ATTO Technology, Inc.
155 CrossPoint Parkway
Amherst, New York 14068 USA

www.attotech.com

Tel (716) 691-1999
Fax (716) 691-9353

Sales support: sls@attotech.com
Technical support: Please visit **https://www.attotech.com/support/** for hours of operation.
techsupp@attotech.com
(716) 691-1999 ext. 242

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ExpressSAS
Getting Started Guide

Thank you for purchasing the ATTO ExpressSAS Adapter. This guide gives you the basics for installing and configuring your adapter. For more information, refer to the **ExpressSAS Adapter Installation and Operation Manual** and the **ATTO Utilities Manual**.

Installation Procedure

You will follow these steps to successfully install your ExpressSAS host or RAID adapter:

1 Ensure you have the equipment and software you need for the installation:
- ExpressSAS adapter
- ATTO ExpressSAS drivers, user manuals and utilities
- The optional low-profile bracket and installation procedure
- A computer with an available x8 or x16 PCI Express expansion slot.
- SAS/SATA storage, cables and connectors.

2 Install device drivers downloaded from the ATTO website.
3 Install the ATTO ConfigTool configuration software downloaded from the ATTO website.
4 Install your ExpressSAS hardware.
5 Attach SAS/SATA storage.
6 Configure your storage and adapter, including RAID, using the ATTO ConfigTool.

CAUTION: Back up your system data before changing or installing any hardware.

Downloading & Installing Drivers

You must add ExpressSAS drivers to your computer before continuing with installation. If you already have one or more ExpressSAS adapters installed and you have the latest drivers, skip this section. If not, download drivers on the ATTO website at http://www.attotech.com/downloads.php. Log in, if previously registered, or register to proceed to the download pages. Once downloaded, continue with the driver installation procedures (below) for your operating system.

Windows

1 Power on your system.
2 Log on to Windows as the system administrator.
3 Follow the instructions in downloading drivers from the ATTO website.
4 Click **unzip**. The driver files are extracted and the driver installer is launched.
5 For Windows: If you have **User Account Control** enabled, you are asked for permission for the installer to continue. If you do not have administrator privileges, you are also asked for an administrator user name and password. Fulfill the required fields and click **Continue**.
6 Click **Install**.
7 Follow the on-screen instructions to complete the driver installation.

OS X

1 Power on your system.
2 Double-click the downloaded driver file to launch the installer
3 Follow the on-screen instructions.

Linux

1 Power on your system.
2 Log in as **root**.
3 Verify that the kernel header files, usually included with the Linux kernel development package, are installed.
4 Locate the downloaded driver and copy the driver file to a directory such as /usr/src
5 Open a Terminal session and change to the directory where you stored the driver.
6 Extract the driver source and navigate to that directory. The driver files are extracted to a directory called lnx_drv_esashba_XXX or lnx_drv_esasraid_XXX

7 Compile and install the driver using ./install.sh. The driver is now installed and ready to use.

8 Add the following line to /etc/modprobe.conf after installing the driver:

- for ExpressSAS HBAs: **alias scsi_hostHBAX esashba** where **X** is the next available HBA number.
- for ExpressSAS RAID adapters: **alias scsi_hostHBAX esasraid** where **X** is the next available HBA number.

VMware

1 Unzip the contents of the bundle on your local workstation. Within the bundle you will find the Driver VIB file (.vib) for your ATTO adapter.

2 Use the Datastore Browser in the vSphere Client to upload the VIB file to your ESXi host. Alternatively, you can use a program like winscp on Windows or scp on Linux to upload the file directly to your ESXi host.

3 Log in to the ESXi host on the Local Tech Support Console (ESXi), or through an SSH client.

4 Install the VIB using the following command on the ESXi host: # esxcli software vib install -v <full path to VIB file>

5 Once the VIB is installed, reboot the ESXi host.

Note

Some ATTO drivers for ESXi 5.0 are provided as Community Supported drivers. To install an ATTO Community Supported driver on ESXi 5.x, the acceptance level must be changed with the following command: ***esxcli software acceptance set --level=CommunitySupported***

FreeBSD

Note

Refer to the ExpressSAS Installation and Operation manual for instructions on installing FreeBSD drivers

Installing the ATTO ConfigTool

The ATTO ConfigTool is a free utility. Visit the ATTO website (www.attotech.com/downloads.php) for specific operating system support information and downloads.

The ATTO ConfigTool includes two components: a GUI Application and a system service. Either, or both, of these components can be installed on a host, depending on the functionality desired. Refer to the Utilities manual for additional details.

Note

Logging and other important features are only available if the ATTO ConfigTool service is installed. We recommend installing the service as a minimum configuration.

Note

The vConfigTool supports VMware VCenter Server. Refer to the ATTO website for information on downloading and using this free utility.

Windows Installation Instructions:

1 Double-click the win_app_configtool_xxx.exe package file

2 Click "Unzip" to extract the installer files. The files are put in "C:\ ATTO\ConfigTool\4.xx" directory.

2.1 To install the **Full Application** or **Application Only**:

- Navigate to the "C:\ ATTO\ConfigTool\4.xx\Service" directory
- Double-click on the ConfigTool_xxx.exe installer executable
- Select **Full Installation** or **Application Only** as desired.
- Follow the on-screen instructions

2.2 To install the **System Service** only:

- Navigate to the "C:\ATTO\ConfigTool\4.xx\Service" directory
- Double-click on the "attocfgd.msi" installer executable
- Follow the on-screen instructions

OS X Installation Instructions:

1 Double-click the osx_app_configtool_xxx.exe package file.

2 A Finder window appears.

2.1 To install the **Full Application** or **Application Only**:

- In the Finder window that appears, double-click on the ConfigTool_xxx.app installer executable.
- Select **Full Installation** or **Application Only** as desired.
- Follow the on-screen instructions.

2.2 To install the **System Service** only:

- Navigate to the “Service” folder in the Finder window that appears.
- Double-click on the "attocfgd.mpkg" installer executable file.
- Follow the on-screen instructions.

Linux Installation Instructions:

1 Extract the package file by running the following command in a terminal: *tar -xvzf lnx_app_configtool_xxx.tgz*

2 Navigate to the extracted folder “lnx_app_configtool_xxx”

2.1 To install the **Full Application** or **Application Only**:

- Run the ConfigTool_xxx.bin installer executable as root or superuser.
- Select **Full Installation** or **Application Only** as desired.
- Follow the on-screen instructions.

2.2 To install the **System Service** only:

- Navigate to the “Service” directory located inside the lnx_app_configtool_xxx directory
- Double-click on the "attocfgd.msi" installer executable

2.3 Run the “attocfgd.sei” installer executable as root or superuser using the following command line: *./ attocfgd.sei -i*.

Installing ExpressSAS Host & RAID Adapter Hardware

Note

Install system drivers before you begin hardware installation.

1 Power down the computer and unplug the computer from all power sources. Open the case.

2 If applicable, attach the low profile or standard bracket to the adapter. Consult the *Operations and Installation* manual for your product for additional details.

3 Insert the ATTO ExpressSAS adapter into any open PCI Express expansion slot. If you have questions about how to install an expansion card in your system, consult your computer’s documentation.

4 Close the case on the computer and power it up.

5 Installed drivers are loaded.

6 Turn off power to the computer.

Install SAS/SATA Storage

1 Connect your SAS/SATA storage to your ExpressSAS adapter. Consult with your storage vendor for proper cabling, power and other installation instructions.

1.1 For SATA, use cables that are no longer than 1 meter.

1.2 For SAS, use cables that are no longer than 10m

1.3 For SGPIO or I2C cabling instructions, refer to the ATTO ExpressSAS Host and RAID Adapter Installation and Operation Manual, available for download on the ATTO website.

2 Plug in your computer and storage.

3 Turn computer and storage on.

Adapter Configuration

The adapter default settings are appropriate for most systems but you may change settings using the ATTO ConfigTool. Refer to the ATTO *Utilities* manual for information on using the ATTO ConfigTool.

Create RAID Group

Note

Note: the instructions below refer only to creating RAID groups using the RAID group creation wizard for ExpressSAS RAID adapters. For instructions on creating RAID groups using Power Center Pro onboard RAID for ExpressSAS HBAs, or for more advanced RAID group settings refer to the ATTO Utilities manual.

The ATTO ConfigTool RAID group Creation Wizard automates the RAID group creation process. Start the wizard by 1) selecting ‘New Group’ in the RAID Management menu, or 2) selecting the “Groups” tab in the bottom panel, right-clicking within the panel and selecting “New Group”, or 3) it will start automatically when the RAID tab is selected and there are no RAID groups present.

Follow the prompts to select drives and configure your new RAID group. Additional information on creating RAID groups is available in the ATTO *Utilities* manual.