

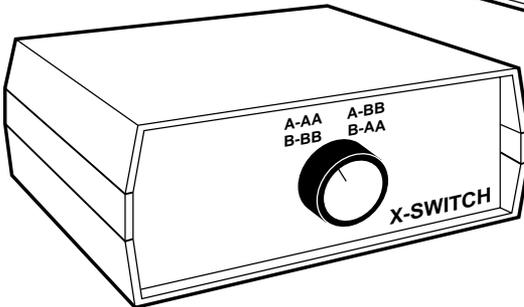
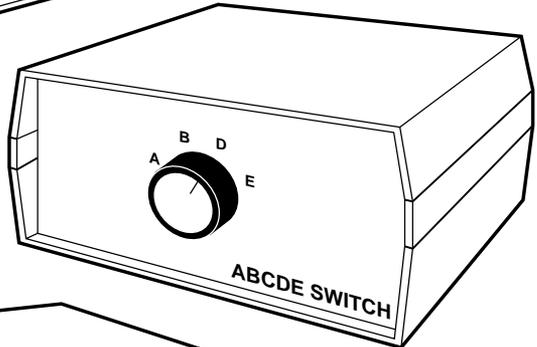
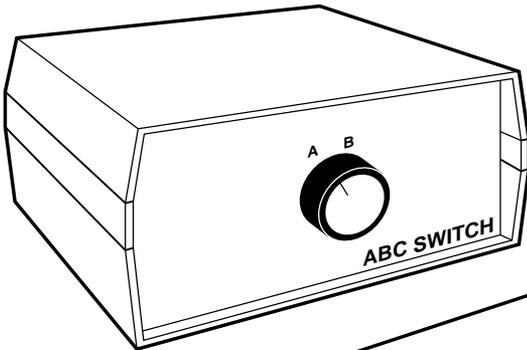


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ABC, ABCDE, X, and Dual Switches



**CUSTOMER
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INFORMATION**

To order or for technical support: Call 724-746-5500 or fax 724-746-0746
Technical support and fax orders 24 hours a day, 7 days a week
Phone orders 24 hours, 7 A.M. Monday to midnight Friday; Saturday 8 to 4 (Eastern)
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018

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1. Description

ABC, ABCDE, Dual Switches, and X Switches comprise a unique family of data-communications switches that provide fast and efficient ways to switch connections from compatible devices to other compatible devices. They provide a quick way to connect devices without the need to unconnect and reconnect numerous cables. These reliable switches have been used in hundreds of different applications and come in a wide variety of interfaces. All are available with either male or female connectors and are available in either rack mounted or standalone versions. Some models are available in EMI/RFI metal boxes for use in “noisy” environments such as around heavy machinery.

No power is required to operate the switches and they are transparent to all data, such as speed (up to 5 MHz) and code. All connections are made to the rear panel and the switches are manually switched from the knob on the rotary switch on the front panel.

2. Specifications

Enclosures — High-impact plastic (aluminum on EMI/RFI versions)

Connectors — 3, 4, or 5 mounted on the rear panel

Switches — Rotary, self wiping, break before make

Power — None required

Size — *Low box:* 2.5" x 6" x 6.3" (6.4 x 15.2 x 16 cm)

High box: 3.5" x 6" x 6.3" (8.9 x 15.2 x 16 cm)

Weight — *Low-box:* Approximately 1.4 lb. (0.63 kg)

High box: Approximately 1.6 lb. (0.726 kg)

High box: EMI/RFI version, approx 2 lbs (0.91 kg)

3. Installation and Operation of an ABC Switch

Installation of an ABC Switch is quick and easy and will vary only slightly depending on the type of interface being switched.

CAUTION

During installation of an ABC Switch, it is recommended that all equipment be turned off with no power applied to any component in the system.

1. Connect the cable from the device that is going to share the other two devices to the common connector marked “C” on the rear panel.
2. Connect the cable from one of the shared devices to the connector marked “A” on the rear panel and the cable from the other device to the connector marked “B.”
3. Turn on the equipment and operationally check its performance by having the common device send data to device “A” and then to device “B” by manually turning the knob on the front panel.

ABC Switch

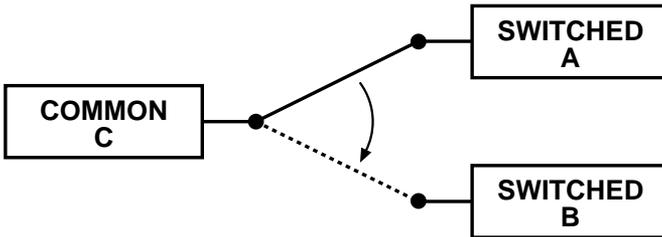


Fig. 3-1. Connections made are AC and BC — “C” is COMMON.

4. Installation and Operation of an ABCDE Switch

ABCDE Switches are useful for switching one device to any one of four other compatible devices. To install an ABCDE Switch, follow these steps:

CAUTION

During installation of an ABCDE Switch, it is recommended that all equipment be turned off with no power applied to any component in the system.

1. Connect the cable from the device that is going to share the other four devices to the common connector marked “C” on the rear panel.
2. Connect the cable from one of the shared devices to the connector marked “A” on the rear panel and connect the cables from the other devices to the connectors marked “B,” “D,” and “E.”
3. Turn on the equipment and operationally check its performance by having the common device send data to device “A” and then to devices “B,” “D,” and “E” by manually turning the knob on the front panel.

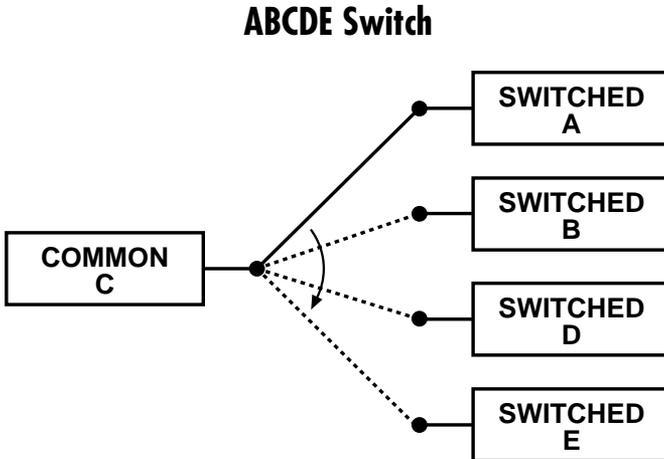


Fig. 4-1.

Connections made are AC, BC, DC, and EC — “C” is COMMON.

5. Installation and Operation of an X-Switch

X-Switches are useful for switching two devices to two other compatible devices in a crossover setup. Two sets of devices are connected at any one time. To install an X-Switch, follow these steps:

CAUTION

During installation of an X-Switch, it is recommended that all equipment be turned off with no power applied to any component in the system.

1. Connect the cable from the first device to the connector marked “A” on the rear panel and connect the cable from one of the shared devices to the connector marked “AA.”
2. Connect the cable from the second device to the connector marked “B” on the rear panel and connect the cable from the other shared device to the connector marked “BB” on the rear panel.
3. Turn on the equipment and operationally check its performance by having the two devices connected to the “AA” and “BB” connectors. Manually turn the knob on the front panel to the opposite position and again check the operation of the devices while ensuring that crossover operation takes place.

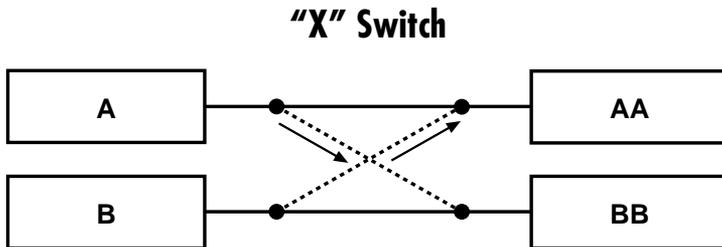


Fig. 5-1. Connections made are A-AA & B-BB or A-BB & B-AA.

GENERAL NOTE

It is not recommended to connect an HP® LaserJet® Series II printer to a manual switch. We recommend a powered automatic switch with that application.

6. Installation and Operation of a Dual Switch

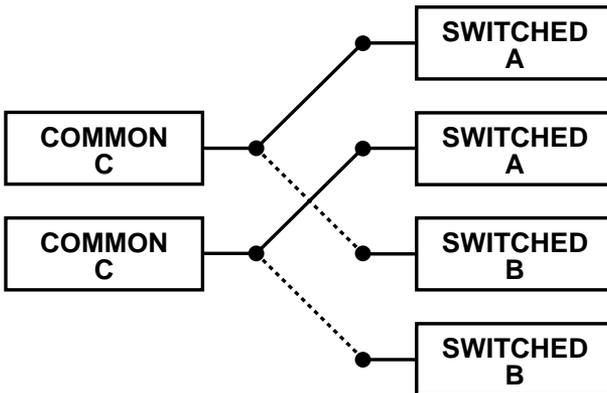
Installation of a Dual Switch is quick and easy and will vary only slightly depending on the type of interface being switched.

CAUTION

During installation of a Dual Switch, it is recommended that all equipment be turned off with no power applied to any component in the system.

1. Connect the cable from the two devices that are going to share the other two devices on “A” and “B” to the common connector marked “C” on the rear panel.
2. Connect the cable from the shared devices on “A” to the connectors marked “A” on the rear panel.
3. Connect the cable from the shared devices on “B” to the connectors marked “B” on the rear panel.
3. Turn on the equipment and operationally check its performance by having the common device send data to device “A” and then to device “B” by manually turning the knob on the front panel.

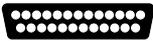
Dual Switch



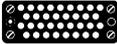
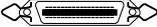
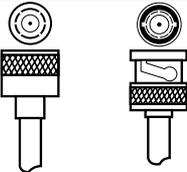
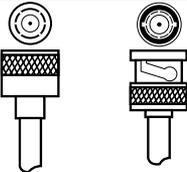
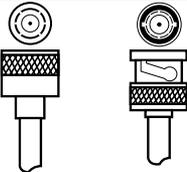
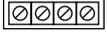
7. Interfaces and Supported Leads

The ABC, ABCDE, and X family of switches is available in a wide variety of interfaces along with custom applications. Shown here are some of the commonly used connectors along with the number of leads supported by each type of switch. If you have another application not shown here, please call for details.

Connectors & Leads Supported

	Connector (Interface)	Number of Leads Supported		
		ABC	ABCDE	X
	Berg-Type Header	48		
	DB25 (RS-232, RS-530, IBM® Parallel)	25, 12, or 4	24, 12, or 4	12 or 24
	DB37 (RS-449, RS-422, RS-423, Bernoulli®)	37	24	24
	DB50 (Dataproducts®, Datapoint®, UNIVAC®, & others)	48	24	24
	DB9 (449 Secondary, ATARI®, DAA, Video, & others)	9	9	9
	DB15 (Ethernet, TI™, NCR®, IBM PS/2®, & others)	15	15	15
	High Density DB15 (Monitor)	14	14	14

Connectors & Leads Supported

	Connector (Interface)	Number of Leads Supported		
		ABC	ABCDE	X
	M/34 (V.35)	17	17	17
	M/50 (Dataproducts, UNIVAC, DEC™, & Others)	48	24	24
	Centronics (Centronics®, Epson®, Gemini®, & most other parallel printers)	36	24	24
	IEEE-488 (GPIB, HP®-IB, & Others)	24	24	24
	Current Loop (Current Loop & other 2- and 4-wire interfaces)	4	4	4
	RJ-11 (Voice Telephone)	4	4	4
	RJ-45 (Data Telephone)	6	6	6
	TNC or BNC (Coaxial)	2	2	2
	TNC or BNC (WANG®)	2	2	2
	TNC or BNC (Dual Coaxial)	4	4	4
	Twinaxial (IBM Systems 34, 36, 38, 5520, AS/400®, & other twinaxial equipment)	2	2	2
	Barrier Block (Utility, Current Loop, and other 2- or 4-wires)	4	4	4
	Telco Telephone (Voice and Data)	50		
	5-Pin DIN (IBM PC Keyboard)	5	5	
	MMJ (DEC 423, DECconnect™ System)	6	6	6
	8-Pin Mini DIN (Apple® & Macintosh®)	8	8	8
	6-Pin Mini DIN (PS/2 Keyboard Video Switch)	6	6	6
	40-Pin Header	40		
	20-Pin Header	20		