

## Code Operated Switch II

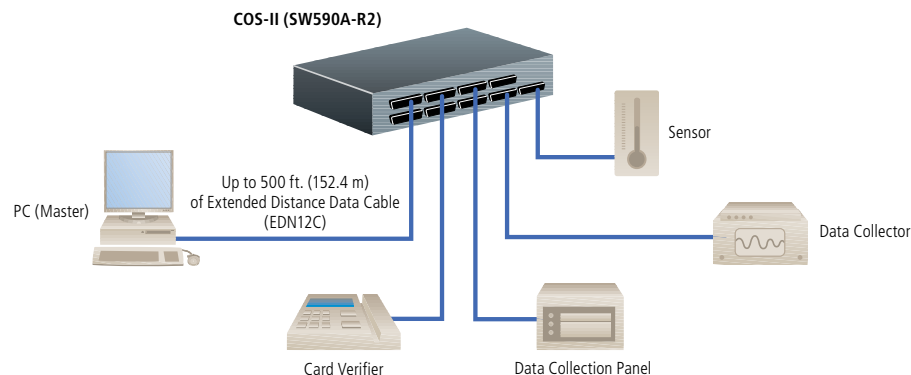
Control up to eight serial devices  
from your PC—any speed,  
any word structure.



## FEATURES

- » Enables individual port selection for word size, flow control, speed, parity, and DCE/DTE operation.
- » Converts between data rates from 110 to 19,200 bps; data formats of 7 or 8 data bits with even, odd, or no parity; and hardware or software flow control.
- » Features an 8 KB buffer for speed and word-format conversion; buffer downshifts data for slower devices.
- » User-settable “graphics pause” greatly reduces the chances of accidental switching.
- » 1-year warranty.
- » Call 724-746-5500 for customs orders!

Solve complex serial conversion problems simply—with the COS II.



## OVERVIEW

Control up to eight serial devices with your PC—and never lift a finger. Just set the [Code Operated Switch II](#) (COS II) to react to a control sequence of your choice—and walk away from everyday switching duties.

Since each port can handle a variety of data rates and formats, you can mix older plotters with newer laser printers and fast (up to 19.2 kbps) async modems.

When you use the COS II with printers or plotters, you can send your data to the best available output device without having to turn knobs, press buttons, or configure software. And when you set the COS II to look for a “pause period” before recognizing a control sequence, graphics files pass safely through the COS II without causing accidental switching.

And what about industrial machinery or test equipment? Tired of the constant hands-on intervention it requires? Just connect it and the PC/terminal of your choice to the COS II. You'll be able to manage lathes, meters, controllers, and more from your office or data center. And if you write a program for the master PC that includes the COS II's control codes, the PC can manage those devices without your even being there.

The COS II can convert between differing data rates, data formats, and types of flow control, and its 8-KB buffer preserves your data intact through these conversions.

In short, the COS II has the flexibility to adapt to nearly any group of serial devices. But if you have unusual requirements, we can custom-configure a COS II for you. Call Black Box Technical Support for more details.

### Typical Applications

Connect your PC to a laboratory device, a laser printer, a minicomputer, and a modem. Send and receive data almost transparently—the COS II resolves all of the differences between data rates and formats without any additional hardware or software.

Access several different types of printers and plotters through the COS II. It buffers data, overcomes flow-control differences, and handles graphics data smoothly.



SM5090A-R2:  
top: rear view;  
bottom: front view

## TECH SPECS

**Compliance** — FCC Part 15 Class A, DOC Class/MDC classe A  
**Interface** — RS-232, full-duplex, asynchronous  
**Protocol** — Asynchronous  
**Code Set** — ASCII  
**Data Format** — 7 or 8 data bits with even, odd, or no parity (user-selectable); 1 stop bit (fixed)  
**Flow Control** — Hardware (DTR/CTS) or software (X-ON/X-OFF), user-selectable  
**Operation** — Full-duplex  
**Data Rate** — 19,200, 9600, 4800, 2400, 1200, 600, 300, or 110 bps, user-selectable  
**Maximum Distance** — 50 ft. (15.2 m) to any attached device using standard cables, or 500 ft. (152.4 m) using Extended Distance Data Cables  
**Internal Memory** — 8 KB of buffer RAM  
**User Controls** — ASCII characters from master device; (7) Internal 8-pos. DIP switches: (2) for system options, (5 or 9\*) for port options; (5 or 9\*) Internal jumpers for DTE/DCE; (1) Front-mounted reset button  
 \*1 for each basic or expanded port  
**Diagnostics** — Various self-tests  
**Indicators** — (10) Front-mounted LEDs: (1) Power, (1) Lockout, and (8) Link Status  
**CE Approval** — Yes  
**Connectors** — (5 or 9\*) Rear-mounted DB25 female  
**Leads Supported** — Pins 1 through 8, 20, and 22  
**MTBF** — 20,000 hours (16,000 hours with Expansion Board)  
**Temperature Tolerance** — Operating: 32 to 113°F (0 to 45°C); Storage: -4 to 158°F (-20 to 70°C)  
**Humidity Tolerance** — 0 to 95% noncondensing  
**Enclosure** — Steel  
**Power** — Through nondetachable desktop power supply:  
 SW590A-R2: 115 VAC, 60 Hz; SW590AE-R2: 230 VAC, 50 Hz  
**Size** — 2.3"H x 12.2"W x 11"D (5.8 x 31 x 27.9 cm)  
**Weight** — Base unit with power supply: 9.6 lb. (4.4 kg); Expansion board: 0.6 lb. (0.3 kg)

*NOTE: Technical specification weight is the unit weight. It is not the packaged shipping weight. For shipping weight, please contact Black Box customer service at 877-877-2269.*

## Technically Speaking

- ◆ The control sequence of the Code Operated Switch II is a pair of ASCII characters: one "arming character" that gets the box's attention and prepares it to switch, and one "port-selection character" that identifies the port to switch to. You can select any of the 256 characters in the extended ASCII character set to be the arming character.
- ◆ Graphics data can include almost any combination of characters, including those of the COS II's control sequences. For this reason, the COS II has a "graphics pause" feature that allows it to handle graphics files without unintentional switching: A pause (an absence of data) whose length you can set must occur before the COS II will recognize a pair of characters as a control sequence; otherwise, the COS II will pass the characters as data.
- ◆ You can also choose whether the COS II passes the hardware flow-control leads DTR and CTS through to the attached devices, or uses them strictly to control its buffer.

## You may also need:

- ◆ A snap-in 4-Port Expansion Board for controlling four additional slave devices. You can install this circuit board in only minutes with just a screwdriver.
- ◆ An asynchronous RS-232 modem or line driver for long-distance control of your devices.
- ◆ RS-232 cable.
- ◆ AC and data-line surge protectors.
- ◆ A country-specific power cord or adapter for operating the COS II outside of North America.
- ◆ Communications software.

Item	Code
Code Operated Switch II	
115 VAC	SW590A-R2
230 VAC	SW590AE-R2
<b>You may also need...</b>	
4-Port Expansion Board	SW591C
Extended Distance Data Cable (12 conductors)	EDN12C