hp A4992B

HP Spaceball 4000 FLX

6 degrees of freedom CAD/DCC input

working in 3D has never been easier

With an **hp** Spaceball® 4000 FLX motion controller and a high-performance **hp** workstation, simultaneously pan, zoom and rotate 3D models and 3D viewpoints as you build, modify and inspect your design and animations - within the active design session.

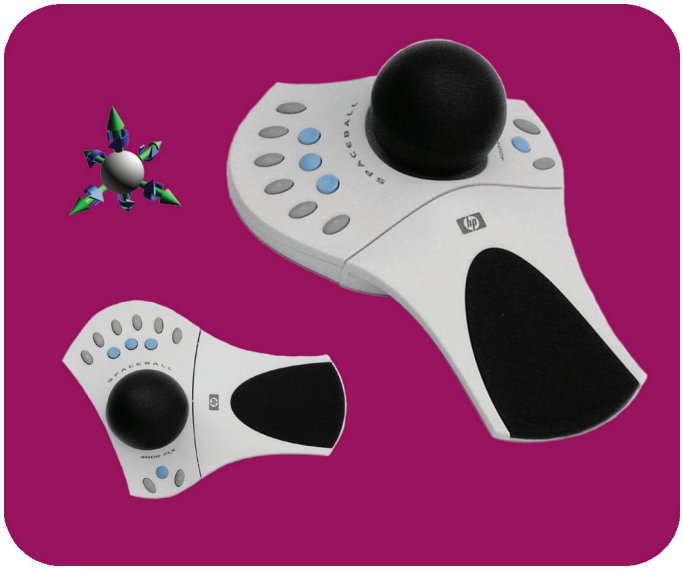
A Spaceball provides 6DOF (6 degrees of freedom) motion control. Simply push, pull or twist the Spaceball's PowerSensor® ball for smooth and dynamic X, Y and Z axis rotations and translations, as if holding the model in your hand.

The PowerSensor® ball moves, providing a natural and intuitive method for moving and viewing 3D designs. With the HP Spaceball, you are able to focus on the model… not on the method required to move the model.

The A4992B is an **hp** version of the industry-leading Spaceball 4000 FLX from Logitech.

Spaceball 4000 FLX features

- industry-leading ergonomics
- left- or right-hand operation
- 12 buttons (5 finger, 3 thumb)
- improved productivity
- earlier error detection
- improved design comprehension
- faster time-to-market
- 10-bit internal resolution for increased precision



increased productivity

Independent studies show the intuitive nature of the Spaceball increase productivity by a minimum of 25%, by eliminating multiple mouse clicks and menu selections to move and view models.

earlier detection of errors

More frequent assembly and viewpoint movement increases the likelihood of observing visible design problems.

improved design comprehension

With the ability to "fly through" your work at will, you see your design from far more points of view than is practical with traditional mouse-only or knob-box user interfaces.

simplified movement of complex assemblies

Interactively changing the center of rotation makes it easier to move large assemblies and focus on specific design areas.

easy to use and customize

The Spaceball does not replace the mouse. It is the interface for moving and viewing 3D models. Use the mouse with your dominant hand for picking, pointing and menu selection, while using the Spaceball for 6DOF control.

It's easy to use: Simply rest your palm on the Spaceball base. This is a natural and relaxed position that eliminates stress and fatigue of hand and arm. Lightly push, pull, lift, depress and/or twist the PowerSensor® ball in the desired direction of motion.

extend application functionality

The SpaceWare® software interface for HP-UX applications (included with the Spaceball) provides a pop-up SoftButtons window in the application for instant access to 23 customizable functions:

- create custom functions and application shortcuts
- modify or re-map Spaceball hard and soft buttons to standard or user-defined functions
- create and select groups of functions and save custom configurations
- dominant axis mode
- on/off toggling of rotation-translation
- basic (global) & advanced (individual) axis sensitivity settings
- on-line help

spaceball application support

Support for the Spaceball is built into the applications listed in this data sheet. Unlisted applications, and customer-written applications require customer-written software using the free SpaceWare® developer's kit.

supplier / applications	Version	HP-UX support	Windows® support
Altair			www.altair.com
Hypermesh®	v3.0	✓	✓
Hypermesh®	v4.0	✓	✓
Ansys, Inc.			www.ansys.com
Ansys®	5.6	✓	✓
Ansys®	5.7	✓	✓
Autodesk			www.autodesk.com
AutoCAD®	2000i		✓
AutoCAD®	2002		✓
Inventor	R4		✓
Inventor R5 Beta	R5β		✓
Mechanical Desktop®	v5		✓
3D Studio VIZ	R3.0		✓
CADKEY Corp.			www.cadkey.com
CADKEY®	99		✓
CADKEY®	19		✓
CNC Software, Inc.			www.mastercam.com
MasterCAM	8.1		✓
MasterCAM	8.1.1		✓
Co|Create			www.cocreate.com
SolidDesigner 2000	7.5	✓	✓
SolidDesigner 2000+		✓	✓
Dassault Systemes			www.dsweb.com
CATIA	V5Rx	✓	✓
Discreet			www.discreet.com
3D Studio MAX	R3.0		✓
3DS MAX	R4.0		✓
ERDAS, Inc.			www.erdas.com
Imagine	8.5		✓
EUKLID Software GmbH			www.euklid-software.de
Euklid		✓	✓
Mechanical Dynamics			www.adams.com
ADAMS	11.0		✓

supplier / applications	Version	HP-UX support	Windows® support
MSC Software			www.mscsoftware.com
MSC/PATRAN™	9	✓	
Parametric Technology (PTC)			www.ptc.com
CADDS 5i	v11	✓	✓
CADDS 5i	v12	✓	✓
Pro/ENGINEER®	2000i2	✓	✓
Pro/ENGINEER®	2001	✓	✓
SDRC			www.sdrc.com
I-DEAS	8	✓	✓
SolidWorks			www.solidworks.com
SolidWorks	2000		✓
SolidWorks	2001		✓
Unigraphics Solutions			www.ugs.com
SolidEdge®	v9		✓
SolidEdge®	v10		✓
Unigraphics®	16	✓	✓
Unigraphics®	17	✓	✓
VisMockUp®	V 3.0a	✓	✓

For the latest information on application support, see: http://www.labtec.com/product/3d/down.cfm

system specifications

platforms	**hp** PA-RISC workstation models: b1000, b2000, B2600, c240, c360, c3000, c3600, c3700, j2240, j280, j282, j5000, j5600, j6000, j6700, j7000 **hp** personal workstation (IA-32) models: kayak, p-class, vectra, x-class
operating systems	HP-UX 10.20, HP-UX 11.0, HP-UX 11i Microsoft® Windows® NT 4.0, Microsoft® Windows® 2000
Spaceballs per SPU	1
configuration	requires one (1) 9-pin serial (COM) port
software	software for all supported environments included on CD-ROM

spaceball specifications

force range	0.5-8.2 N (1.8-29.5 oz.)
torque range	6-91 Nmm (0.085-0.33 oz.-in.)
resolution	10 bits
buttons	12 programmable (unshifted) 23 programmable (shifted)
dimensions	21.3L x 15.2W x 7.6H cm 8.4L x 6.0W x 3.0H in.
weight	0.64 kg (1.4 lb.), space ball alone 0.94 kg (2.1 lb.) in shipping carton
power	under 72mW (6mA at 4.5 to 9Vdc trickle current from serial port)
temperature	operating: +10 to +40°C storage: +6 to +60°C
humidity	operating: 8 to 80%RH, non-condensing storage: 5 to 80%RH, non-condensing
altitude	operating & storage: -500m to +8000m (-1640 to +26,248 ft.)

serial specifications

connector	9-pin D-subminiature receptacle (DB9S)
cable length	approx. 3.9m (12.8 ft.), captive
data rate	9600 bps
flow control	Xon/Xoff
protocol	Spaceball Packet Protocol

ordering information

A4992B	HP Spaceball 4000 FLX

The standard A4992B product accommodates both left- and right-handed operation. The palm rest assembly attaches to either side of the unit. The software detects the orientation in use.

what's in the box

- HP Spaceball 4000 FLX with captive cable
- CD-ROM with software for all platforms
- User document
- Declaration of Conformity

warranty

The standard warranty is one (1) year, return-to-**hp**.

The period and coverage of the warranty are automatically upgraded to that of any **hp** service contract in effect for the attached supporting processor.

declarations

safety

- CE Mark (Low Voltage Directive 73/23/EEC and 93/68/EEC)
- EC 950:1991+A1+A2+A3 +A4 +A11
- EN 60950:1992+A1+A2+A3+A4 +A11
- UL Listed to UL1950, 2nd edition, File E121214
- cUL Listed to CSA 22.2 No.950-M93
- TUV Certified to EN60950 2nd edition with A1+A2+A3+A4+A11

EMC

- CE Mark
  (EMC directive 89/336/EEC and 92/31/EEC and 93/68/EEC)
- CISPR 22: 1993 / EN 55022: 1994 +A1+A2 Class B
- EN 50082-1:1997
- IEC 1000-4-2: 1995 / EN 61000-4-2: 1995 - 4kV CD, 8 kV AD
- IEC 1000-4-3: 1995 / EN 61000-4-3: 1995 - 3 v/m
- US FCC Part 15, Class B
- Japan VCCI Class B
- Australia/New Zealand AS/NZS 2046.1/2:1992, AS/NZS 3548:1995, and AS/NZS 4251.1:1994

industry standards

- EIA RS-232C
- PC'99
- Plug&Play on Microsoft Windows

Designed for Microsoft® Windows®2000 Professional

for more information

Hewlett-Packard workstations and peripherals are available at authorized **hp** resellers worldwide. For more information on **hp** workstations, see
www.hp.com/go/technical

For more information on **hp** workstation accessories, see
www.hp.com/go/spaceball

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