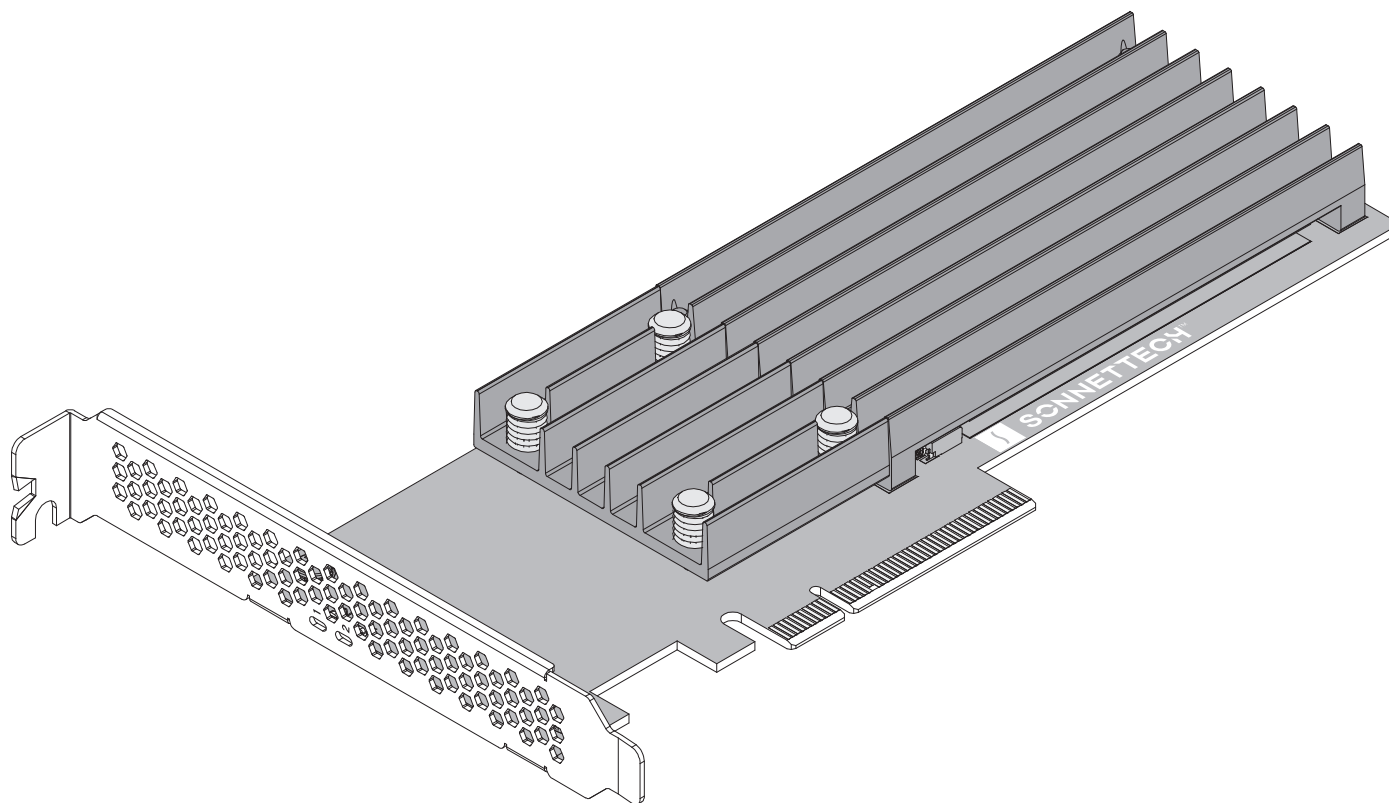


Sonnet M.2 2x4 Low-Profile PCIe® Card

Quick Start Guide



Support Note: This document was up to date at the time of printing. Please check the Sonnet website for the latest documentation.

1. Go to www.sonnettech.com/support/kb/kb.php
2. Navigate to and click the Sonnet M.2 2x4 Low-Profile PCIe Card PCIe Card link.
3. Click the Manual link.
4. Click the Sonnet M.2 2x4 Low-Profile PCIe Card PCIe Card Quick Start Guide [English] link, and then check the Document Version information. If the version listed is later than this document (revision E), click the Download Now button for the latest version.



For
Windows



Introduction, Compatibility Information, and Card Description

Congratulations on your purchase! Sonnet M.2 2x4 Low-Profile PCIe Card provides a handy way to install one or two M.2 form factor NVMe SSDs into a full-height or low-profile PCIe card space.

Mac® Compatibility

- Mac Pro® 14,8 (2023): macOS 13 – macOS 14+
- Mac Pro 7,1 (2019): macOS 10.15 – macOS 12; macOS 14.4.1+ (*not compatible with macOS 13*)
- Mac Pro 5,1: macOS 10.13 – macOS 10.14
- Some SSDs are not currently compatible with macOS. See link to M.2 SSD compatibility list in the next column.

Windows® Compatibility

- Computer with available x8 PCIe card slot (PCIe 3.0 or 4.0 slot preferred; PCIe bifurcation not required)
- Windows 11, 10

Linux® Compatibility

- Computer with available x8 PCIe card slot (PCIe 3.0 or 4.0 slot preferred; PCIe bifurcation not required)
- Linux Kernel 5.4+

Thunderbolt™ Compatibility

- Mac, Windows, and Linux computers with Thunderbolt ports via a Thunderbolt to PCIe card expansion system with available x8 or x16 PCIe card slot

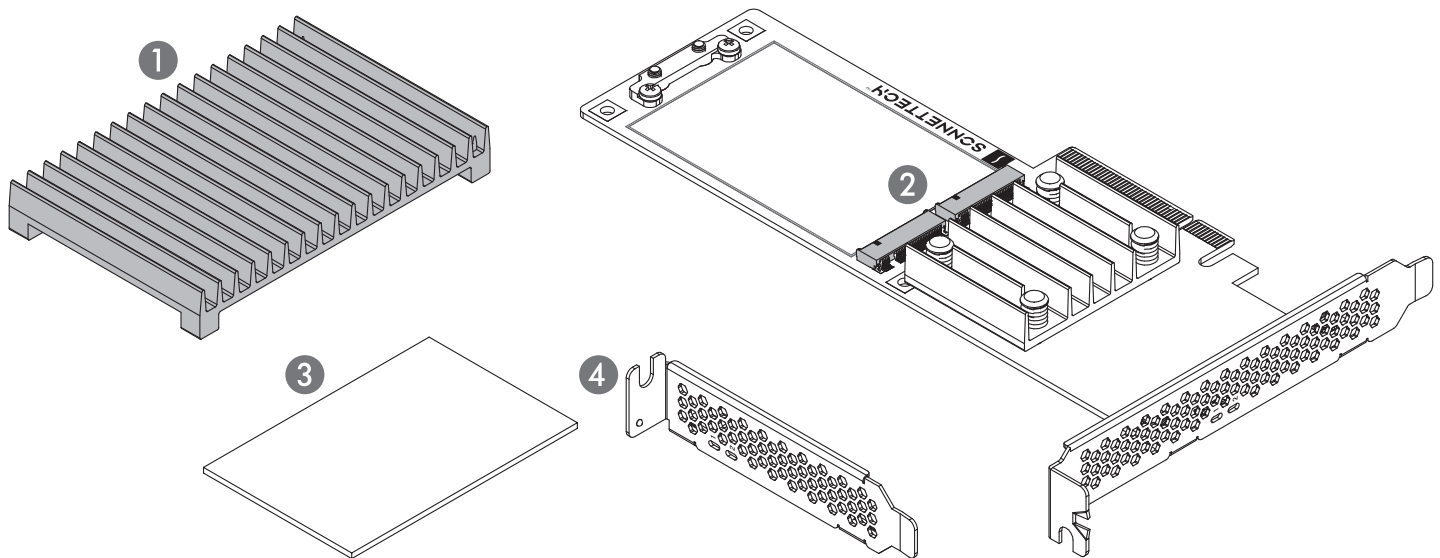
M.2 SSD Compatibility

Both single- and double-sided (larger components on both sides) SSDs are supported. To view a list of known compatible SSDs, visit https://sonnettech.com/support/downloads/manuals/M2_compatibility.pdf

Disk Configuration Support Information

Sonnet M.2 2x4 Low-Profile PCIe Card supports JBOD; and RAID 0 (Stripe), RAID 1 (Mirror), and concatenated disk set configurations. **Note that Mac Pro 7.1 (2019) does not currently support RAID or more than one PCIe card with SSDs.**

Card Description



1 – SSD Heatsink

Backed with a thermal transfer pad that contacts the SSDs' components, the heatsink conducts heat away from the SSDs you install.

2 – M.2 SSD Sockets

The Sonnet M.2 2x4 Low-Profile PCIe Card PCIe Card supports the installation of two M.2 2280 NVMe PCIe SSDs with “M” key connectors. When configuring them as RAID volumes, Sonnet recommends the use of identical SSDs.

3 – Thermal Transfer Pad

Apply this to the card when you install single-sided SSDs; instructions follow.

4 – Low-profile PCIe Card Bracket

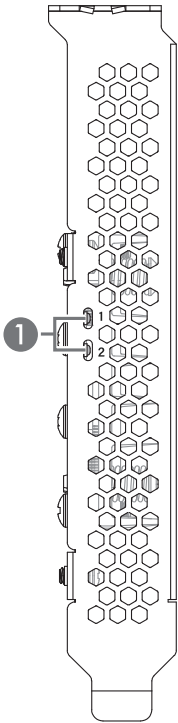
Swap this bracket with the one attached to the Sonnet card when installing the card in a low-profile card space.

Introduction, Compatibility Information, and Card Description

Card Description – Indicators

1 – SSD Read/Write Activity LEDs

Indicate read and write activity by SSD.



SSD Installation Steps



Support Note: When handling computer products, you must take care to prevent components from being damaged by static electricity. Before opening your computer or removing parts from their packages, always ground yourself first by touching a metal part of the computer, such as a port access cover, and work in an area free of static electricity; avoid carpeted areas. Handle all electronic components by their edges, and avoid touching connector traces and component pins.

1. Handling it by its edges, remove Sonnet M.2 2x4 Low-Profile PCIe Card from its packaging.



Support Note: When installing the Sonnet card into your computer, it may be necessary that you change the PCIe card bracket attached to the card with the low-profile bracket included in the package.

2. Using a Phillips screwdriver, remove the four screws securing the SSD heatsink to the card (Figure 1). Set aside the heatsink and screws.
3. Remove the two screws from the SSD support bracket as shown (Figure 2). Set aside the screws.

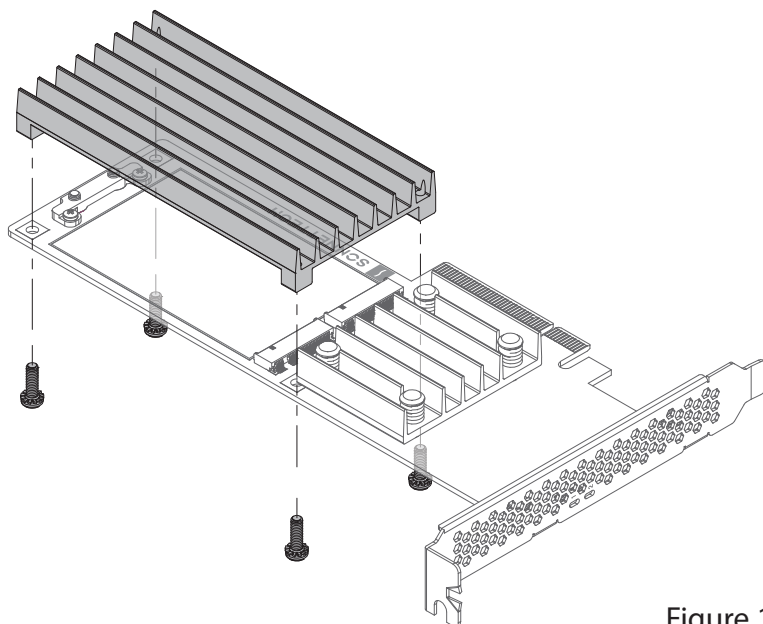


Figure 1

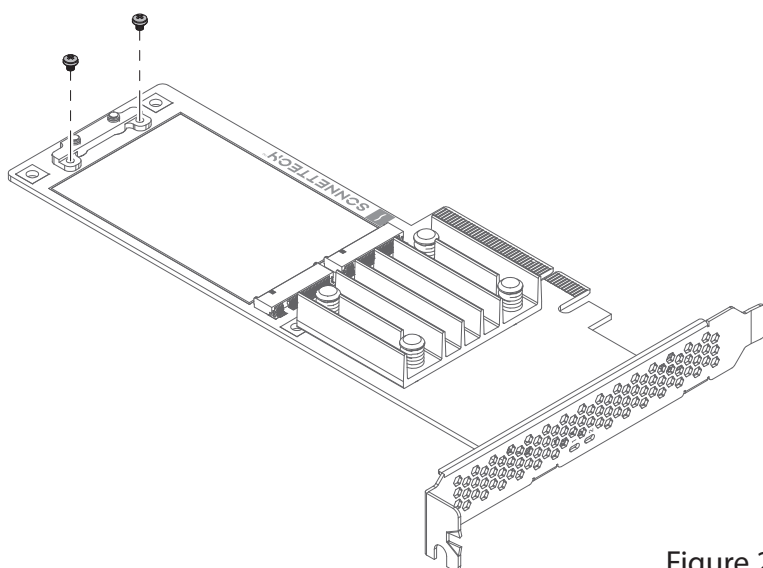


Figure 2



WARNING! When installing single-sided SSDs, you are required to install the included thermal transfer pad on the card before installing SSDs. Failure to do so may result in poor performance.

4. Determine whether you are installing single- or double-sided SSDs (larger components on one or both sides). If you are installing single-sided SSDs, remove the included thermal transfer pad from its packaging. If you are installing double-sided SSDs, skip to step 11.
5. Carefully peel off the backing material from *one* side of the pad.
6. Starting with one edge, carefully apply the pad to the card inside the rectangular outline between the SSD sockets and the SSD support bracket; be sure to avoid trapping air bubbles (Figure 3).
7. Rub the pad all over to ensure its complete contact with the card.

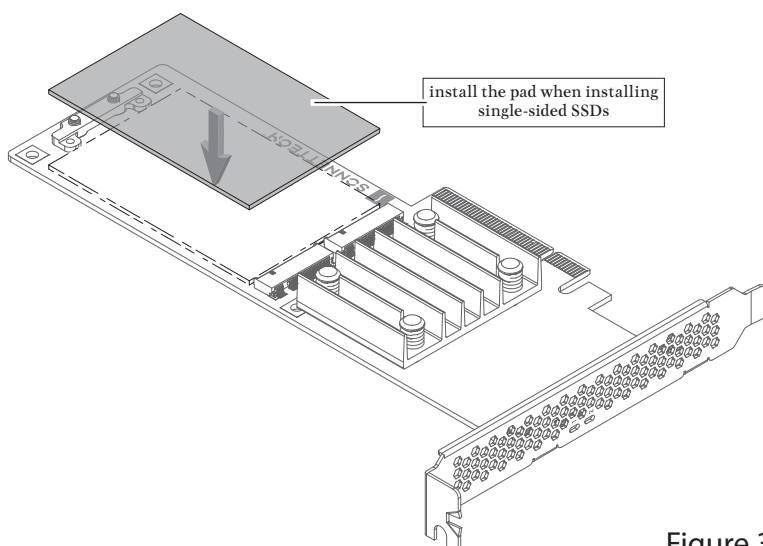


Figure 3

SSD Installation Steps

8. Peel off the backing material from the top of the pad you just installed (Figure 4).

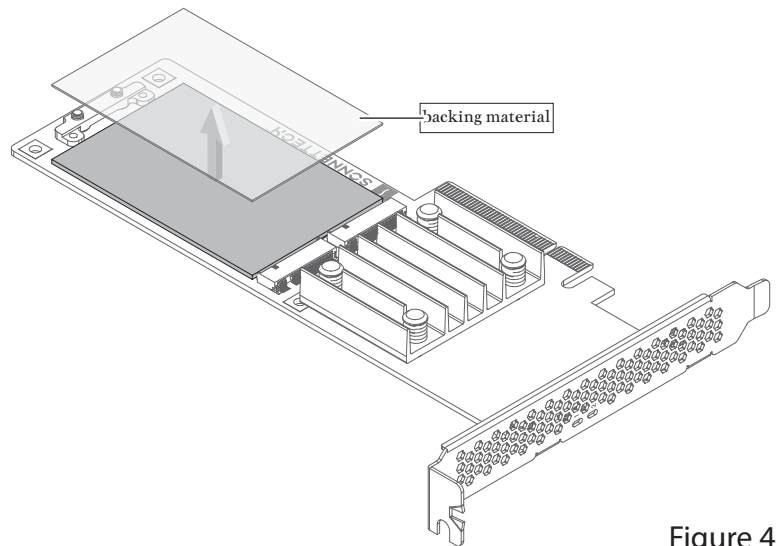


Figure 4

9. If you are installing two SSDs now, skip to step 11.
Otherwise, cut the backing material in half lengthwise as shown (Figure 5).

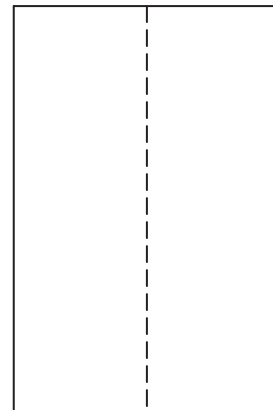


Figure 5

10. Reapply the half-piece of backing material to the thermal transfer pad on the side where no SSD will be installed (Figure 6). By reapplying the backing plastic, you will protect the sticky thermal pad from collecting dust, leaving it clean for when you are ready to install a second SSD.

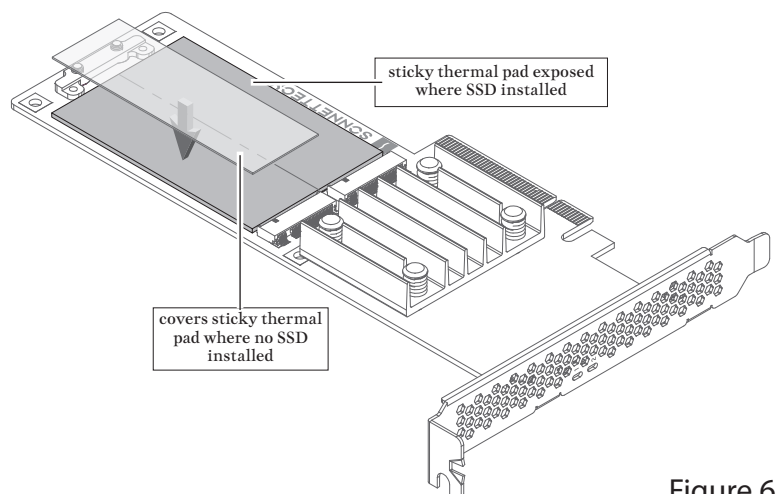


Figure 6

SSD Installation Steps

11. Handling it by its edges, remove an SSD from its packaging.
12. Insert the SSD into one of the SSD sockets (Figure 7).
If you are installing only one SSD, install it where the sticky side of the thermal transfer pad is exposed.
13. Repeat steps 11 and 12 if you are installing a second SSD.

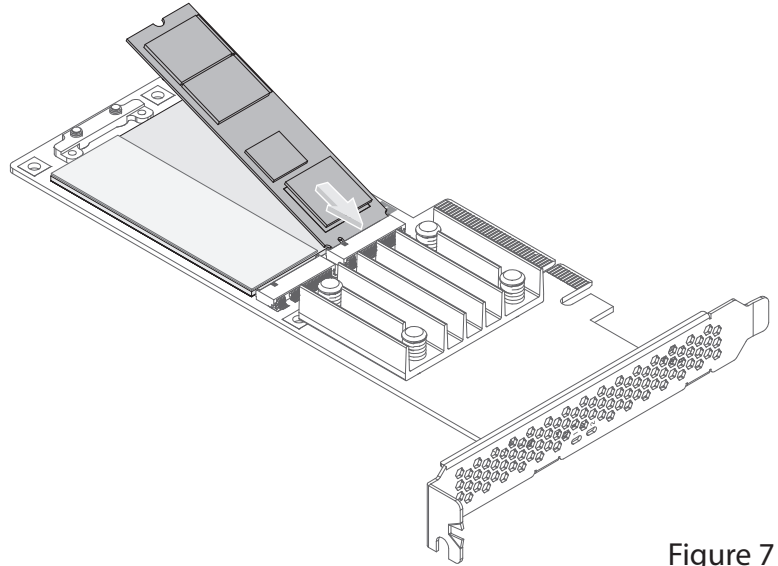


Figure 7

14. Using the two screws you removed previously, secure the SSD(s) to the SSD support bracket (Figure 8); do not overtighten the screws. If you installed only one SSD, reinstall the remaining screw into the open hole.

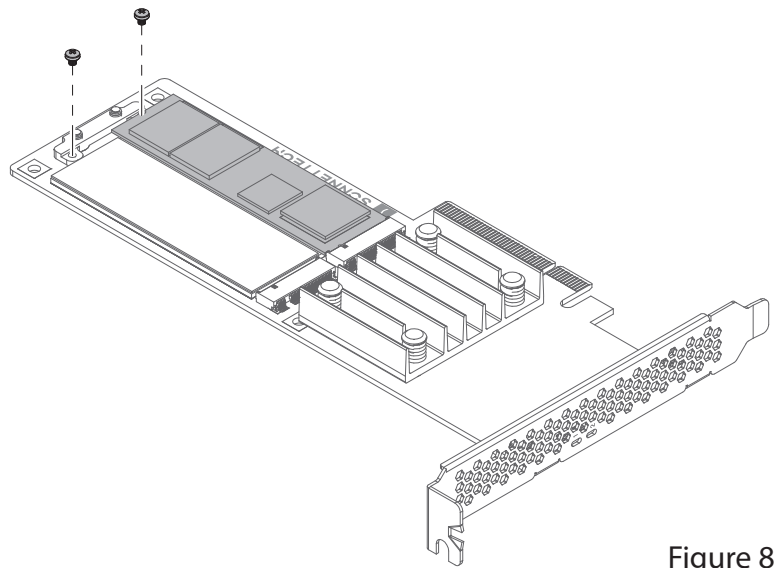


Figure 8

15. Peel off the backing material from the thermal transfer pad attached to the heatsink (Figure 9).

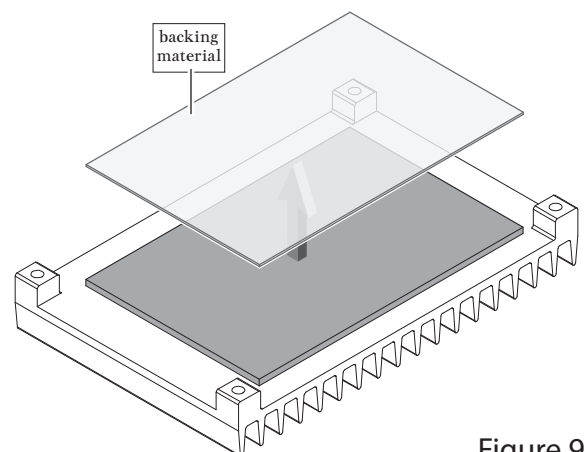


Figure 9

SSD Installation Steps

16. If you installed two SSDs, skip to step 18. Otherwise, cut the backing material in half lengthwise as shown (Figure 10).

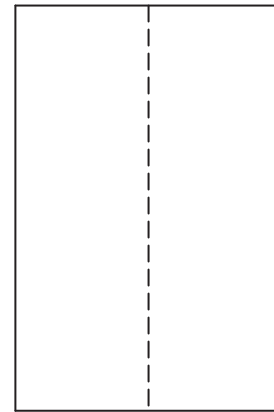


Figure 10

17. Reapply the half piece of backing material to the heatsink's thermal transfer pad on the side of the pad that will not contact the SSD (Figure 11). Note that by reapplying the backing plastic, you will protect the sticky thermal pad from collecting dust, leaving it clean for when you are ready to install a second SSD.

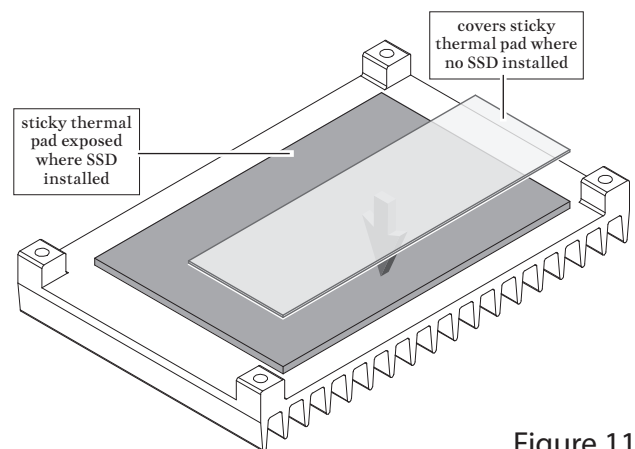


Figure 11

18. Set the heatsink on top of the card, aligning the threaded holes in the heatsink with the corresponding holes in the card as shown (Figure 12).
19. Holding them firmly against each other, flip over the card and the heatsink.
20. Secure the heatsink to the card with the four screws you removed previously (Figure 12); do not overtighten the screws.



Support Note: After securing the heatsink to the card, it is normal and safe for the card to bend a small amount. This is normal and not a cause for concern.

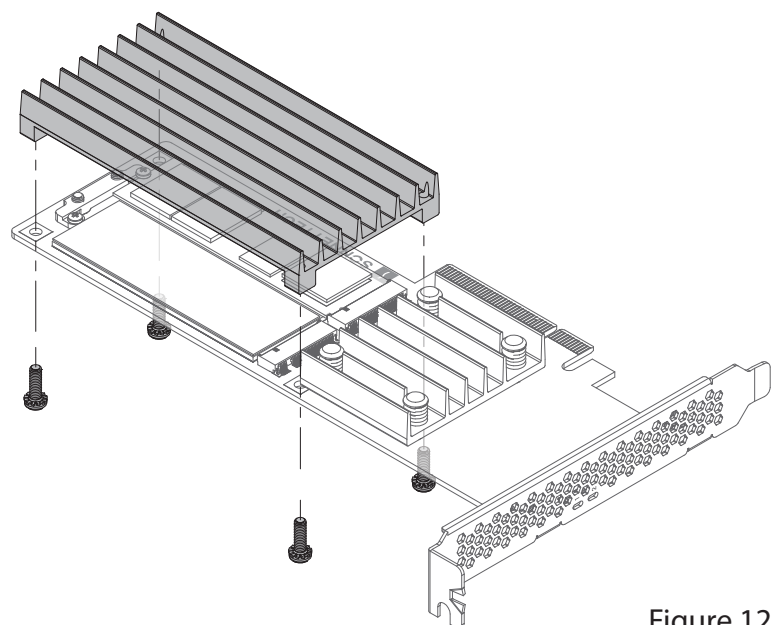


Figure 12

Card Installation, SSD Formatting and Configuring Steps; Support Information

Card Installation Steps

1. Shut down your computer or expansion chassis, disconnect its power cable, and then open it to access the expansion card area (PCI Express slots); refer to the user manual for specific information.
2. Locate an available x8 or x16 PCIe slot and remove its access cover if necessary.
3. Install the Sonnet card into the slot; make sure the card is firmly seated and secured.
4. Close your computer or expansion chassis.
5. Reconnect the computer's or expansion chassis' power cable.

Formatting and Configuring SSDs—macOS

Use Disk Utility (found in the Utilities folder within the Applications folder) to format installed SSDs. For step-by-step instructions on how to create RAID 0, RAID 1, or concatenated sets with installed SSDs, open Disk Utility, click Help and then select Disk Utility Help. In the *Disk Utility User Guide* window, type “create a disk set” and then press return. Click “Create a disk set using Disk Utility on Mac” to read the directions.

Formatting and Configuring SSDs—Windows

If you intend to format SSDs installed on the Sonnet card using Windows drive formatting tools, you may use either Disk Management or Storage Spaces.

Basic RAID Configuration Steps for Windows

Assuming you have installed two SSDs, you may follow these instructions to format them into a RAID array (Storage Space).

1. Go to the taskbar, type Storage Spaces in the search box, and then select Storage Spaces from the search results list.
2. In the *Storage Spaces* window, click Create a new pool and storage space.
3. Click the check boxes next to the SSDs you want to add to the new storage space (RAID volume), and then click Create pool. Be very careful not to select a drive you don't want to include, and note that all data on the SSDs you include in a Storage Space will be erased.
4. Give the “drive” a name and letter, and then choose a file system.
5. From the Resiliency type drop-down, select Simple (RAID 0) or Two-way mirror (RAID 1).

6. Depending on the Resiliency type you chose, the wizard will set the maximum available disk capacity. If necessary, you can also enter the maximum size for the storage space. Click Create storage space to complete the formatting and configuration; your SSDs are ready to use.

Formatting and Configuring SSDs—Linux

Use the tools or utilities you would normally use to format and configure internal drives.

Booting From Attached SSDs

macOS:

Sonnet M.2 2x4 PCIe Card supports booting from individual (non-RAIDed) SSDs when the card is installed in Mac Pro 5.1, 2019 and 2023 Mac Pro computers, and Thunderbolt-to-PCIe card expansion systems. Please note that in some cases it may be necessary for you to hold the *option* key during a start, and then select the startup disk attached to the Sonnet card.

If the Sonnet card is installed in a Thunderbolt expansion system and you are using a Mac with the Apple T2 Security Chip, then you must enable External Boot in the Startup Security Utility.

Windows and Linux:

Sonnet M.2 2x4 PCIe Card supports booting from a single, non-RAIDed SSD *only* in computers with UEFI.

Contacting Customer Service

Before contacting Customer Service, please check the Sonnet Web site (www.sonnettech.com) for the latest updates and files. Email requests generally receive the fastest responses, and are usually processed within a 24-hour period during normal business hours, excluding holidays. When you contact Customer Service, please have the following information available:

- Product name
- SSD model(s)
- Computer model
- OS version
- A System Report (macOS), or a Microsoft System Information MSINFO32 (Windows) report (Windows), along with a description of the issue(s) you are encountering with your device

If further assistance is needed, please contact Sonnet Customer Service at:

E-mail: support@sonnettech.com

Tel: 1-949-472-2772

(Monday–Friday, 9 a.m.–5 p.m. Pacific Time, excluding holidays)

Japan Customers

Contact Sonnet Customer Service Japan at:

E-mail: jp.support@sonnettech.com