ThunderBay Flex 8

Assembly Manual & User Guide

Configurable Drive Performance
Mix SATA/SAS[1] and U.2/M.2[2] NVMe
drives for real-world 2750MB/s speed

Productivity Enhancing Docking
Use video/audio mixers and peripherals
while charging mobile devices

See More Detail
Add up to an 8K display
via DisplayPort 1.4[3]

Import 4/8K RAW Videos and Photos
Up to 985MB/s frontside SD 4.0 and
CFexpress card readers

Expandable for Unique Project Needs
PCIe (X16 connection with x4 lanes) slot for
adding an audio/video capture, networking,
SSD storage, hardware RAID, or I/O card

CONTENTS

Introduction

Installation

Support Resources

INTRODUCTION

1.1 System Requirements

Operating System

- macOS 10.15.1 or later

Hardware

- Mac with Thunderbolt 3

Supported Drives and Media Cards

- 4 Upper Bays: 2.5-inch or 3.5-inch SATA drives or U.2 drives

- 4 Lower Bays: 2.5-inch or 3.5-inch SATA drives

- Media Cards:

    - SD cards (up to 4.0 UHS-II)

    - CFexpress (Type B) cards

Supported PCIe Devices

- Mechanical / Electrical

    - Dimensions: supports one card up to half-length, single-width, full-height

    - Mechanical: x16 PCIe slot

    - Electrical: x4 PCIe 3.0

- Cards with drivers must be Thunderbolt-aware

- GPUs are not supported

1.2 Package Contents

| OWC ThunderBay Flex 8 | Thunderbolt 3 cable | Power cable | Security keys
Not pictured: Hex key | Quick start guide | SoftRAID license |

1.3 About This Manual

The images and descriptions may vary slightly between this manual and the unit shipped. Functions and features may change depending on the firmware version. The latest product details and warranty information can be found on the product web page. OWC's Limited Warranty is not transferable and subject to limitations.

⚠ General Use Precautions

- To avoid damage, do not expose the device to temperatures outside the following ranges:

    Environmental (Operating)

    - Temperature (ºF): 50º — 95º

    - Temperature (ºC): 10º — 35º

    Environmental (Non-Operating)

    - Temperature (ºF): -40º — 149º

    - Temperature (ºC): -40º — 65º

- Always unplug the device from the electrical outlet if there is a risk of lightning or if it will be unused for an extended period of time. Otherwise, there is an increased risk of electrical shock, short-circuiting or fire.

- Do not use the device near other electrical appliances such as televisions, radios or speakers. Doing so may cause interference which will adversely affect the operation of the other products.

- Do not place the device near sources of magnetic interference, such as computer displays, televisions or speakers. Magnetic interference can affect the operation and stability of hard drives.

- Do not place objects on top of the device.

- Protect your device from excessive exposure to dust during use or storage. Dust can build up inside the device, increasing the risk of damage or malfunction.

- Do not block any ventilation openings on the device. These help to keep the device cool during operation. Blocking the ventilation openings may cause damage to the device and cause an increased risk of short-circuiting or fire.
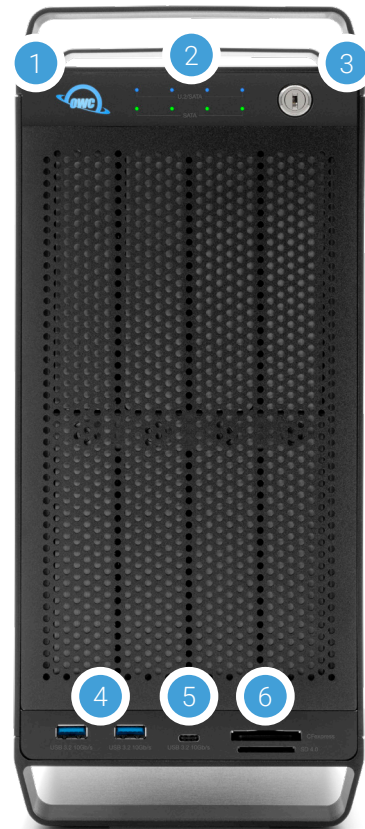
⚠ Safety Precautions

- Read this user guide carefully and follow the recommended steps for assembly.

- Use proper anti-static precautions while installing drives into this enclosure. Failure to do so can cause damage to your drive mechanisms and/or the enclosure.

- Do not attempt to disassemble or modify the device. To avoid any risk of electrical shock, fire, short-circuiting or dangerous emissions, never insert any metallic object into the device. If it appears to be malfunctioning, please contact technical support.

- Never expose your device to rain, or use it near water or in damp or wet conditions. Never place objects containing liquids on the drive, as they may spill into its openings. Doing so increases the risk of electrical shock, short-circuiting, fire or personal injury.

1.4 Front View

1. Power LED – When powered on without a data connection will display white. When powered on with a data connection, will display blue.

2. Drive Status LEDs – The top row displays the status of SATA and/or U.2 Drives, while the bottom row displays the status of additional SATA drives. The LEDs on the top row will flash blue for U.2 drive activity or green for SATA drive activity. The bottom row will flash green for SATA drive activity.

3. Security lock – secure installed drives by using this lock.

4. USB 3.2 Gen 2 ports – connect compatible USB devices with a Type-A connection here.

5. USB 3.2 Gen 2 port – connect a compatible USB device with a Type-C connection here.

6. Media cards – use the top slot for CFexpress Type B card; use the bottom slot for SD-compatible media (up to SD 4.0).

1.5 Rear View

1. PCIe slot cover – any available I/O ports on installed PCIe cards will be available here.

2. Thunderbolt 3 ports – connect a compatible host to the 85W port and chain additional Thunderbolt 3 devices to the 15W port.

3. DisplayPort 1.4 – connect a DisplayPort display here.

4. Security slot – connect a security tether here.

5. Power input – connect power cable here.

6. Power switch – power the device on or off with this switch.

7. Power light – additional power indicator.

1.6 Usage Notes

- U.2 drives supported only in the top 4 drive bays. The left-most bay provides x4 PCIe lanes for maximum performance; the remaining three provide x1 lanes each.

- 2.5-inch or 3.5-inch SATA drives accepted in all 8 bays.

- Front USB ports can connect at up to 10Gbps even though they are Type-A ports (USB 3.2 Gen 2).

- Thunderbolt device chains can support up to six Thunderbolt devices.

- By using the DisplayPort feature, the overall performance of the drive may decrease somewhat, as the DisplayPort shares bandwidth with the Thunderbolt 3 ports. The same is true if you connect a display to one of the available Thunderbolt 3 ports (this can be done with either a native Thunderbolt 3 display or with a Thunderbolt 3 display adapter).

- Thunderbolt 3 is backwards compatible with Thunderbolt 2 and Thunderbolt, but speeds can be impacted depending on where in the chain a device is connected. If mixing Thunderbolt 3 with Thunderbolt 2 and/or Thunderbolt devices, use the device order shown below, if possible. Computer > Thunderbolt 3 devices > Thunderbolt 2 devices > Thunderbolt devices.

- SAS drives – Use of SAS drives requires the installation of a PCIe SAS controller (sold separately).

- To ensure no data is lost during normal use, always eject or unmount the corresponding disk(s) from your operating system before powering off the device. Several options are provided below for Mac.

  - Drag the icon for the disk you wish to unmount to the trash can; OR

  - Right-click the disk icon on the desktop, then click "Eject"; OR

  - Highlight the disk on your Desktop and press Command-E.

1.7 OWC Dock Ejector

This application safely ejects all drives connected to the ThunderBay Flex 8 with a single click, adding peace of mind to fast-paced workflows. To install this app, please follow the steps below.

- Download the installer file: download.owcdigital.com/dockejector/mac

- Launch the installer and follow the prompts. No restart is required.

- Once the app is running an icon like the one shown below will appear in the macOS menubar

- To learn more about OWC Dock Ejector please visit: go.owcdigital.com/dockejector.

INSTALLATION

If you purchased the ThunderBay Flex 8 with drives, they have been installed prior to shipment — please skip to the notes at the end of Section 2.2. If you are installing your own drives, follow the steps in Section 2.1 to install 3.5-inch hard drives into your ThunderBay Flex 8 enclosure, or to replace existing 3.5-inch drives. **Note:** it is possible to install 2.5-inch SATA or U.2 drives (U.2 supported in top 4 bays only) using the fine-threaded screws that are included and the four screw holes on the bottom of each drive tray (highlighted in step 5 below).

2.1 Drive Installation

1. Insert one of the included keys into the lock on the upper right of the faceplate.

2. Turn the key clockwise, then pull it towards you. The faceplate will swing open.

3. Once the faceplate has swung open as far as it will go, lift to remove it.

4. For each tray you wish to remove, turn the thumbscrew counter-clockwise until you no longer feel resistance. Then hold onto the thumbscrew and pull the drive tray out.

5. Set the drive tray on your work surface as shown. If you are replacing an existing hard drive, unscrew it from the drive tray at this time. Note: the highlighted screw holes are for 2.5-inch drives (SATA or U.2). The holes for 3.5-inch drives are highlighted in green (Step 7).

6. Place the hard drive inside the drive tray as shown. The label should face up and the SATA connectors should be on the far rear corner of the drive.

7. Fasten the drive into the drive tray using six of the included screws (three per side). 2.5-inch drives require four of the fine-thread screws.

8. Slide the drive tray back into the rails in the ThunderBay Flex 8 and push until it is seated fully, then push in on the thumbscrew and turn it clockwise until it stops turning. If you encounter resistance, do not force the drive tray. Remove it, check to make sure there are no obstructions and that the drive tray is lined up correctly, then try again.
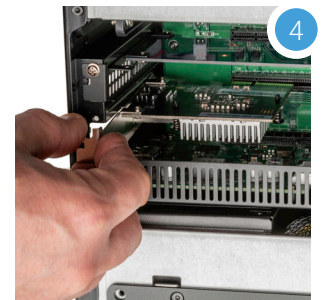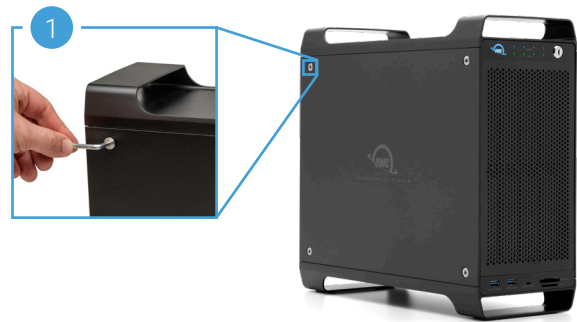
2.2 Quick Start

1. Install drives into the ThunderBay Flex 8 according to the instructions in Section 2.1. if you have not already done so.

2. Connect the power supply between the ThunderBay Flex 8 and a power outlet.

3. Connect the included Thunderbolt cable between the ThunderBay Flex 8 and a computer. When you do this, the device will power on and the drives will be available for use on the computer.

- **NOTE:** If you installed your own drives in the previous section, they need to be formatted before you can use the ThunderBay Flex 8.

- This product shipped with a license for SoftRAID, which is recommended for setting up RAID volumes and working with ThunderBays. If you purchased your solution with drives, they were already formatted as a RAID volume, but you should still install SoftRAID to get the best performance and functionality.

- If you do not wish to use SoftRAID you can visit www.owcdigital.com/format and use one of the Mac specific links for instructions on formatting your drives.

5

2.3 Installing a PCIe Card

1. As you face the front of the device, the side-panel on the left needs to be removed. Use the included hex key to loosen and remove the four fasteners holding the panel in place.

2. Remove the side cover and set it aside.

3. Remove the PCIe slot cover then set the screw aside. Store the slot cover; it will not be needed to complete this installation.

4. Align your PCIe card's connector with the open slot then install the card as you normally would when installing into a desktop computer.

5. Use the screw from Step 3 to affix the card's bracket to the case.

6. If your PCIe card has I/O Ports, double-check the back of the device to ensure the bracket is level / that none of the ports are obscured by the plating on the back of the case. If needed, loosen the screw you set in Step 5, re-align bracket as needed, and re-tighten the screw.

7. Set the side cover back on the case, making sure the holes are aligned with the four fastener holes, then re-affix the four fasteners removed in Step 1.

2.4 Why Install SoftRAID?

OWC ThunderBay Flex 8 manages and protects your data with our advanced SoftRAID engine. SoftRAID offers multiple RAID options (0, 1, 4, 5, 1+0), giving you the ability to set up your storage for speed, data security or the best of both worlds. Packed with features from active predictive disk failure monitoring, to multiple array volume spanning, SoftRAID from OWC brings technology typically found only in data centers to your workstation or editing bay.

To learn more about SoftRAID please visit:
www.softraid.com

2.5 Changing Drives & Drive Failure

You can add or remove any drive without needing to turn off the device or to unmount any of the other drives. Each drive operates independently of the others and is not affected by the addition or removal of another drive unless you set them up as members of a RAID array.

By itself, the ThunderBay Flex 8 does not monitor drive health or alert you to a drive failure. You can monitor the health of your drives via SoftRAID in order to determine when a drive has failed or is in a pre-failure state. To replace a failed drive, simply remove the drive from its bay and replace it with another drive, following the steps in Section 2.1. The device does not need to be powered off during this process.

3.1 Troubleshooting

Begin troubleshooting by verifying that the power cable is connected to the ThunderBay Flex 8 and to a power source. If the power cable is connected to a power strip, make sure that the power switch on the strip is turned on. Then, verify that the Thunderbolt 3 cable is properly plugged into the computer and the ThunderBay Flex 8.

If the ThunderBay Flex 8 is still not working properly, try connecting to another computer or using another Thunderbolt 3 cable. When the computer goes to sleep, the ThunderBay Flex 8 will go to sleep. If you are still experiencing problems, consult Section 3.4 for OWC technical support contact information.

3.2 About Data Backup

To ensure that your files are protected and to prevent data loss, we strongly suggest that you keep two copies of your data: one copy on your OWC ThunderBay Flex 8 and a second copy on your internal drive or another storage medium, such as an optical backup, or on a second external storage unit. Any data loss or corruption while using the ThunderBay Flex 8 is the sole responsibility of the user, and under no circumstances may OWC, its parent, partners, affiliates, officers, employees, or agents be held liable for loss of the use of data including compensation of any kind or recovery of the data.

3.3 Online Resources

To access our online knowledge base, please visit: www.owcdigital.com/support/faq

3.4 Contacting Technical Support

Phone: M–F, 8am–8pm CT
1.866.692.7100 (N. America) | +1.815.338.4751 (Int'l)

Chat: M–F, 8am–8pm, Sat 9am–5pm CT
www.owcdigital.com/support

Email: Answered within 48 hours
www.owcdigital.com/support

Changes:

The material in this document is for information purposes only and subject to change without notice. While reasonable efforts have been made in the preparation of this document to assure its accuracy, OWC, its parent, partners, affiliates, officers, employees, and agents assume no liability resulting from errors or omissions in this document, or from the use of the information contained herein. OWC reserves the right to make changes or revisions in the product design or the product manual without reservation and without obligation to notify any person of such revisions and changes.

FCC Statement:

Warning! Modifications not authorized by the manufacturer may void the user's authority to operate this device. NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the 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 with 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 receiver.

- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.

Warranty:

The ThunderBay Flex 8 has a 3 Year OWC Limited Warranty or 5 Year OWC Limited Warranty if it was bundled with drives. ThunderBay Flex 8 enclosures that do not ship with drives have a 1 Year OWC Limited Warranty. For up-to-date product and warranty information, please visit the product web page.

Copyrights and Trademarks:

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written consent of OWC.

1. Requires SAS drive controller.
2. Requires M.2 to U.2 adapter.
3. Full DisplayPort 1.4 capabilities depends on host computer support of DisplayPort 1.4 specification through its Thunderbolt 3 connection, host computer GPU capabilities, and connecting cable capabilities.