used with a ServSwitch Wizard Extender



A ServSwitch Wizard Compensator installed in a ServSwitch Wizard Extender (ACU5010A) system.

Specifications

Enclosure: Steel and stainless steel

Cable Required: Between the ACU5100A and other devices: Four-pair (eight-wire) Category 5 or higher shielded or unshielded twisted pair (STP or UTP)

Distance (Maximum): From video source to video destination: 100 to 200 m (328 to 656 ft.), however, the maximum distances depend on the type and construction of the cables; (2) units can be daisychained to support total distances up to 300 m (984 ft.); any patch cables used must be as short as possible

Interfaces: Twisted-pair composite including VGA red, green, and blue on three of the four wire pairs in a cable

User Controls: (16) top-mounted banks of (4) 3-terminal slide switches

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

Connectors: (2) RJ-45 F

Temperature Tolerance: 32 to 104°F (0 to 40°C)

Humidity Tolerance: 5 to 60% noncondensing

Power: From the interface

Size: 1"H x 6.5"W x 3.1"D (2.5 x 16.5 x 7.9 cm); rear edge of endplate protrudes an additional 0.4" (1 cm); optional stick-on feet protrude an additional 0.1" (0.3 cm)

Weight: 15.4 oz. (437 g)

Package Includes

- ServSwitch Wizard Skew Compensator
- (4) Rubber feet
- Pan-head screw for attaching the ACU5100A to a Rackmount Chassis for ServSwitch Wizard KVM Extender (ACU5000A)
- Users' manual

Ordering Information

ITEM	CODE
ServSwitch Wizard Skew Compensator.....	ACU5100A



Black Box offers the best warranty program in the industry—Fido Protection®. For more information, request **FaxBack 22512**.

NOTE: For details on the ServSwitch Wizard Extender family, request **FaxBack 26286** or go to www.blackbox.com and search by code (ACU5010A) within our online catalog.

