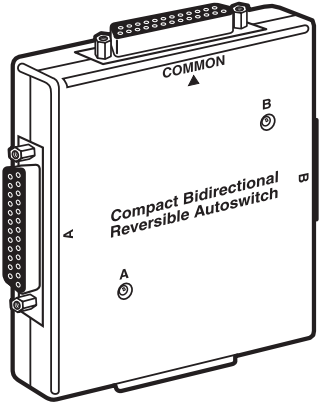
BLACK BOX
NETWORK SERVICES

JUNE 1999
SW177A

Compact Bidirectional Reversible Autoswitch



CUSTOMER SUPPORT INFORMATION

Order **toll-free** in the U.S. 24 hours, 7 A.M. Monday to midnight Friday: **877-877-BBOX**
FREE technical support, 24 hours a day, 7 days a week: Call **724-746-5500** or fax **724-746-0746**
Mail order: **Black Box Corporation**, 1000 Park Drive, Lawrence, PA 15055-1018
Web site: **www.blackbox.com** • E-mail: **info@blackbox.com**

TRADEMARKS USED IN THIS MANUAL

Centronics is a registered trademark of GENICOM Corporation.

DeskJet is a registered trademark of Hewlett-Packard.

Windows is a registered trademark of Microsoft Corporation.

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FEDERAL COMMUNICATIONS COMMISSION AND INDUSTRY CANADA RADIO FREQUENCY INTERFERENCE STATEMENTS

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio communication. It has been tested and found to comply with the limits for a Class A computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at his own expense will be required to take whatever measures may be necessary to correct the interference.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This digital apparatus does not exceed the Class A limits for radio noise emission from digital apparatus set out in the Radio Interference Regulation of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe A prescrites dans le Règlement sur le brouillage radioélectrique publié par Industrie Canada.

NORMAS OFICIALES MEXICANAS (NOM)
ELECTRICAL SAFETY STATEMENT

INSTRUCCIONES DE SEGURIDAD

1. Todas las instrucciones de seguridad y operación deberán ser leídas antes de que el aparato eléctrico sea operado.
2. Las instrucciones de seguridad y operación deberán ser guardadas para referencia futura.
3. Todas las advertencias en el aparato eléctrico y en sus instrucciones de operación deben ser respetadas.
4. Todas las instrucciones de operación y uso deben ser seguidas.
5. El aparato eléctrico no deberá ser usado cerca del agua—por ejemplo, cerca de la tina de baño, lavabo, sótano mojado o cerca de una alberca, etc..
6. El aparato eléctrico debe ser usado únicamente con carritos o pedestales que sean recomendados por el fabricante.
7. El aparato eléctrico debe ser montado a la pared o al techo sólo como sea recomendado por el fabricante.
8. Servicio—El usuario no debe intentar dar servicio al equipo eléctrico más allá a lo descrito en las instrucciones de operación. Todo otro servicio deberá ser referido a personal de servicio calificado.
9. El aparato eléctrico debe ser situado de tal manera que su posición no interfiera su uso. La colocación del aparato eléctrico sobre una cama, sofá, alfombra o superficie similar puede bloquea la ventilación, no se debe colocar en libreros o gabinetes que impidan el flujo de aire por los orificios de ventilación.

10. El equipo eléctrico deber ser situado fuera del alcance de fuentes de calor como radiadores, registros de calor, estufas u otros aparatos (incluyendo amplificadores) que producen calor.

11. El aparato eléctrico deberá ser connectado a una fuente de poder sólo del tipo descrito en el instructivo de operación, o como se indique en el aparato.

12. Precaución debe ser tomada de tal manera que la tierra fisica y la polarización del equipo no sea eliminada.

13. Los cables de la fuente de poder deben ser guiados de tal manera que no sean pisados ni pellizcados por objetos colocados sobre o contra ellos, poniendo particular atención a los contactos y receptáculos donde salen del aparato.

14. El equipo eléctrico debe ser limpiado únicamente de acuerdo a las recomendaciones del fabricante.

15. En caso de existir, una antena externa deberá ser localizada lejos de las lineas de energia.

16. El cable de corriente deberá ser desconectado del cuando el equipo no sea usado por un largo periodo de tiempo.

17. Cuidado debe ser tomado de tal manera que objectos liquidos no sean derramados sobre la cubierta u orificios de ventilación.

18. Servicio por personal calificado deberá ser provisto cuando:

    A: El cable de poder o el contacto ha sido dañado; u

    B: Objectos han caído o líquido ha sido derramado dentro del aparato; o

    C: El aparato ha sido expuesto a la lluvia; o

    D: El aparato parece no operar normalmente o muestra un cambio en su desempeño; o

    E: El aparato ha sido tirado o su cubierta ha sido dañada.

1. Specifications

Function #1 (Default) and #2 (File-Transfer Mode)

No. of Parallel Device Output Ports	1
No. of Computer Input Ports	2
Cable Type Required	IEEE 1284 Cables
Computer to Autoswitch	DB25 M/M
Device to Autoswitch	DB25 M/Centronics® 36 M
Maximum Cable Distance	5 meters (16 feet)
Maximum Transfer Rate	2 megabytes per second
No. of Device LEDs	None
Computer Input Port LEDs	2
Computer Input Port Selection	Auto/Manual
Time Out Selection	5, 10, 20, or 40 seconds
File-Transfer Port	A–B
Size	4.1"H x 3.7"W x 0.8"D (10.4 x 9.3 x 2.1 cm)
Weight	4.6 oz. (130 g)
Operating Temperature	41 to 104°F (5 to 40°C)
Optional Power Adapter	9 VDC, 500 mA
Certification	FCC, CE

Function #3 (Reverse Mode)

No. of Parallel Device Output Ports	2
No. of Computer Input Ports	1
Cable Type Required	IEEE 1284 Cables
Computer to Autoswitch	DB25 M/M
Device to Autoswitch	DB25 M/Centronics 36 M
Maximum Cable Distance	5 meters
Maximum Transfer Rate	2 megabytes per second
No. of Device LEDs	None
Computer Input Port LEDs	2
Computer Input Port Selection	Manual/Software
Size	4.1"H x 3.7"W x 0.8"D (10.4 x 9.3 x 2.1 cm)
Weight	4.6 oz. (130 g)
Operating Temperature	41 to 104°F (5 to 40°C)
Optional Power Adapter	9 VDC, 500 mA
Certification	FCC, CE

2. Introduction

The IEEE 1284 standard is found on most printers today. It enables bidirectional communication between the PC and the printer, which allows printer information to be sent back to the host PC using its built-in micro-processor. The Compact Bidirectional Reversible Autoswitch 2 to 1 supports full compatibility with IEEE 1284 modes, including Centronics, nibble, s pecial nibble, byte, Enhanced Parallel Port (EPP), and Enhanced Communication Port (ECP). It's reversible, which means it could go from one computer to two parallel devices or two computers to one parallel device. It also features manual-mode and auto-mode channel-port selection, and works with DOS, Windows 3.1, Windows 95, and Windows 98.

The Autoswitch supports IEEE 1284 parallel devices such as Zip™ drives, scanners, CD-ROMs, back-up tapes, digital CCD cameras, external hard drives, and Ethernet adapters.

3. Quick Start

This chapter contains four easy steps to set up your Autoswitch.

1. Be sure to turn off the power to your computers and printers.

2. Using an IEEE 1284 straight-through DB25 M/M cable, connect your computers to the Autoswitch.

3. Using an IEEE 1284 parallel cable, connect your printer to the Autoswitch.

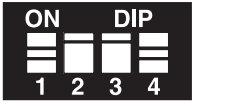
4. Turn on the power to your Autoswitch, computers, and printers. If you're letting two computers share one printer, the computers will print to the printer on a first-come, first-served basis.

Print the README file on the diskette for instructions on setting up the Autoswitch software driver.

4. DIP-Switch Settings

The four DIP switches on the side of the Autoswitch control Reverse Mode and the time-out settings.

4.1 Time-Out Settings



1	
ON	1►2
OFF	2►1

2	3	TIME-OUT
ON	ON	5 SEC.
ON	OFF	10 SEC.
OFF	ON	20 SEC.
OFF	OFF	40 SEC.

4.2 Reverse Mode

The factory-default mode is DIP-switch #1 set to OFF. When set to ON, the switch will be in Reverse Mode.

4.3 Reset Push Button

If the two LEDs for the computers do not flash alternately and at the same time, none of the computer ports can communicate to the parallel device. Reset the switch for synchronization between computers and parallel devices. Or if one computer runs the parallel device's software and locks, the port at all times, use the reset function to force the switch to return to Auto-Link Mode.

4.4 Auto-Link Mode

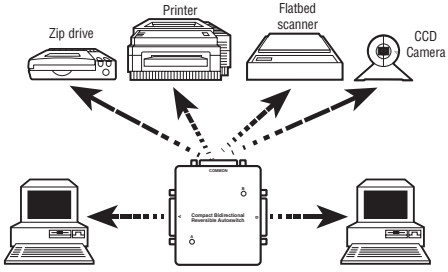
The Autoswitch will constantly scan its input ports and send the job to the attached parallel device. The cycle starts at Port A, then B, then A again.

4.5 Manual Mode

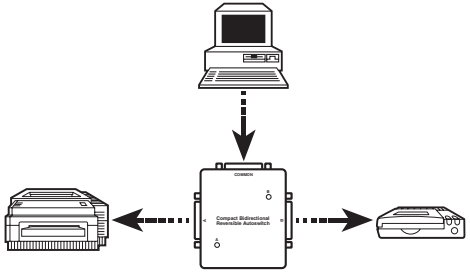
The Autoswitch has a Select button for manual port selection. When the Autoswitch is first powered ON, it is in Auto-Link Mode. After you press the Select button, it will be in Manual mode. Pressing the Select button again will put the Autoswitch back in Auto-Link mode.

4.6 Typical Applications

Two PCs Sharing One Parallel Device.
(Set the DIP Switch #1 to OFF, Factory Default.)



One PC Accessing Two Parallel Devices.
(Set the DIP Switch #1 to ON.)



5. Driver Software

5.1 Software Selection Mode

This Autoswitch comes with a driver diskette that contains driver software for DOS, Windows®, and Windows 95/98 to set the appropriate AutoSwitch working mode, which includes Function #1 (Default), Function #2 (File Transfer Mode), and Function #3 (Reverse Mode). The printer selection utility for the Autoswitch lets you change your parallel device selection from your computer.

Print the README file on the diskette for Autoswitch software driver setup instructions.

5.2 File Transfer Mode

Use the software selection utility to set the Autoswitch to File Transfer mode.

Refer to your file-transfer software's manual on how to use your parallel port for file transfer.

6. Troubleshooting

6.1 Common Problems

1. Check all the cables. We recommend you use IEEE 1284 cables.

2. Use the optional AC power adapter. The Autoswitch is usually powered by the signal drawn from the computer and parallel device parallel port. However, if the computer or the device fails to supply enough power to the Autoswitch, a 9-VDC, 500-mA power adapter can be used. We recommend using the power adapter on inkjet printers like the DeskJet®.

3. Adjust the timeout. If you print long document files with graphics, or use a printer spooler, adjust the timeout to a higher value. This is because as the computer processes complex files, it pauses more often. If the pause is longer than the timeout window, the Autoswitch will assume that the transmission is over and prematurely finish the job.

6.2 Calling Black Box

If you determine that your Autoswitch is malfunctioning, do not attempt to alter or repair the unit. It contains no user-serviceable parts. Contact Black Box Technical Support at 724-746-5500.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description, including:

- the nature and duration of the problem.
- when the problem occurs.
- the components involved in the problem.
- any particular application that, when used, appears to create the problem or make it worse.

6.3 Shipping and Packaging

If you need to transport or ship your Autoswitch:

- Package it carefully. We recommend that you use the original container.
- If you are shipping the Autoswitch for repair, make sure you include everything that came in the original package. Before you ship, contact Black Box to get a Return Materials Authorization (RMA) number.

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