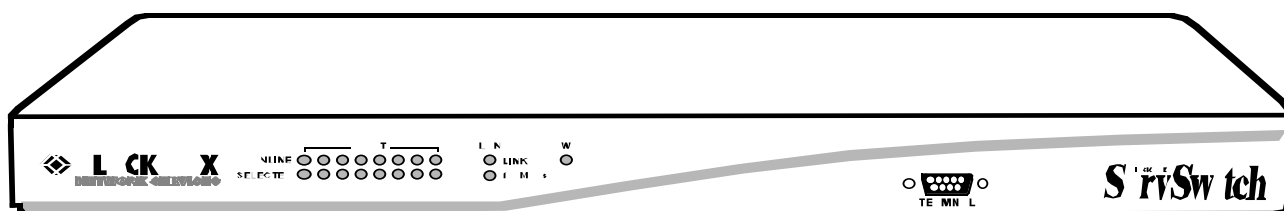




BLACK BOX®

NETWORK SERVICES

ServSwitch Digital Serie



Key Features

- ▶ **Flexibility** — Access and control any data center device from a single screen with the KVS180A-VIEW1 Windows application
- ▶ **Scalability** — Grows with your expanding IT environment by providing control for an unlimited number of servers: adding a user is as simple as adding a client
- ▶ **Compact Design** — Optimizes valuable rack space in 1U design
- ▶ **CAT 5 Cabling** — reduces cable bulk
- ▶ **Flash Upgradeable** — Firmware designed for future hardware compatibility
- ▶ **Connectivity** — digital paths and analog ports on the KVS186A and KVS187A models

BLACK BOX's ServSwitch Digital Series (SSD) brings you a digital, internet-based management solution in a single, comprehensive system. This solution provides enterprise customers with a significant reduction of cable volume, secure remote access and flexible server management from anywhere at anytime. The SSD Series consists of a rack-mountable KVM switch configurable for analog or digital connectivity. Models currently available include the KVS180A, KVS186A, the KVS187A and the KVS188A. Each SSD Series model has 8 or 16 input ports and provides enhanced video quality of 1280 x 1024 for digital users (up to 5 meters) and 1600 x 1280 for the local user. The SSD Series works over standard LAN connections. Up to four simultaneous users can access servers across a 100Base-T Ethernet connection or directly through a local port on the SSD for digital KVM and administration, depending on the model selected. The IP-based SSD Series gives you flexible server management control from anywhere in the world.

Reduce cable bulk

With server densities ever increasing, cable bulk remains one of the major concerns of every network administrator. The SSD Series (except KVS180A, LES2600A-8 and LES2600A-16) significantly relieves KVM cable volume in the rack by utilizing the innovative

LESIOSSD-PS2 cable and single CAT 5 cabling. This allows you higher server density while providing greater airflow and cooling capacity. The LESIOSSD-PS2 cable is powered directly from the server and provides Keep-alive functionality whether or not the SSD unit is powered up.

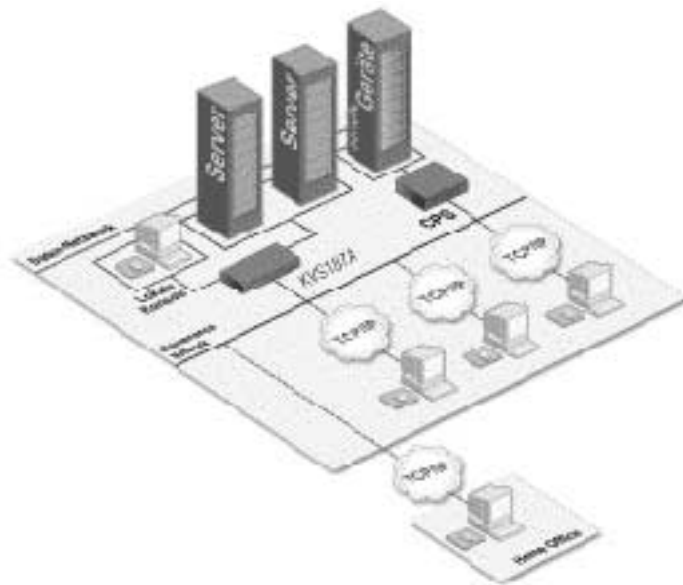
Access the SSD via network connection

No special software or drivers are required on the attached, or Host, computers. Users access the SSD unit and all attached systems via Ethernet from a PC running the KVS180A-View1 software program. This software resides on the user PC.

User PCs can be located anywhere a valid network connection exists. The SSD unit can be configured on a separate network from your data network, allowing access to your servers even if your applications network is down. KVS180A-View1 provides a simple user interface for accessing servers. When a user connects, the KVS180A-View1 user interface will display a listing of all computers and serial devices to which the user has permission to access. When a user selects a computer from the list, the video of the selected computer is displayed in the program window. Multiple servers can be accessed by one user. Each additional computer's video will appear in a

separate program window.

Proprietary KVS180A-ADM and SSDAuthentication Service for creating and managing user permissions for superior security. An administrator describes the configuration of computers attached to the SSD using an application called KVS180A-ADM. Once the topology is described, the administrator then establishes which computers a user has permission to access. Usernames and passwords are derived from Windows NT, eliminating the need for redundant user databases. Once the topology is established, the SSDAuthentication Service software manages the system's user permissioning. KVS180A-View1 polls the server for access permissions on power-up and every time a switch is initiated for the most current permissions possible. A refresh is also available for immediate updates to a user's access profile. In addition to the permissioning function, the SSD Authentication Service also stores pertinent information about attached devices in a database. Room location, rack location and computer type can all be stored for quick reference.



Specifications

Server Ports —

Number - 16
 Types - PS/2 Keyboard, PS/2 Mouse
 Connectors - RJ45
 Sync Types -
 Separate horizontal and vertical
 Plug and Play - DDC2B
 Video Resolution -
 - Local Port Maximum
 1600 x 1280 @75Hz
 - Digital Port Maximum
 1280 x 1024 @75Hz

Dimensions —

H4.45 x W43.18 x D27.94cm
 Weight - 3.6kg without cables
 Power Consumption - 25 watts
 AC-input power - 40W maximum
 AC-input Range - 100 to 240 VAC
 AC-input current rating - 1A
 AC Frequency - 50 -60 Hz Auto Sensing
 Operating Temperature -
 0 to 40 degrees Celsius
 Humidity - 10 to 95%noncondensing
 Agency Approvals - EN55022 Class A,
 EN55024, EN6200-3-2,
 EN6100-3-3, FCC15 Class A,
 VCCI Class A, IEC950,EN60950,
 UL 1950 third edition,
 CSA C22.2 No.950

Configuration Port —

Number - 1
 Type Serial - RS232
 Connectors - DB9 Male

Network Connection —

Number - 1
 Type Ethernet - IEEE 8023,10 Base-T,
 Fast Ethernet: IEEE 802.3U, 100Base-T
 Connector - RJ45

Local Port —

Number - 1
 Type - PS/2 and VGA

User Consoles —

Type PC running Windows NT or 2000
 OS and DSR console application
 Minimum Configuration-300MHz
 Pentium III, 64Mb RAM, 100Base-T, NIC,
 XGA Video
 Recommended Configuration - -450MHz
 Pentium III , 128Mb Ram, 100Base-T
 NIC, SXGA Video

Ordering information

ITEM	CODE
ServSwitch Digital, 8 Server, 8 IP-Connections, Platforms: PS/2, SUN, USB	.KVS180A
ServSwitch Digital, 16 Server, 1 IP- Connections / 1 local, Platform: PS/2	.KVS186A
ServSwitch Digital, 16 Server, 2 IP- Connections / 1 local, Platform: PS/2	.KVS187A
ServSwitch Digital, 16 Server, 4 IP- Connections, Platform: PS/2	.KVS188A
CPU Interface Module PS/2	.KVS1Q-PS2
ServSwitch Digital Console Port Server, 8 serial, 8 IP- Connections, Platforms: Serial-based Devices	.LES2600A-8
ServSwitch Digital Console Port Server, 16 serial, 16 IP- Connections, Platforms: Serial-based Devices	.LES2600A-16
Administrator Software	.KVS180A-ADM
User Software, 1 License	.KVS180A-View1
User Software, 5 Licenses	.KVS180A-View5

KVS180A

Key Features

- ▶ Control servers with secure, powerful KVM connectivity, using ordinary network connections.
- ▶ Access an unlimited number of servers. ServSwitch Digital's 'KVM OVER IP' works with your existing network architecture.
- ▶ Provide access to virtually any number of users who can access your servers from any IP connection.
- ▶ Save time with a flexible and scalable design. Ethernet technology simplifies expansion and configuration.
- ▶ Eliminate distance limitations. Access your servers from across the building or across the world.

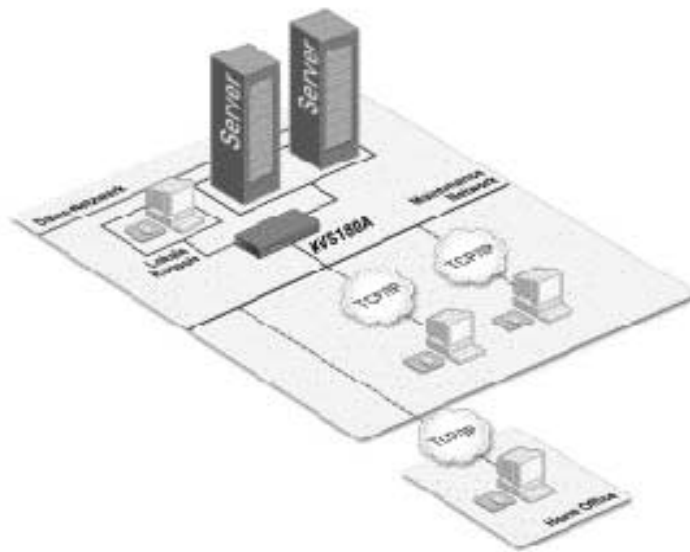
Designed for demanding IT environments, BLACK BOX's ServSwitch Digital Series (SSD) offers superior digital KVM switching for multiplatform, multilocation, multidevice access and control. This proven 8-port switch in the SSD Series simplifies access and control with a Windows application called KVS180A-View1. With KVS180A-View1, you can access all of your data center devices from a single screen.

KVS180A is a digital KVM switching solution that provides administrators

complete access to an unlimited number of servers or devices in their network, from any location. This 8-port appliance leverages existing networking infrastructure to transmit KVM signals over TCP/IP, rather than relying on proprietary KVM cabling. KVS180A features unlimited scalability and advanced security features as well as an easy-to-use GUI interface.

With the exclusive KVM OVER IP technology, KVS180A is the most proven solution for accessing and controlling any server, from any location.

KVS180A-View1 provides a consolidated, Windows GUI interface for controlling not only servers, but any network device attached to the KVS180A or SSD Series network appliance.



KVS180A-VIEW1 Software

The cornerstone of the ServSwitch Digital Series (SSD), KVS180A-View1 is a Windows application that provides point-and-click control of devices connected to a SSD Series appliance. KVS180A-View1 uses industry standard TCP/IP (Ethernet) connections and DES encryption to transmit KVM signals and provides IT administrators with a consolidated view of all connected data center devices via the ServSwitch Digital network appliances.

The KVS180A-View1 Windows application eliminates the need for proprietary GUIs and removes the barrier of distance limitations by providing industry standard IP connections.

With KVS180A-View1, IT administrators can easily troubleshoot, or even reboot multiple servers or serial devices from the NOC, from their desk or from any location in the world, using standard TCP/IP connections.

KVS180A-View1, KVS180A-ADM and SSD-Auth applications work with KVS180A-View1 to provide centralized network access, control and security for the SSD Series network appliances.

KVS180A-ADM configures topology, permissions and per-device contact information. SSD-Auth stores the topology, permissions and per-device contact information and performs third party authentication during connection to the SSD Series appliances.

Specifications

Dimensions —

H4.3 x W43.7 x D27.9 cm

Environmental/Power

Operating Temperature —

5°C to 40°C

Operating Voltage —

100 - 240 VAC

Power Frequency —

50 - 60 Hz

Supported Hardware

Computers —

Sun, USB and PS/2

Monitors —

VGA, SVGA (XGA, XGA-II with adaptor)
maximum resolution:

1280 x 1024 @ 85 Hz

Peripherals —

PS/2 keyboard, PS/2 mouse,
IntelliMouse (PS/2 onsy), IBM
Scrollpoint, Logitech Mouseman, Logitech
marble Plus, Logitech Marble FX and
Kensington Expert mouse

Agency Approvals —

UL 190, CSA C22.2 No. 950, EN60950,
IEC 950 FCC part 15A, EN55022,
EN50082

Ordering information

ITEM	CODE
ServSwitch Digital, 8 Server, 8 IP-Verbindungen	.KVS180A
User Software, 1 Licence	.KVS180A-VIEW1
User Software, 5 Licences	.KVS180A-VIEW5
Administrator Software	.KVS180A-ADM

KVS186A

Key Features

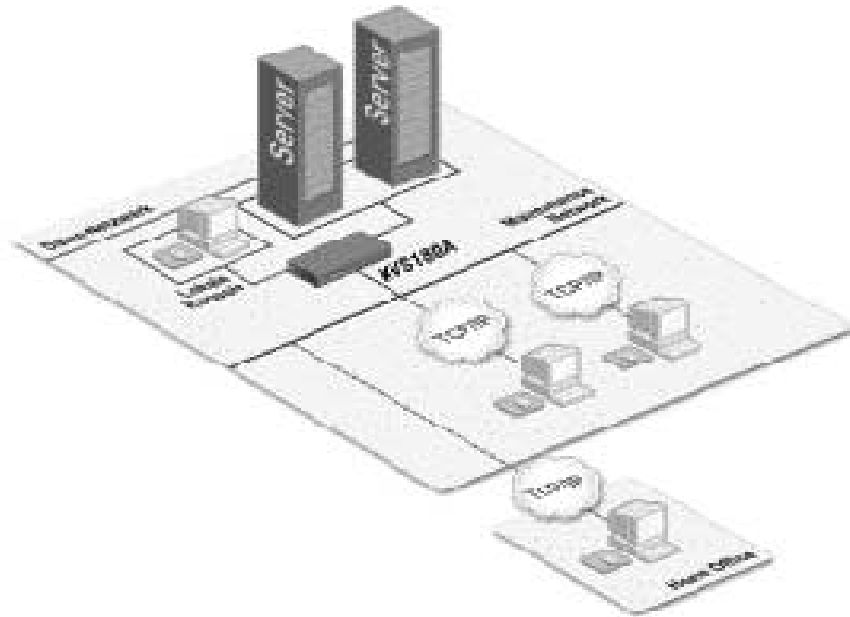
- ▶ A KVM network appliance which combines digital and analog technology, featuring connections for 16 servers in a 1U chassis.
- ▶ Provides analog access at the rack, and digital IP access at the desk, in the NOC or any location around the world.
- ▶ Managed with the patented OSCAR on-screen GUI for access at the rack. Managed with KVS180A-View1 Windows application for KVM OVER IP access from any location.

This 16-port switch provides both digital and analog connectivity to PC-based servers. The KVS186A model contains one local port for access at the rack and one Ethernet port for IP access. The patented OSCAR on-screen GUI reporting interface provides reliable rack level access and control.

BLACK BOX's KVS180A-View1 Windows application offers powerful access for IP-based server management from any location in the world: from your desk, in the NOC or from any location in the world.

The KVS186A works with the LESIQSSD-PS2 smart cable for CAT 5 cabling connectivity from the switch to

the server. With its CAT 5 design, the LESIQSSD-PS2 significantly reduces cable bulk in the rack and is well suited for high-density installations.



Specifications

Server Ports —

Number — 16
 Types — PS/2 Keyboard, PS/2 Mouse
 Connectors — RJ45
 Sync Types — Separate horizontal and vertical
 Plug and Play — DDC2B
 Video Resolution —
 Local Port max. 1600x1280 @ 75Hz
 Digital Port max. 1280 x 1024 @75Hz

Dimensions —

Dimensions — 4.45H x 43.18W x 27.94D, 1U form factor

Weight — 3.6 kg without Cables
 Power Consumption — 25 watts
 AC-input power — 40W maximum
 AC-input Range — 100 to 240VAC
 AC input current rating — 1A
 AC Frequency — 50 - 60 Hz Auto Sensing
 Operating Temperature — 0° to 40° C
 Agency Approvals — EN55022 Class A, EN55024, EN6200-3-2, EN6100-3-3, FCC15 Class A, VCCI Class A, IEC950, EN60950, UL1950 third edition, CSA C22.2 No. 950

Configuration Port —

Number — 1
 Type — Serial RS232
 Connector — DB9 Male

Network Connection —

Number — 1
 Type — Ethernet: IEEE8023, 10Base-T
 Fast Ethernet: 802.3U, 100Base-T
 Connector — RJ45

Local Port—

Number — 1
 Type — PS/2 and VGA

Ordering information

ITEM

CODE

ServSwitch Digital, 16 Server, 1 IP-Verbindungen, 1 lokale Konsole
KVS186A

KVS187A

Key Features

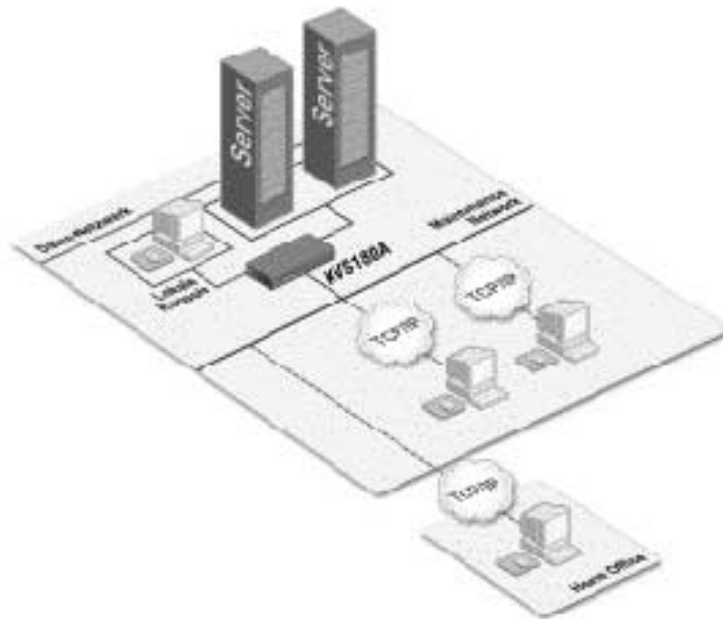
- ▶ A KVM network appliance that combines the power of digital and analog technology and provides connections for 16 servers in a 1U chassis.
- ▶ Provides analog access at the rack, and digital IP access at the desk, in the NOC or any location around the world.
- ▶ Managed with the patented OSCAR on-screen GUI for access at the rack. Managed with BLACK BOX's KVS180A-View1 Windows application for IP access from any location.

The KVS187A is a 16-port system that combines digital and analog technology into a 1U chassis. The KVS187A model contains one local port for access at the rack and two Ethernet ports for IP access. The KVS187A works with the patented OSCAR on-screen GUI reporting interface for reliable rack level access and control.

BLACK BOX's KVS180A-View1 Windows application offers powerful access for IP-based server management from any location in the world: from your desk, in the NOC or from any location in the world.

The KVS187A works with the LESIQSSD-PS2 smart cable for CAT 5 cabling connectivity from the switch to the server. With its CAT 5 design, the

LESIQSSD-PS2 significantly reduces cable bulk in the rack and is well suited for high-density installations.



Specifications

Server Ports —

Number — 16
 Types — PS/2 Keyboard, PS/2 Mouse
 Connectors — RJ45
 Sync Types — Separate horizontal and vertical
 Plug and Play — DDC2B
 Video Resolution —
 Local Port max. 1600x1280 @ 75Hz
 Digital Port max. 1280 x 1024 @75Hz

Dimensions —

Dimensions — 4.45H x 43.18W x 27.94D, 1U form factor

Weight — 3.6 kg without Cables
 Power Consumption — 25 watts
 AC-input power — 40W maximum
 AC-input Range — 100 to 240VAC
 AC input current rating — 1A
 AC Frequency — 50 - 60 Hz Auto Sensing
 Operating Temperature — 0° to 40° C
 Agency Approvals — EN55022 Class A, EN55024, EN6200-3-2, EN6100-3-3, FCC15 Class A, VCCI Class A, IEC950, EN60950, UL1950 third edition, CSA C22.2 No. 950

Configuration Port —

Number — 1
 Type — Serial RS232
 Connector — DB9 Male

Network Connection —

Number — 1
 Type — Ethernet: IEEE8023, 10Base-T
 Fast Ethernet: 802.3U, 100Base-T
 Connector — RJ45

Local Port—

Number — 1
 Type — PS/2 and VGA

Ordering information

ITEM

CODE

ServSwitch Digital, 16 Server, 2 IP-Verbindungen, 1 lokale Konsole

.....KVS187A

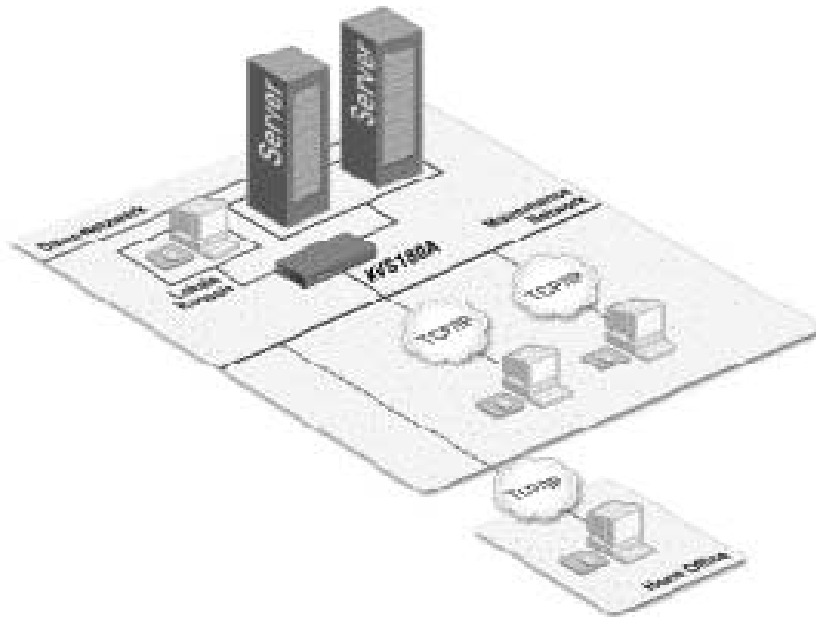
KVS188A

Key Features

- ▶ A KVM network appliance that features IP connectivity and connections for 16 servers in a slim 1U chassis.
- ▶ Provides digital IP access at the desk, in the NOC or any location around the world.
- ▶ Managed with the KVS180A-View1 Windows application for IP access from any location.

The KVS188A switch provides access for an unlimited number of user locations using IP connections; up to four of these users can be simultaneous. This 16-port system is accessed and controlled with the KVS180A-View1 Windows application for 'point-and-click' control to any connected PC-based server. KVS180A-View1 uses industry standard TCP/IP connections so that you can easily troubleshoot, or even reboot a

server, from the NOC, from your desk, or from any location in the world. The KVS1Q-PS2 smart cable provides CAT 5 connectivity from the switch to the server. This slim CAT 5 design significantly reduces cable bulk in the rack and is designed for high density server environments.



Specifications

Server Ports —

Number — 16
 Types — PS/2 Keyboard, PS/2 Mouse
 Connectors — RJ45
 Sync Types — Separate horizontal and vertical
 Plug abd Play — DDC2B
 Video Resolution —
 Local Port max. 1600x1280 @ 75Hz
 Digital Port max. 1280 x 1024 @75Hz

Dimensions —

Dimensions — 4.45H x 43.18W x 27.94D, 1U form factor

Weight — 3.6 kg without Cables
 Power Consumption — 25 watts
 AC-input power — 40W maximum
 AC-input Range — 100 to 240VAC
 AC input current rating — 1A
 AC Frequency — 50 - 60 Hz Auto Sensing
 Operating Temperature — 0° to 40° C
 Agency Approvals — EN55022 Class A, EN55024, EN6200-3-2, EN6100-3-3, FCC15 Class A, VCCI Class A, IEC950, EN60950, UL1950 third edition, CSA C22.2 No. 950

Configuration Port —

Number — 1
 Type — Serial RS232
 Connector — DB9 Male

Network Connection —

Type — PC running Windows NT or 2000 OS and SSD console application
 minimum Configuration-300MHz
 Pentium III, 64Mb RAM, 100Base-T NIC, XGA Video
 Recommended Configuration-450MHz
 Pentium III, 128Mb RAM, 100Base-T NIC, SXGA Video

Local Port—

Number — 1
 Type — PS/2 and VGA

Ordering information

ITEM

CODE

ServSwitch Digital, 16 Server, 4 IP-VerbindungenKVS188A
 ServSwitch Digital Server Interface Module for VGA, PS2,
 Keyboard and MouseKVS1Q-PS2

LES2600A-8 / LES2600A-16

Key Features

- ▶ 8 or 16 RS-232 console port connections
- ▶ 10/100Base-T port for attachment to IP network
- ▶ Secure access through password protection
- ▶ Up to 16 simultaneous sessions
- ▶ Provides connectivity to devices such as: Servers, Routers, Power management devices, UPS, Power Switch, Telco and network switches, Firewalls, DSLAM's.
- ▶ Full non-blocked access.
- ▶ Break Suppression, protection from unintended break commands to Sun servers.
- ▶ KV180A-View1 – Point-and-click access and control of data center devices.

ServSwitch Digital Console Port Server LES2600A-8/-16 provides access to serial console ports through local or remote IP connections.

LES2600A-8/-16 significantly enhance BLACK BOX's suite of rack-optimized solutions for local and remote data center management. The LES2600A-8/-16 provide system administrators with a centralized way to manage serial-based

devices, including UNIX and Linux servers, through local and IP connections. In conjunction with the KVS180A and other ServSwitch Digital solutions, the LES2600A-8/-16 product line offers a full range of KVM and console connectivity to servers and serial devices in the data center. vConsole extends the LES2600A-8/-16 solution by providing a Java-based management utility that lets you easily

view all of your serial devices in one list! This cross-platform utility consolidates device discovery into a single cross-platform application – providing an advanced solution for data center management.

What is CPS technology and how does it simplify access to serial devices?

LES2600A-8 is an appliance-like Telnet server that provides a 100Base-T port for network attachment and eight serial ports for attachment to console ports of devices such as servers and routers. LES2600A-16 provides 16 ports for attachments to these console ports. With an on-board database of up to 64 user passwords, the LES2600A-16 is able to host 16 simultaneous Telnet sessions for management of attached devices. With up to 32 console port connections within the space of a single 19" 1U rack, the LES2600A-8/-16 is ideal for use with lowprofile servers and communication devices.

vConsole™ simplifies device detection and discovery, ships free with each Console Port Server unit

A free Java-based management utility, vConsole, is shipped with each LES2600A-8/-16 unit. This cross-platform utility consolidates device discovery, installation, administration, access and control into a single cross-platform application. Let vConsole help you organize your data center. Imagine being able to view all serially managed devices in one list.

vConsole Features:

- Java-based graphical management utility
- Tree view interface for device selection
- Ease of device access through built-in
- Telnet client and browser interface
- Single user with password protection
- Auto-discovery of data center devices

Specifications

Dimensions —
4.4Hx22W x 20D cm

Operating Temperature —
0° - 40°C

Operating Voltage —
10 - 250VAC

Power Frequency —
50 - 60 Hz, 0.5A

Agency Approvals—
IEC No. 60950 2nd edition A1, A2, A3, A4, CSA C22.2 No. 950, UL 1950 3RD EDITION, IEC CB Scheme, FCC Part 15 Class A, EN 55022: 1998, EN55082-1 Immunity, 73/23/EEC, EMC Directive 89/336EEC, CE- Mark 93/68EEC

Ordering information

ITEM	CODE
ServSwitch Digital, Console Port Server, 8-Port	LES2600A-8
ServSwitch Digital, Console Port Server, 16-Port	LES2600A-16