Dell Portable Thunderbolt[™] 3 Solid State Drive 500 GB/1 TB

User's Guide



Notes, cautions, and warnings



NOTE: A NOTE indicates important information that helps you make better use of your computer.



CAUTION: A CAUTION indicates potential damage to hardware or loss of data if instructions are not followed.



WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Copyright©2018 Dell Inc. All rights reserved.

This product is protected by U.S. and international copy right and intellectual property laws. Dell[™] and the DELL logo are trademarks of Dell Inc. in the United States and/or other jurisdictions. All other marks and names mentioned herein may be trademarks of their respective companies.

2018-02 Rev. A01

Contents

What's in the box	4
Features	5
Before using your device	7
Introduction	8
Getting Started	9
Connecting the solid state drive	9
Disconnecting the solid state drive	10
Ejecting the solid state drive in Windows	11
Ejecting the solid state drive using the Utility	11
Thunderbolt™ 3 SSD Utility	12
Installing the Thunderbolt™ 3 SSD Utility	12
Using the Thunderbolt™ 3 SSD Utility	13
Drive Status	13
Tools	14
Security	14
Locking the solid state drive	15
Unlocking the drive	16
Unlocking the drive with PSID	17
Safely removing the solid state drive using the Thunderbolt $^{ m M}$ 3 SSD Utility	18
Performance	19
Help	20
Managing the solid state drive in Windows	21
Troubleshooting	22
Specifications	29
Statutory information	30



- 1 Dell Portable Thunderbolt[™]Solid State Drive
- 2 Thunderbolt[™] 3 cable

3 Documents

Features

The Dell Portable Thunderbolt[™] 3 SSD features a single LED indicator located on the left of the Thunderbolt[™] 3 port. Use this to help determine the status of the device power and status of the internal cooling fan.



1 Status LED

2 Thunderbolt[™] 3 port

3 Thunderbolt[™] 3 connector

The following table describes the status LED behavior on the SSD.

LED behavior	Power	Fan	Activity
Blinking White	ON	ON	Yes
White	ON	ON	No
Blinking Amber	ON	Malfunction	Yes
Amber	ON	Malfunction	No
Off	OFF	NA	NA

Before using your device



CAUTION: Unplugging the portable solid state drive from your computer when the light indicator is blinking white may cause data loss or damage to your device.



NOTE: Safely eject the solid state drive in the operating system of your computer before unplugging the cable. See "Ejecting the solid state drive in Windows" or "Safely removing the solid state drive using the Thunderbolt™ 3 SSD Utility" for instructions.

Introduction

Dell Portable Thunderbolt[™] 3 SSD bus powered external SSD's are high-performance, ultra-portable, and reliable storage solutions. They are ideal for transferring large amounts of data quickly to help maintain productivity whether at home, in the workplace, or on the road.

Use the Thunderbolt ${}^{\rm TM}$ 3 SSD Utility to manage the drive.

Getting Started

Connecting the solid state drive

Follow the procedure below to connect the drive to your computer.

Connect one end of the Thunderbolt[™] 3 cable shipped with the device into the Thunderbolt[™] 3 port on your computer. Connect the other end into the Thunderbolt[™] 3 port on the Dell Portable Thunderbolt[™] 3 SSD. A window will pop up after a few seconds.



2 In the pop-up window you are asked if you want to allow the drive to connect to your system. Choose the *Always Connect* option from the drop down menu, and click **OK**.

Ø Approve Thunderbolt™ Devices	- 🗆 ×
The following Thunderbolt™ device chain has been p devices require your permission to connect to this sy	olugged into Port 1 and one or more /stem.
Select the devices you wish to connect:	
Dell, SD1-T1000 Dell SSD	Always Connect 🛛 👻
	Do Not Connect
	Connect Only Once
the chain from being used on the system. Install the driver included with the device before	ore approving the device.
	·

Disconnecting the solid state drive



CAUTION: The status LED turns white when the drive is connected.



DO NOT disconnect the drive when the status LED is blinking.



To remove the Dell Portable Thunderbolt[™] 3 SSD, you have two options:

See "Ejecting the solid state drive in Windows" or "Safely removing the solid state drive using the Thunderbolt™ 3 SSD Utility".

Ejecting the solid state drive in Windows

To remove the Dell Portable Thunderbolt[™] 3 SSD using Windows eject drive follow these steps:

1 Move the cursor to the Windows System Tray and choose the Eject option for the Dell Portable SSD.



2 When the Safe To Remove Hardware message appears, disconnect the cable.



Ejecting the solid state drive using the Utility

See "Thunderbolt™ 3 SSD Utility".

Thunderbolt[™] 3 SSD Utility

The Dell Portable SSD Utility installation file in located on the drive, and also available to download at Dell.com/support. The Dell portable SSD works without additional software. It is recommended to install the software utility to monitor performance. You also need the utility to lock the SSD for security.

Installing the Thunderbolt[™] 3 SSD Utility

1 Use Windows Explorer to open or view the drive. Double-click on **This PC** on the desktop, the drive is displayed along with other storage devices.

This PC	
Devices and drives (2) Local Disk (C) 1.96 TB free of 1.99 TB 953 GB free of 1.99 TB	

2 Double-click on the Thunderbolt[™] 3 SSD Utility installation file located on the drive. Follow the instructions that appear.

	Drive Tools SD1-11000 Dell SS	SD (D:)
Home Share View	Manage	
👻 🛧 🥪 > This PC >	SD1-T1000 Dell SSD (D:)	
Name		^
Dell Portable TB3 SS Dell_Portable_SSD_C	D PM QSG	
Dell_Portable_SSD_U	Jtility_10000012	
	.	

Using the Thunderbolt™ 3 SSD Utility

Drive Status

The Status tab displays when the utility is launched. This is useful for checking how much storage capacity is available and provides information useful for troubleshooting.

🮯 Thunderbolt™ 3 SSD Utility		X
View Window Language Software Update About		
Thunc Model: Thu	derbolt™ 3 SSD Utility nderbolt™ 3 SSD, 500GB, SD1-T0500	1/1 Select Drive - 🤰 Eject Drive 🔺
👳 STATUS	<i>▶</i> TOOLS	? HELP
♥ Health Condition ♥	હિં Temperature	✓ 41°C / 105°F
Capacity Total Capacity: 476.94 GB Free Capacity: 466.11 GB	D: Total: 476.81 GB, Free: 465.99 GB	2.27%

Tools

Security

Security is not enabled by default. When you use this security feature to lock the drive, you will create a password that must be entered to unlock it. The locked status continues after the drive is disconnected. That is, when the drive is connected again, you need to enter the password to unlock the drive.

Each time you lock the drive, you need to complete the procedure to create a password. You can use the same password used in previous sessions.



CAUTION: Also keep in mind that you must remember this password to unlock the drive. There is no way to unlock the drive if you forget the password. It will be necessary to reset the drive if you forget your password. This means you will lose any data on the drive.



NOTE: When you lock the drive, you must create a password. Set a password that you can remember easily to unlock the drive.

Locking the solid state drive

- 1 To lock the drive, go to the Tools menu and click on the **Lock** button. A new menu appears.
- 2 Enter the password used to unlock the drive. Use a password that is difficult to guess, but one that you can remember. You cannot unlock the drive without the password. Retype the password in the space provided.

View Window Language Software Update About			
Thunde Model: Thund	erbolt™ 3 SSD Utility erbolt™ 3 SSD, 500GB, SD1-T0500	1/1 Select Drive - C	Eject Drive 🔺
👳 STATUS	🗲 TOOLS	? HELP	
 Security This SSD is unlocked. Lock TRIM TRIM TRIM TRIM TRIM TRIM S.M.A.R.T. Attributes S.M.A.R.T. Attributes Expand to Show Advanced Details	ת Ren עום Per תו MB/s	naining Life	0% 00:00:00

3 Click on the **Submit** button to create the password and put the drive into locked status.

Lock SSD		×
Device:	SD1-T0500	
Password:	* * * * * *	
Retype Password:	****	
	Submit Cancel	

Unlocking the drive

Thunderbolt™ 3 SSD Utility		- 0)
v Window Language Software Update About			
Thunder Model: Thunderbo	DOIT [™] 3 SSD Utility 3 SSD, 500GB, SD1-T0500	1/1 Select Drive → 🥭 Eject Drive 🔺	
😻 STATUS	🗲 TOOLS	? HELP	
Security		emaining Life 🛛 📀	
This SSD is locked. 🧯		▲ 100%	
Unlock			
🛷 TRIM			
TRIM is disabled.		-	
Enable TRIM	<u>III</u> P	erformance	
		Run	
S.M.A.R.T. Attributes 📀		0%	
 Expand to Show Advanced Details 		00:00:00	
		-O- Write -O- Read	
	MB/	ś	

1 To unlock the drive, go to the Tools menu and click on the **Unlock** button. A new menu appears.

2 Enter the password used to unlock the drive and click on the **Submit** button.

Unlock SSE)		×
Unlock SSD	Erase Recov	rery with PSID	
	Device: Password:	SD1-T0500	
		Submit Cancel	

Unlocking the drive with PSID



CAUTION: All data and password on the SSD will be erased, if unlock by PSID.



NOTE: The PSID is printed on the bottom of the Dell Portable Thunderbolt[™] 3 SSD, and on a sticker located inside the box shipped with the device. The sticker can be pealed off and placed as per your preference.

If the password is forgotten, enter the PSID used to unlock the drive and click on the **Submit** button.

Erase Recov	very with PSID	×
Unlock SSD	Erase Recovery with PSID	
WARNING	G: This operation will erase all data and reset to default ur	nlocked state
Device:	SD1-T0500	
PSID:		
	Submit Cancel	

Safely removing the solid state drive using the Thunderbolt[™] 3 SSD Utility

To safely remove the SSD using the Thunderbolt[™] 3 SSD Utility, open the utility and click on the **Eject Drive** button at the top of the menu interface.



Performance

Use the Performance tab to test drive speed.



Help

Use the Help tab to view documentation and help information for the SSD.



Managing the solid state drive in Windows

You can use Windows Administrative Tools to partition or change the file system on the Dell Portable Thunderbolt[™] 3 SSD.

Go to Control Panel (View by Small/Large icons) > Administrative Tools > Computer Management > Storage > Disk Management to access the Windows Disk Management interface.

🞥 Computer Management								- C	\times
File Action View Help									
🗢 🄿 🙇 🖬 📓 🗩	🗙 🕑 📑 📴 🖾								
🛃 Computer Management (Local)	Volume	Layout	Туре	File System	Status		(Actions	
✓ [™] System Tools	- (C:)	Simple	Basic	NTFS	Healthy (Boot, Page F	ile, Crash Dump, Primary Partition)	é	Disk Management	
> 🕑 lask Scheduler	SU1-10500 Dell	Simple	Basic	NTES	Healthy (Primary Part Healthy (System Acti	Ition) ve. Primary Partition)	4	More Actions	•
> a Shared Folders		Simple	Dasic	NITS	Healthy (System, Act	ve, Frinary Fartition)	1		
> 🔞 Performance									
🚽 🗄 Device Manager									
✓ Storage									
Services and Applications									
	<						2		
	= Disk 0						1		
	Basic	System R	lese	(C:)			1		
	3726.02 GB	549 MB N	NTF5	2047.46 GB N	TFS	1678.02 GB			
	Online	Healthy (Syst	Healthy (Boot	t, Page File, Crash Dui	Unallocated			
	Tisk 1								
	Basic	SD1-T05	00 De	I SSD (D:)					
	0nline	476.81 GE	B NTFS Priman	v Partition)					
		nearly (y raradony					
	-								
	Unallocated P	rimary part	tition				1		

Troubleshooting

Common symptoms

The following table contains information about common symptoms you might encounter and the possible solutions.

 I cannot see Dell SSD Disk Volume when I insert Dell Portable SSD. What should I do? 1 Thunderbolt[™] 3 USB-C connector and Thunderbolt[™] 3 Cable Look for the Thunderbolt[™]Iightning bolt logo on the platform. The port looks identical to the USB-C, but it is a Thunderbolt[™] 3 cable should have a Thunderbolt[™] lightning bolt logo with the numeral 3. 2 Thunderbolt[™] 3 Software a. Make sure that Thunderbolt[™] 3 software is installed and running. If the software is running, the Thunderbolt[™] 3 software icon appears in the Windows System Tray. b. To check if the Dell Portable SSD is detected and approved on the Thunderbolt[™] software. Click on the right button of your mouse on software icon. Check devices on View Attached Devices / Approve Attached Devices (Always Connect) / Manage Approved Devices. 3 Disk Management a. Is the Dell Portable SSD Disk detected? If Disk is detected, check item 3(b) and 4. If Disk is NOT detected, check item 5, 6, and 7 	Problems	Poss	sible Solutions
b. The file system of Dell Portable SSD should be supported by the OS.	I cannot see Dell SSD Disk Volume when I insert Dell Portable SSD. What should I do?	Check t 1 2	 the below items. Thunderbolt™ 3 USB-C connector and Thunderbolt™ 3 Cable Look for the Thunderbolt™lightning bolt logo on the platform. The port looks identical to the USB-C, but it is a Thunderbolt™ 3 connector. Thunderbolt™ 3 connector. Thunderbolt™ 3 cable should have a Thunderbolt™ lightning bolt logo with the numeral 3. Thunderbolt™ 3 Software Make sure that Thunderbolt™ 3 software is installed and running. If the software is running, the Thunderbolt™ 3 software icon appears in the Windows System Tray. To check if the Dell Portable SSD is detected and approved on the Thunderbolt™ software. Click on the right button of your mouse on software icon. Check devices on View Attached Devices / Approve Attached Devices (Always Connect) / Manage Approved Devices. Disk Management Is the Dell Portable SSD Disk detected? If Disk is detected, check item 3(b) and 4. If Disk is NOT detected, check item 5, 6, and 7. The file system of Dell Portable SSD should be supported by the OS.

I cannot see Dell SSD Disk Volume when I insert Dell Portable SSD. What should I do?(continued):

Possible Solutions

4 Security Locked

Install SD1-TSeries Portable SSD Utility first to check the security status of Dell Portable SSD. It can be unlocked by the Utility.

- Open the Utility.
- Go to page TOOLS.
- Press the Unlock button.
- Input the password on Unlock SSD page, then Submit.
- 5 Device Manager
 - a. View -> Devices by Type -> Disk drives NVMe SSD of Dell Portable SSD detected or not detected.
 - b. View -> Devices by Type -> Storage Controllers
 Driver of NVM Express Controller of Dell Portable SSD is loaded or not loaded.
 If not, check item 6.
 - c. View -> Devices by Type -> System devices
 Thunderbolt[™] Controller 1575 of Dell Portable SSD is detected normally or not.
- 6 Device Status shows "Resource is not enough" in Device Manager System BIOS is responsible to allocate the memory resources for attached devices. Contact the manufacturer of the notebook or motherboard.
 - Right-click your mouse on NVM Express Controller.
 - Choose Properties item.
 - Go to General page.
 - Check the description on Device Status.
- 7 Power Shortage
 - Remove other Thunderbolt[™]accessories and insert the SSD as the First (Primary) plug-in device to a Thunderbolt[™] 3 port on the computer.
 - b. Install SD1-TSeries Portable SSD Utility first to diagnose the power supply for Dell Portable SSD automatically. If there is power shortage problem, a pop-up menu warns the user of the problem.

Possible Solutions

Nothing displays when I launch the SD1-TSeries Portable SSD Utility.

The user must have administrator privilege to open Utility. Login as administrator and open the Utility.

What can I do if I forget the password for security function?

- Look for PSID on Product Label.
- 2 Open the Utility.
- 3 Go to page TOOLS.
- 4 Press the Unlock button.
- 5 Input the PSID to the page **Erase Recovery with PSID**, then Submit.



1

NOTE: The data and password on SSD will be erased, if the SSD is unlocked by PSID.

What should I do if the "Remaining Life" is showing a warning message

Remaining Life refers to the endurance of the NAND flash. This is calculated by how much data has been written to the flash. It is a value estimated by the flash manufacturer.

If a warning message displays for the Remaining Life, to avoid data loss, it is recommended to back up any important data in the drive. If the Dell Portable SSD is still under warranty, it can be returned to the manufacturer. A Return Merchandise Authorization (RMA) order is required.

Possible Solutions

What are the consequences if I turn off the TRIM function?

It is likely that you will not get the optimal performance. Other SSD installed on your system with NTFS will be affected as well.

How to change Windows Disk volume to Mac platform?

Open Disk Utility on Mac platform.

2 Erase Dell Portable SSD to macOS supported File System.



1

1

NOTE: Converting the file system will erase the entire contents of the drive. All data currently on the drive will be lost.

How to change Mac Disk volume to Windows platform?

Open Command Prompt and execute diskpart to clean Dell Portable SSD.

- 2 Open Disk Management.
- 3 Initialize disk.
- 4 New volume for Dell Portable SSD.



NOTE: Converting the file system will erase the entire contents of the drive. All data currently on the drive will be lost.

What should I do if BSoD (Blue Screen of Death) with Stop Code 0x0000001A, MEMORY_MANAGEMENT, after hotplugging the Dell Portable SSD on Windows Platform?



NOTE: There is a very low probability of this occurring. However, if it happens, it will keep happening until the problem is corrected.

Possible Solutions

Dell Portable SSD should be safely removed using the Eject icon in the Windows System Tray or by SD1-TSeries Portable SSD Utility. Removing the Dell Portable SSD without following the proper eject procedure, then hot-plugging the Dell Portable SSD can cause the operating system BSoD. However, the SSD should still work well after a COLD BOOT together with your Windows platform.

To repair Dell Portable SSD and resolve the BSoD problem:

- 1 Connect the Dell Portable SSD to powered off Windows platform.
- 2 Power on the platform.
- 3 Back up data to another drives.
- 4 Format Dell Portable SSD.

What should I do if the Dell Portable SSD cannot be accessed after hot-plugging the Dell Portable SSD on Mac Platform?



NOTE: There is a very low probability of this occurring. However, if it happens, it will keep happening until the problem is corrected.

Possible Solutions

Removing then hot-plugging the Dell Portable SSD can cause the Dell Portable SSD to be undetected or inaccessible. The SSD should still work after a cold boot on a Mac platform.

Symptoms of failed detection:

1 No Volume of Dell Portable SSD can be accessed.

2 Under System Information, Driver Installed status is No.

For example: System Information->Hardware->PCI pci1179,116: Type: NVM Express Controller Driver Installed: No

		MacBook Pro		
▼ Hardware	pci1179,116:			
ATA				
Audio	Type: Driver Installed:	NVM Express Controller		
Bluetooth	Tunnel Compatible:	No		
Camera	Pause Compatible:	No		
Card Reader	MSI:	No		
Diagnostics	Bus: Slot:	PCI Thunderbolt@133.0.0		
Disc Burning	Vendor ID:	0x1179		
Ethernet Cards	Device ID:	0x0116		
Fibre Channel	Subsystem Vendor ID:	0x1179		
FireWire	Subsystem ID: Revision ID:	0x0001		
Graphics/Displays	Link Width:	x4		
Hardware RAID	Link Speed:	8.0 GT/s		
Memory				
NVMExpress				
PCI				
Parallel SCSI				
Power				
Printers				
SAS				
SATA/SATA Express				
Storage				
Thunderbolt				
LISB				
iBridge				
▼ Network				
Firewall				
Locations				
Volumes				
MBP_wait_for_rename's M	MBP_wait_for_rename's MacBook Pro > Hardware > PCI			

What should I do if the Dell Portable SSD cannot be accessed after hot-plugging the Dell Portable SSD on Mac Platform? (continued)

Possible Solutions

Under System Information, Thunderbolt[™] bus would have the value SD1-T1000 Dell SSD / SD1-T0500 Dell SSD.
 For example:

System Information->Hardware->Thunderbolt™ Bus->SD1-T1000 Dell SSD

		MacBo	pok Pro	
▼ Hardware	Thunderbolt Device	Tree		
ATA	Thunderbolt Bus			
Audio	SD1-T0500 De			
Bluetooth				
Camera				
Card Reader				
Diagnostics				
Disc Burning				
Ethernet Cards				
Fibre Channel			0	
FireWire	SD1-T0500 Dell SS	D:		
Graphics/Displays				
Hardware RAID	Vendor Name:	Dell		
Memory	Vendor ID:	0xD4	30	
NVMExpress	Device ID:	0x9019		
PCI	Device Revision:	0x1		
Parallel SCSI	UID:	0x00D490454990	DB00	
Power	Firmware Version:	29.1		
Printers	Port (Upstream):	20.1		
SAS	Status:		Device connected	
SATA/SATA Express	Link Status:		0x2	
SPI	Speed: Current Link W	idth.	Up to 40 Gb/s x1	
Storage	Link Controller	Firmware Version:	0.33.0	
Thunderbolt				
USB				
iBridge				
▼ Network				
Firewall				
Locations				
Volumes				
- MPD wait for rename/c	MacRook Dro > Harr	huara - Thundar	and A Thursdorbalt Buc A SD1 T0500 Dall SSD	

To repair Dell Portable SSD and resolve the access problem:

- 1 Connect the Dell Portable SSD to a powered off Mac Computer.
- 2 Power on the platform.
- 3 Back up data to another drive.
- 4 Open Disk Utility.
- 5 Click View -> Show All Devices.
- 6 Unmount the volume of Dell Portable SSD.
- 7 Erase "KXG50ZNV512G NVMe TOSHIBA 512GB Media" or "KXG50ZNV1T02 NVMe TOSHIBA 1024GB Media" to macOS supported File System.



Specifications

General					
Model number	SD1-T0500, SD1-T1000				
Storage Media	1TB NVMe SSD (SD1-T1000) 512GB NVMe SSD (SD1-T0500)				
Connection Interface	Thunderbolt™ 3				
Rating					
Operating Voltage	5V (2.4A)				
Physical characteristics					
Weight	61 gm (2.1 oz)				
Dimensions					
Length	98.8 mm (3.89 in)				
Width	48 mm (1.89 in)				
Height	19 mm (0.75 in)				
Environmental					
Operating temperature	0°C (32°F) to 35°C (95°F)				
Operating humidity	<95% relative humidity (non-condensing)				
Certificates	CE, VCCI, FCC, ACMA, IC, NRTL, CB				
Warranty	Three-year limited warranty				
	NOTE: For more information about Dell Warranty and Support Policy go to Dell.com.				
System Requirements	Desktop or notebook computer with a Thunderbolt [™] 3 port and one of the following operating systems:				
	vvindows IU x04 Mac OS X 10 13 or later				



NOTE: Speed varies depending on host hardware, software, usage, and storage capacity.

Statutory information

Warranty

Limited warranty and return policies

The Dell Portable Thunderbolt[™] 3 SSD, carry a 3-year limited hardware warranty. If purchased together with a Dell system, it will follow the system warranty.

For U.S. customers:

This purchase and your use of this product are subject to Dell's end user agreement, which you can find at Dell.com/ terms. This document contains abiding arbitration clause.

For European, Middle Eastern and African customers:

Dell-branded products that are sold and used are subject to applicable national consumer legal rights, the terms of any retailer sale agreement that you have entered into (which will apply between you and the retailer) and Dell's end user contract terms. Dell may also provide an additional hard ware warranty–full details of the Del lend user contract and warranty terms can be found by going to Dell.com, selecting your country from the list at the bottom of the "home" Page and then clicking the" terms and conditions" link for the end user terms or the" support" link for the warranty terms.

For non-U.S. customers:

Dell-branded products that are sold and used are subject to applicable national consumer legal rights, the terms of any retailer sale agreement that you have entered into (which will apply between you and the retailer) and Dell's warranty terms. Dell may also provide an additional hardware warranty – full details of Dell's warranty terms can be found by going to Dell.com, Selecting your country from the list at the bottom of the "home" page and then clicking the "terms and conditions" link or the" support" link for the warranty terms.