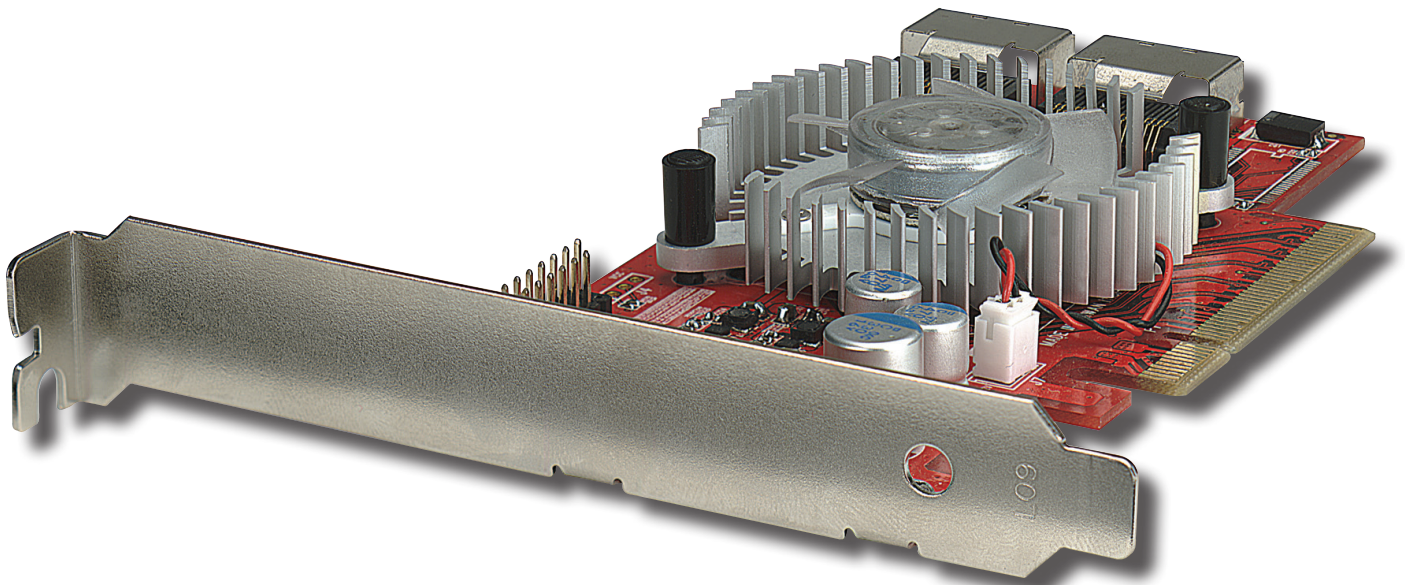


**SAS PCI
EXPRESS
CARD
USER
MANUAL**
MODEL 151009




MANHATTAN[™]

MAN-151009-UM-0211-01-0

INTRODUCTION

Thank you for purchasing the MANHATTAN® SAS PCI Express Card, Model 151009.

Easily installed, this card adds eight internal SAS+SATA ports for tiered, enterprise-class storage solutions that optimize high-performance SAS and high-capacity SATA drives. It's ideal for workstation and entry-server solutions that demand reliable, stable and responsive performance, including network-attached storage (NAS) e-mail and database servers, streaming video, surveillance, gaming and other high bandwidth, data-intensive applications.

By following the instructions in this user manual — or the simpler setup procedure in the printed quick install guide included with the product — you'll soon be enjoying these additional features:

- Easily adds eight internal SAS or SATA 6 Gb/s ports
- Serial Attached SCSI 2.0 (SAS-2.0) specification compliant
- Supports 40 Gbps transfer rate
- Low-profile form factor fits PCI Express x8 and x16 lane buses
- Active heat sink and efficient blast fan protect circuitry and facilitate cooling
- Plug and Play installation; hot-swappable — Windows compatible
- Lifetime Warranty (For a complete list of country-specific warranties, go to www.manhattan-products.com/warranty.)

Package Contents

- SAS PCI Express Card
- Standard and low profile brackets
- Driver CD with user manual
- Quick install guide

System Requirements

- 32-bit / 64-bit Windows XP/Vista/7
- PCI Express-enabled system with an available Express Card x8 or x16 slot
- CD-ROM drive

INSTALLATION

Adding the Card to an Existing Windows OS

1. Turn off the system. Insert the card into an available x8 or x16 PCIe slot. Turn the system back on.
2. During system bootup, Windows will display “Found New Hardware Wizard” (in XP), “Windows needs to install...” (in Vista) or “Device driver software was not successfully installed” (in Win7). In each case, click “Cancel” to continue.
3. Right-click “My Computer,” select “Manage,” then select “Device Manager.” Go to “SCSI and RAID Controller” (XP) or “Other Devices/RAID Controller” (Windows 7/Vista) to start the manual driver installation — first “Found New Hardware Wizard,” then “Hardware Update Wizard.”
4. Place the included driver CD in the CD-ROM drive. Depending on the operating system, select “SAS\Marvell\M9485\Windows” and either “i386” (32-bit) or “amd64” (64-bit), then click “Next.”
5. For Windows XP, select “Marvell 94XX SAS/SATA RAID Controller” and “Marvell RAID Virtual Device” and click “Install.” For Windows 7/Vista, select “Marvell Storage Controller” and “Marvell 94XX SAS/SATA RAID Controller” and click “Install.”
6. If prompted, restart the computer; otherwise, follow the instructions until you can click “Finish.”

Fresh (Initial) Windows Installation

1. Turn the computer off.
2. Insert the card into an available x8 or x16 PCIe slot.
3. Connect a SATA HDD to one of the two internal SFF-8087 connectors. Turn the computer back on.
4. Place the included driver CD in the CD-ROM/DVD drive and download all directories and files under “SAS\Marvell\M9485\Windows.” For XP, continue with Step 5; for Windows 7 or Vista, jump to Step 7.
5. Press <F6> to initiate third-party SCSI or RAID driver installation at the beginning of Windows XP’s Text Mode installation. Press <S> when prompted with “Select” and press “Enter” to select “Marvell 94XX SAS/SATA Controller 32bit (or 64bit) Drive.” **NOTE:** You may need to do this twice. You’ll then see the driver files “Marvell 94XX SAS/SATA RAID Controller” and “Marvell RAID Virtual Device,” which will both be extracted and copied to the system.
6. Press <Enter> to continue with Text Mode setup, which will complete the XP installation, and proceed to the “Verifying Installation with Windows” steps.
7. Select the file “Driver CD” from either “SAS\Marvell\M9485\Windows\amd64” or “SAS\Marvell\M9485\Windows\i386” and follow the setup instructions. Then

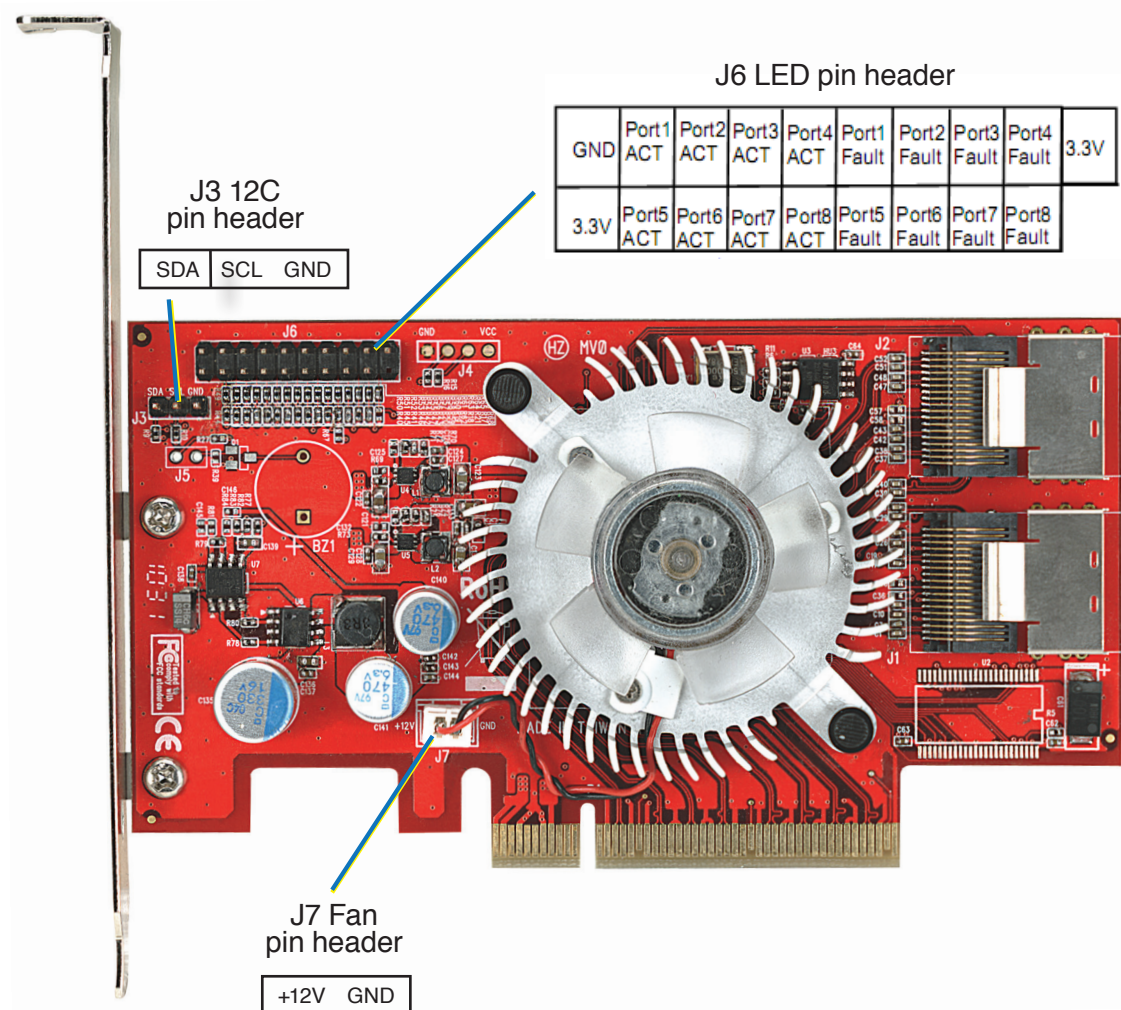
select your choices for disk partitioning and other setup operations.

- After setup examines your disks, it will copy files from the Windows OS Setup CD to the hard drive and restart the system. The setup program will continue and finish the Windows 7/Vista installation after the restart.

Verifying Installation with Windows

- Right-click on “My Computer,” then click “Manage” and “Device Manager.”
- Double-click “SCSI and RAID Controllers.” If no exclamation points (!) or question marks (?) display in front of “Marvell 94XX SAS/SATA RAID Controller,” the installation was successful. If either *does* appear, go back to Step 4 above.

PIN HEADER IDENTIFICATION



SPECIFICATIONS

Standards and Certifications

- FCC
- CE
- SAS 2.0
- SATA 3.0
- PCIe 2.0
- RoHS
- WEEE

Port Specifications

- 2 SFF-8087 (internal) L-type
- Transfer rate: 6 Gbps
- Supports 2 independent channels

General

- Supports main board PCI Express 2.0 x8 and x16 host slot
- Auto-detection of SAS or native SATA device
- PCIe power management: D0, D1, D3_cold, D3_hot
- Supports 6Gb/s, 3Gb/s and 1.5Gb/s SAS or SATA devices
- Supports SAS multiplexing
- Supports SSC with independent control of each PHY
- Supports wide SAS ports
- Supports SAS Protocol (SSP), initiator and target mode
- Supports SAS Management Protocol (SMP), initiator mode
- Supports SATA Tunneling Protocol (STP), initiator mode including non-zero offset and non-sequential data delivery, ATA and ATAPI commands and native command queuing (NCQ)
- Supports Port Multiplier
- Supports host mode and device mode of operation
- Hot-plug capability
- Chipset: Marvell M9485

Physical

- Dimensions: 2.2 x 12.2 x 6.8 cm (0.85 x 4.8 x 2.6 in.)
- Weight: 34 g (1.2 oz.)

System Requirements

- 32-bit / 64-bit Windows 2000/XP/Server 2003/2008/Vista/7
- PCI Express-enabled system with an available Express Card x8 or x16 slot
- CD-ROM drive

WARRANTY INFORMATION

ENGLISH: For warranty information, go to www.manhattan-products.com/warranty.

DEUTSCH: Garantieinformationen finden Sie unter www.manhattan-products.com/warranty.

ESPAÑOL: Si desea obtener información sobre la garantía, visite www.manhattan-products.com/warranty.

FRANÇAIS: Pour consulter les informations sur la garantie, visitez www.manhattan-products.com/warranty.

POLSKI: Informacje dotyczące gwarancji znajdują się na stronie www.manhattan-products.com/warranty.

ITALIANO: Per informazioni sulla garanzia, accedere a www.manhattan-products.com/warranty.

EN MÉXICO: Poliza de Garantía MANHATTAN — Datos del importador y responsable ante el consumidor IC Intracom México, S.A. de C.V. • Av. Interceptor Poniente # 73, Col. Parque Industrial La Joya, Cuautitlan Izcalli, Estado de México, C.P. 54730, México. • Tel. (55)1500-4500

La presente garantía cubre los siguientes productos contra cualquier defecto de fabricación en sus materiales y mano de obra.

- A. Garantizamos los productos de limpieza, aire comprimido y consumibles, por 60 días a partir de la fecha de entrega, o por el tiempo en que se agote totalmente su contenido por su propia función de uso, lo que suceda primero.
- B. Garantizamos los productos con partes móviles por 3 años.
- C. Garantizamos los demás productos por 5 años (productos sin partes móviles), bajo las siguientes condiciones:
 - 1. Todos los productos a que se refiere esta garantía, ampara su cambio físico, sin ningún cargo para el consumidor.
 - 2. El comercializador no tiene talleres de servicio, debido a que los productos que se garantizan no cuentan con reparaciones, ni refacciones, ya que su garantía es de cambio físico.
 - 3. La garantía cubre exclusivamente aquellas partes, equipos o sub-ensambles que hayan sido instaladas de fábrica y no incluye en ningún caso el equipo adicional o cualesquiera que hayan sido adicionados al mismo por el usuario o distribuidor.

Para hacer efectiva esta garantía bastara con presentar el producto al distribuidor en el domicilio donde fue adquirido o en el domicilio de IC Intracom México, S.A. de C.V., junto con los accesorios contenidos en su empaque, acompañado de su póliza debidamente llenada y sellada por la casa vendedora (indispensable el sello y fecha de compra) donde lo adquirió, o bien, la factura o ticket de compra original donde se mencione claramente el modelo, numero de serie (cuando aplique) y fecha de adquisición. Esta garantía no es val da en los siguientes casos: Si el producto se hubiese utilizado en condiciones distintas a las normales; si el producto no ha sido operado conforme a los instructivos de uso; ó si el producto ha sido alterado o tratado de ser reparado por el consumidor ó terceras personas.

REGULATORY STATEMENTS

FCC Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of Federal Communications Commission (FCC) Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from the receiver.
- Consult the dealer or an experienced radio/TV technician for help.

CE / R&TTE

ENGLISH

This device complies with the requirements of the R&TTE Directive 1999/5/EC.

DEUTSCH

Dieses Gerät entspricht der Direktive R&TTE Direktive 1999/5/EC.

ESPAÑOL

Este dispositivo cumple con los requerimientos de la Directiva R&TTE 1999/5/EC.

FRANÇAIS

Cet appareil satisfait aux exigences de la directive R&TTE 1999/5/CE.

POLSKI

Urządzenie spełnia wymagania dyrektywy R&TTE 1999/5/EC.

ITALIANO

Questo dispositivo è conforme alla Direttiva 1999/5/EC R&TTE.





MANHATTANTM

BRINGING COMPUTERS TO LIFE