



# ioSafe® Duo Series

Fireproof and Waterproof RAID Storage Device

## User Manual

### Models

ioSafe Duo

ioSafe Duo Pro



# Table of Contents

<b>1 General Information</b>	<b>3</b>
1.1 Introduction	3
1.2 Activate Warranty and Data Recovery Service Protection	3
1.3 Package Contents	4
1.4 ioSafe Duo at a Glance	5
1.5 LED Behavior	6
1.6 Warnings and Notices	6
<b>2 Hardware Setup</b>	<b>8</b>
2.1 Drive Installation	8
2.1.1 Tools and Parts for Drive Installation	8
2.1.2 SATA Drive Installation or Removal	8
2.2 Connecting the ioSafe Duo	14
USB Type-C Cable	14
USB Type-C to A Cable	14
2.3 RAID Configuration	16
2.3.1 Introduction to RAID	16
2.3.2 Selecting the RAID Mode	17
2.4 Connect Additional USB Peripherals	18
<b>3 Usage with Windows and Mac Operating Systems</b>	<b>19</b>
3.1 Usage with Windows Operating Systems	19
3.1.1 Accessing or Disconnecting the ioSafe Duo in Windows	19
3.1.2 Formatting the ioSafe Duo	20
3.2 Usage with macOS	22
3.2.1 Accessing or Disconnecting the ioSafe Duo in macOS	22
3.2.1 Formatting the ioSafe Duo	23
3.2.3 Create a Boot Drive	24
<b>4 Securing the ioSafe Duo</b>	<b>25</b>
<b>5 Hardware Maintenance</b>	<b>26</b>
5.1 Verify RAID Creation in Windows	26
5.2 Replace a Failed Drive in a RAID 1 Array	30
5.3 Drive Rotation as Part of a Backup Schedule	31
5.4 Replace System Fan	32
<b>6 Troubleshooting</b>	<b>33</b>
My ioSafe Duo will not show up on my Windows computer and causes it to make repeating disconnection sounds	33
<b>7 Product Support</b>	<b>37</b>
7.1 Activate Data Recovery Service Protection	37
7.2 ioSafe No-Hassle Warranty	37
7.3 Data Recovery Procedure	37
7.4 Contact Us	38
<b>Appendix: Technical Specifications</b>	<b>39</b>



# 1 General Information

## 1.1 Introduction

Congratulations on the purchase of your fireproof and waterproof ioSafe Duo! The Duo is ideal for making sure your data is fully protected—from fire, water (floods and plumbing breaks, for example), and even hard drive failure. The ioSafe Duo contains two hard drives that are configured so that two copies of your work are automatically created.

This User Manual will show you how to properly set up an ioSafe Duo, from installing your own drives, to customizing your RAID configuration, to using it with Windows and macOS operating systems. You will also learn how replace a failed drive, the unit's system fan, and verify a RAID array using Windows.

## 1.2 Activate Warranty and Data Recovery Service Protection

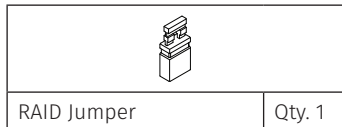
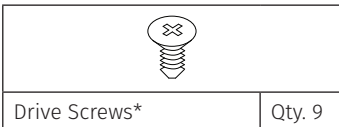
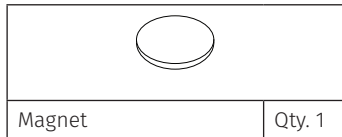
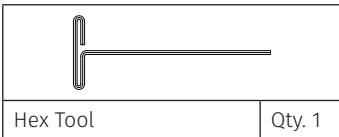
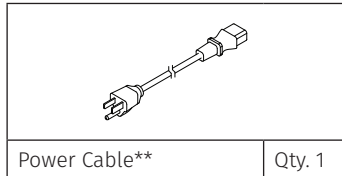
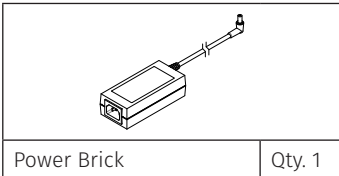
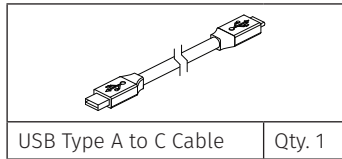
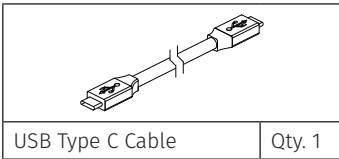
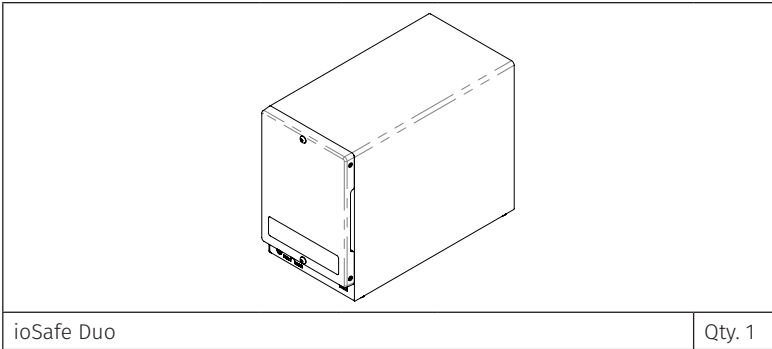
Please make sure you register your product to ensure you receive notices of product updates and are fully protected by our hardware warranty and Data Recovery Service (if applicable).

Register your product to activate your Data Recovery Service protection plan and warranty by visiting [iosafe.com/activate](https://iosafe.com/activate).



### 1.3 Package Contents

Check the package contents to verify that you have received the items below. Please contact ioSafe if any items are missing or damaged.

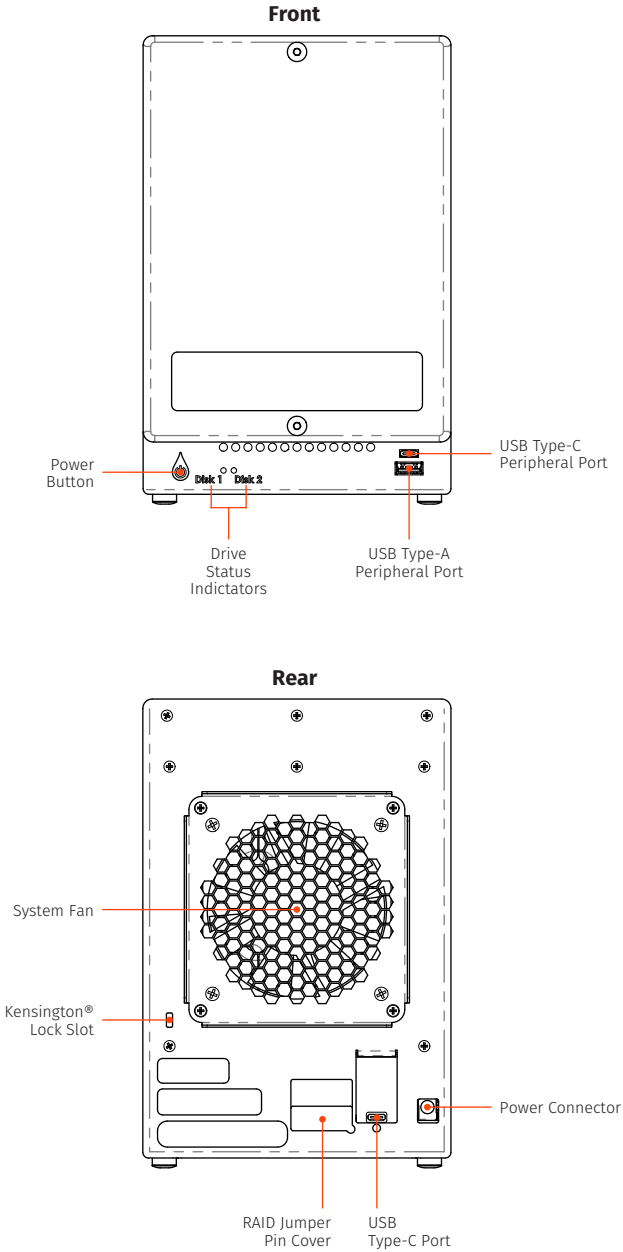


\*Only included with unpopulated units

\*\*Power cable is localized to the region you purchased your product for, whether North America, European Union/United Kingdom, or Australia. European Union and United Kingdom units are packaged with two power cables, one for each region.



## 1.4 ioSafe Duo at a Glance





## 1.5 LED Behavior

This table describes the behavior of the LEDs on the front of the ioSafe Duo. Note that a “RAID array” is how the two hard drives inside the ioSafe Duo are linked together. One of the ways they can be linked together is as a RAID 1, which automatically ensures that an exact copy of your data is always available in case one of the hard drives in the ioSafe Duo dies. Other RAID modes are available. To use them, see Section 2.3.

LED Name	Color	State	Description
Disk Activity LEDs #1-2	Green	Solid	The corresponding drive bay is powered on.
		Slow Blinking	The corresponding drive is being accessed.
	Amber	Solid	Both LEDs are solid amber when the internal temperature of the ioSafe Duo is over 131° F/55° C. Ensure the unit is being stored in a properly ventilated area.
		Slow Blinking	Indicates that the corresponding drive is being accessed while the internal temperature of the ioSafe Duo is over 131° F/55° C. Ensure the unit is being stored in a properly ventilated area.
	Red	Slow Blinking	Indicates a drive failure or disconnection of the corresponding drive.
		Fast Flickering	The RAID 1 array is being rebuilt. The disk with the red LED is the disk that is being overwritten.
Power LED	Blue	Off	The unit is powered off.
		Solid	The unit is powered on.
		Blinking	A RAID array is being created.
	Red	Solid	Indicates a fan failure. Please contact Technical Support to obtain a replacement fan (see Section 7).
		Blinking	A RAID array is being created at the same time a fan has failed. Please contact Technical Support to obtain a replacement fan (see Section 7).

## 1.6 Warnings and Notices

Please read the following before using the product.

### General

- If a hard drive inside the ioSafe Duo ever fails, **do not** replace it without consulting Section 5.2 in this manual first. We’ve made the drive replacement procedure very easy to follow, but if you don’t follow it you might accidentally erase your data!
- The circuit boards within the product are susceptible to static electricity. Proper grounding is strongly recommended to prevent electrical damage to the product or other connected devices, including the computer host. Avoid all dramatic movement, tapping on the unit, and vibration.



- Avoid placing the drive carrier close to magnetic devices or high voltage devices.
- Before starting any type of hardware installation, please ensure that all power switches have been turned off and all power cords have been disconnected to prevent personal injury and damage to the hardware.
- To avoid overheating, the ioSafe Duo should be operated in a well-ventilated area.

## RAID

- Use only drives that are in perfect condition. Avoid using drives that have ever developed bad sectors during previous use. This could lead to possible device failure or loss of data.
- The ioSafe Duo supports SATA drives of various specifications and different capacities. However, we recommend using drives of the same brand and type for optimal performance that have been qualified by ioSafe. To view a list of qualified drives, please visit [iosafe.com](http://iosafe.com).
- If drives of different capacities are used in a RAID 1, the capacity of the smallest drive will determine how much of each drive is used. The additional capacity on the larger drive will not be used by the RAID.
- Always back up data before switching RAID types. Switching RAID types will destroy current data. You must reformat your drives afterwards.

## About USB

- Actual connection performance depends on many factors including: CPU, file system overhead, number of attached devices and more. Given these and other factors, in day-to-day use you can expect maximum, sustained transfer rates to be less than the theoretical rates maximum rates possible with the connection.
- USB 3.2 is backwards compatible with USB 2.0, USB 3.0, and USB 3.1 host computers.
- The cables supplied with your system have been optimized for performance. Longer cables or third-party cables may not work or only work intermittently.



## 2 Hardware Setup

### 2.1 Drive Installation

#### **NOTE**

If you purchased an ioSafe Duo with pre-installed drives, skip this section and continue on to Section 2.2.

#### 2.1.1 Tools and Parts for Drive Installation

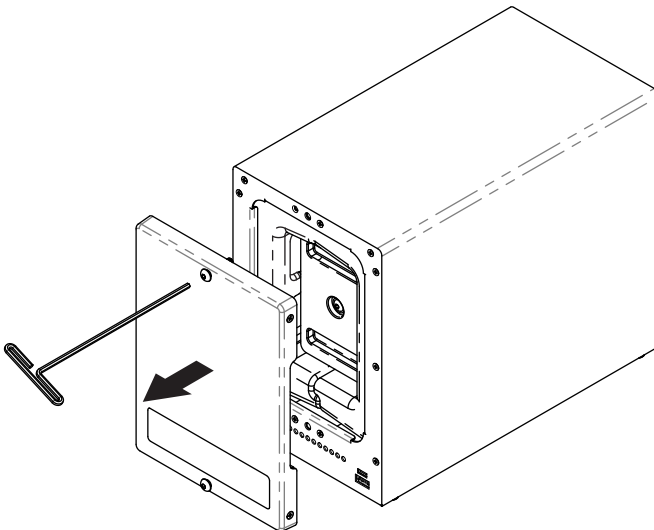
- Phillips screwdriver
- Hex tool (included)
- At least one 3.5-inch or 2.5-inch SATA hard drive or solid state drive (SSD). Please visit [iosafe.com](http://iosafe.com) for a list of qualified drive models.

#### **STOP!**

Using drives with previously existing data on them in a new RAID or SPAN array will cause the previously existing data to be erased. Please back up your data before beginning this operation. However, if you are using the ioSafe Duo in JBOD mode, the previously existing data will not be erased. See Section 2.3 for an introduction to the RAID and non-RAID modes that the ioSafe Duo supports.

#### 2.1.2 SATA Drive Installation or Removal

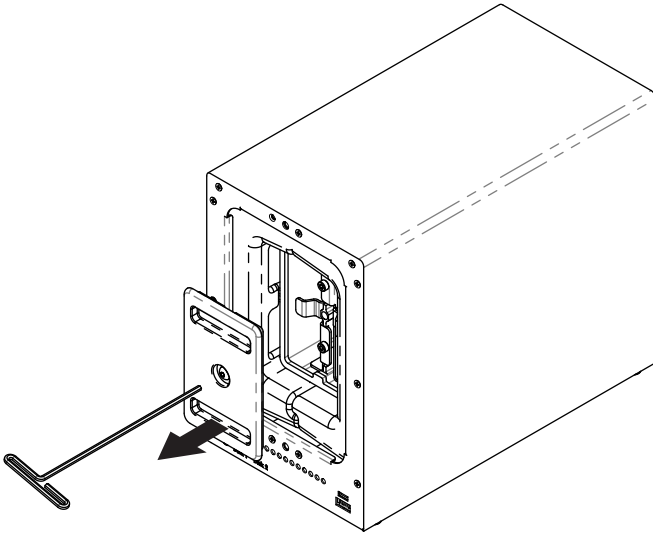
- a. Use the included hex tool to remove the screws on the top and bottom of the front cover. Then remove the front cover.



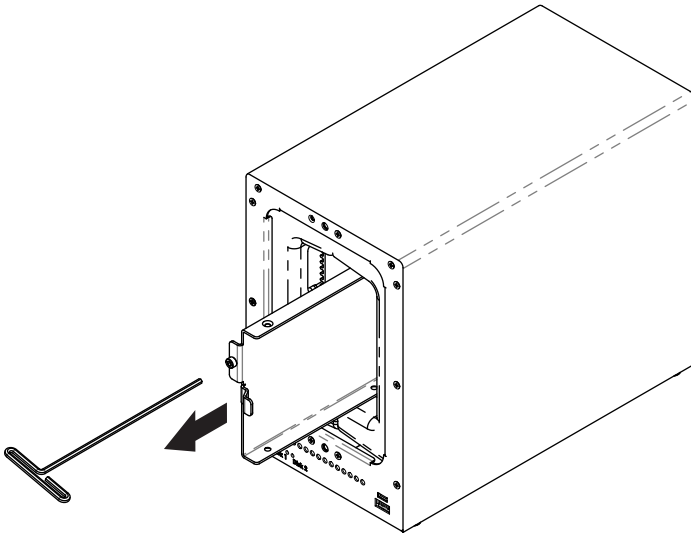




- b. Remove the waterproof drive cover with the 3mm hex tool.



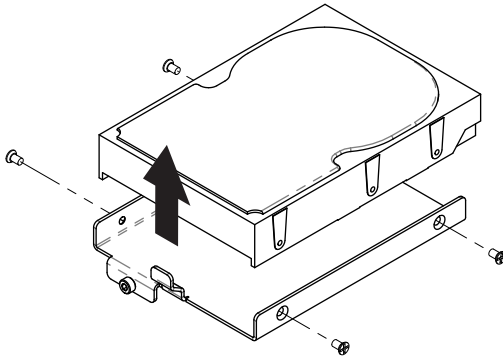
- c. Remove the drive trays with the hex tool.





- d. If you are removing a previously installed hard drive(s), remove the drive(s) from the drive tray by removing the four (4) drive screws holding it into the tray with a Phillips screwdriver.

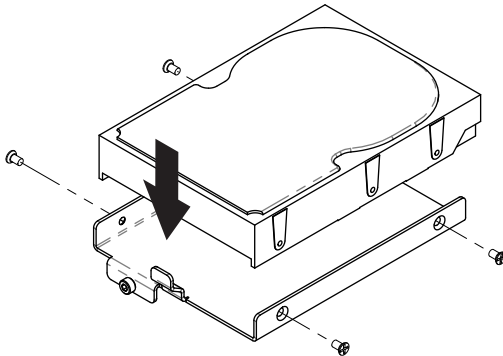
Otherwise, skip this step.



- e. Install a compatible drive into each drive tray using the supplied four (4) drive screws and a Phillips screwdriver. Please visit [iosafe.com](http://iosafe.com) for a list of qualified drive models.

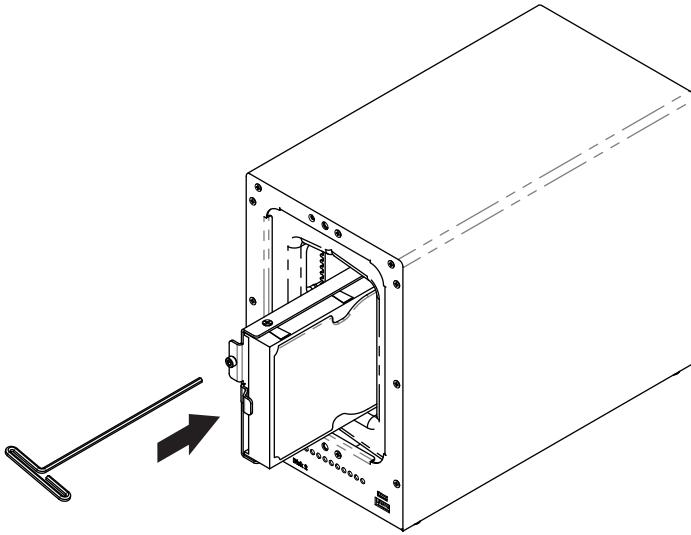
## **NOTE**

Since you'll likely be using this as part of a RAID array, ioSafe recommends that both installed drives should have the same capacity.





- f. Insert each loaded drive tray into an empty drive bay, ensuring that each one is pushed in all the way. Then tighten the screws using the hex tool.

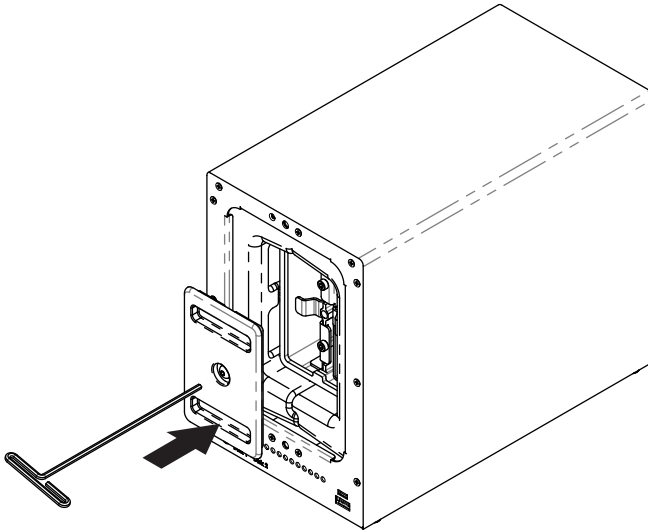




- g. Replace the waterproof drive cover and securely tighten it using the hex tool.

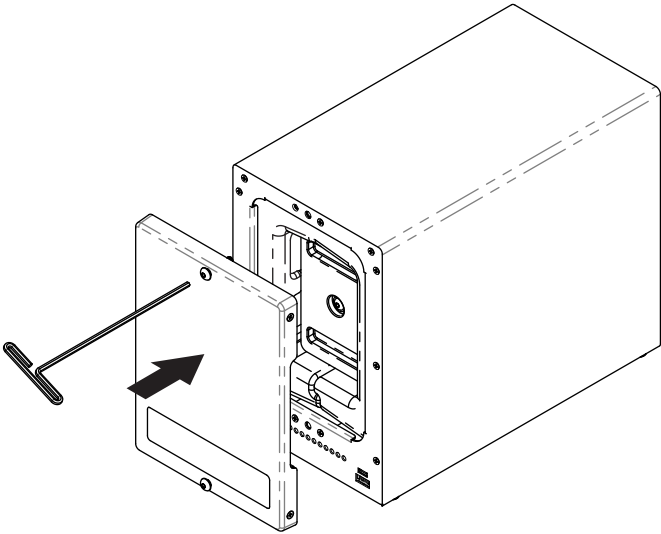
**NOTE**

Avoid using tools other than the supplied hex tool to secure the waterproof drive cover as you could under-tighten or break the screw. The hex tool has been designed to flex slightly when the screw is sufficiently tight and the waterproof gasket is properly compressed.

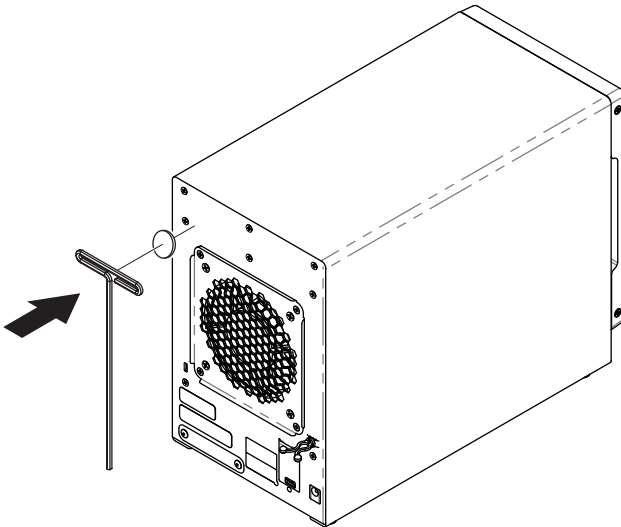




- h. Install the front cover to finish installation and protect the drives from fire.



- i. You may optionally use the round magnet provided to attach and store the hex tool on the back of the unit.



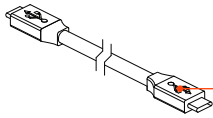


## 2.2 Connecting the ioSafe Duo

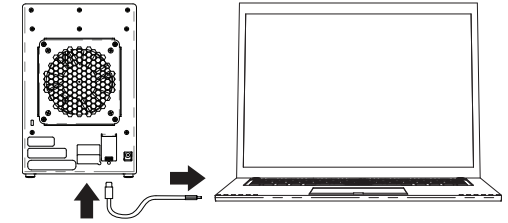
- a. Connect the ioSafe Duo to your computer using one of the provided USB cables.

### USB Type-C Cable

For the fastest performance, connect the Duo to a USB 3.2 Gen 2 Type-C port on your computer.

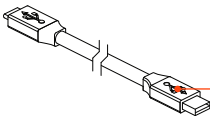


USB Type-C Connector

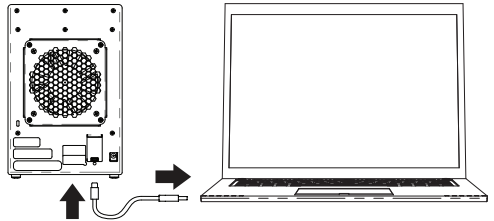


### USB Type-C to A Cable

The Duo also runs on USB 3.x and 2.0 Type-A ports.



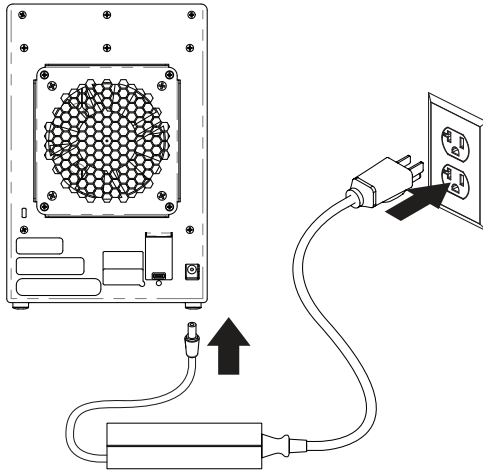
USB Type-A Connector



## **NOTE**

The cables that come in the box have been optimized for performance. Longer cables or third-party cables may not work or only work intermittently.

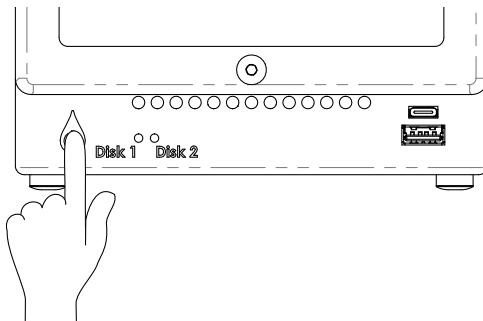
- b. Connect the Duo to power using the provided power cord.



## **STOP!**

If you purchased the ioSafe Duo **without** pre-installed drives, or if you plan to use a different RAID mode other than RAID 1, do **not** turn on the power yet. Continue to Section 2.3 instead.

- c. Press the power button on the front to turn on the unit.





## 2.3 RAID Configuration

### **NOTE**

If you purchased the ioSafe Duo with pre-installed drives and you intend to use the default RAID 1 mode, skip this section.

#### 2.3.1 Introduction to RAID

A RAID (Redundant Array of Independent Disks) is an array of multiple data drives that are combined in a way that provides faster performance or data safety. The ioSafe Duo is capable of several RAID and RAID-like modes. Choose your preferred mode based on factors such as disk capacity, desired data safety, and desired performance.

### **NOTE**

ioSafe recommends that you use this product as a RAID 1 device. RAID 1 automatically maintains an exact copy of all data stored on the Duo and protects you against the loss of a single drive. If you purchased an ioSafe Duo with pre-installed drives, no additional steps are necessary to do use it in this mode. The Duo works as a RAID 1 device right out of the box.

#### Supported RAID Modes

Mode	Description	Required No. of Drives
RAID 0	All drives are combined into one single volume and benefit from increased read and write speeds at the cost of a higher risk of failure. If one drive fails, the data on all drives is destroyed.	2
RAID 1	Known as mirroring. All data is replicated on two separate disks, so only half of the combined disk capacity is available for data storage.	2

#### Supported RAID-Like Modes

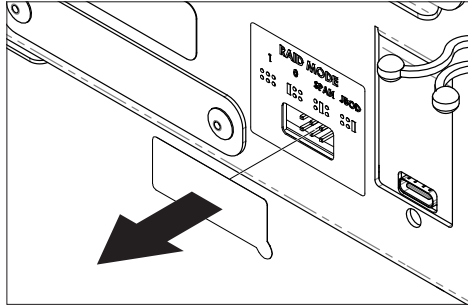
Mode	Description	Required No. of Drives
JBOD	All drives are treated as individual volumes and will appear as separate volumes in your operating system.	1
SPAN	All drives are combined into one single volume at the cost of a higher risk of failure. It does <b>not</b> benefit from the same speed advantages that RAID 0 does. If one drive fails, the data on all drives is destroyed.	2



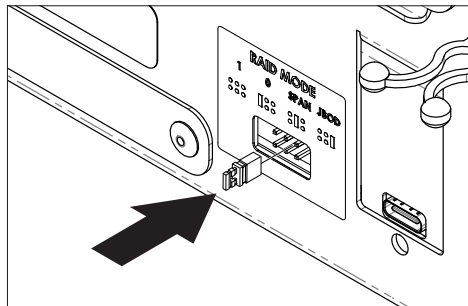


### 2.3.2 Selecting the RAID Mode

- a. Power off the ioSafe Duo.
- b. Peel away the RAID Jumper Pin Cover sticker located on the rear of the ioSafe Duo.

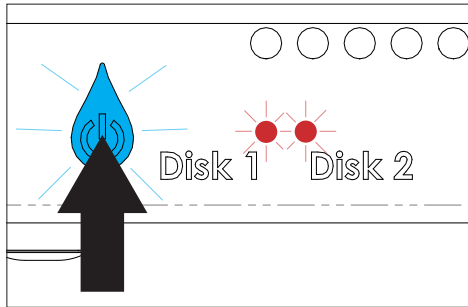


- c. Insert the included jumper onto the appropriate jumper pins according to your desired RAID mode, which is indicated on the legend above the jumper pins.





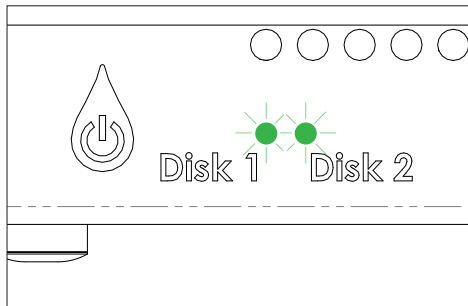
- d. Press and hold down on the Power button until the Power button begins blinking blue. The Drive Activity LEDs for both disks will also briefly blink red. The blinking indicates that the array is being created.



**NOTE**

Failure to hold the power button down will cause the ioSafe Duo to appear on your computer as two separate drives (JBOD Mode) instead of one unified drive, regardless of what RAID jumper setting you use.

- e. The Power button will stop blinking and the Disk Activity LEDs will glow a solid green once the array has been created. Verify that the RAID mode is correct (see Section 5.1).



**2.4 Connect Additional USB Peripherals**

The USB ports on the front of the ioSafe Duo allow you to connect additional USB peripherals, including thumb drives and phones. One (1) USB Type-A port and one (1) USB Type-C port have been provided. Any connected devices will connect to your computer like normal.



## 3 Usage with Windows and Mac Operating Systems

### 3.1 Usage with Windows Operating Systems

#### 3.1.1 Accessing or Disconnecting the ioSafe Duo in Windows

##### Accessing the ioSafe Duo

When the ioSafe Duo is properly connected and turned on (see Section 2), a window may open on your computer to allow you access it.

#### NOTE

If you need to use the ioSafe Duo with both macOS and Windows computers, you will need to reformat it. See Section 3.2.1 for directions.

If you are using Windows 10 and no window appears, press **Windows Key + E** on your keyboard to open a File Explorer window. Then click on **This PC** in the File Explorer window's navigation pane. Double-click on the icon representing the ioSafe Duo.

If you are using Windows 8.1, press **Windows Key + E** on your keyboard to open a File Explorer window. Then click on **Computer** in the File Explorer window's navigation pane. Double-click on the icon representing the ioSafe Duo.

#### NOTE

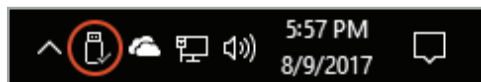
If you have installed your own hard drives in the ioSafe Duo and **did not** order a Duo with pre-installed drives, then you will need to reformat your Duo before you can see it on your computer. Please consult the User Manual located at [iosafe.com](http://iosafe.com) for instructions.

#### NOTE

If your computer begins making repeating device disconnection sound effects when you turn on the ioSafe Duo, and the Duo will not appear on your computer, then please see Section 6.

##### Disconnecting the ioSafe Duo

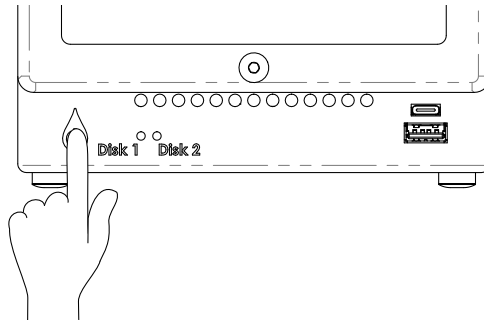
- Left click the **USB plug icon** with the checkmark on the Desktop task bar (see the image below) and select the ioSafe Duo from the menu that pops up. You may have to click on the **Show Hidden Icons arrow** on the task bar to find the correct icon. Windows will indicate when it is safe to disconnect the USB cable from the ioSafe Duo.



The USB Plug icon in the Windows 10 Desktop task bar.



- b. Power off the ioSafe Duo.



## **NOTE**

Turning off the ioSafe Duo or disconnecting it from your computer without following the procedure above can result in data loss.

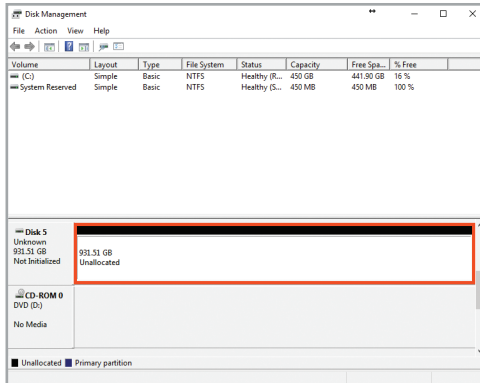
### **3.1.2 Formatting the ioSafe Duo**

Follow the steps below for Windows 10 and Windows 8.1 to reformat your ioSafe Duo.

## **NOTE**

If you purchased an ioSafe Duo with pre-installed drives, it will work with Windows right out of the box without needing to format it. You may skip this section.

- a. Press **WINKEY + X** and then select **Disk Management**.
- b. The drive should appear in the list of Disks in the lower pane. You may need to scroll down to see it. If the drive is already formatted, you can identify it easily by its volume name. If the drive is not initialized or is brand new, a window will pop up asking you to select a partition type. Select **GPT** and press **OK**.
- c. To format the volume, right-click the **Drive Properties Box** of the drive (highlighted red in the figure below) and select **New Simple Volume...**



The Disk Management pane with the Drive Properties Box highlighted in red.

- d. Unless you wish to customize the settings in these dialog prompts, click **Next** on the Select Partition, Specify Volume/Partition Size, and Assign Drive Letter or Path dialog prompts, leaving the default settings.
- e. Choose your preferred file system from the file system selection window that appears and enter a name for the new volume. Then check the box labeled **Quick Format**, which ensures that the formatting process will take less than a minute.

## NOTE

If you want to use your ioSafe Duo with both macOS and Windows, choose the **ExFAT** file system.

- f. Click **Next** and then **Finish** to start the format process. When the format is complete, the Drive Properties Box will update to show the new volume name.

Once the ioSafe Duo is reformatted, a window may open on your computer to allow you access it.

If you are using Windows 10 and no window appears, press **Windows Key + E** on your keyboard to open a File Explorer window. Then click on **This PC** in the File Explorer window's navigation pane.

If you are using Windows 8.1, press **Windows Key + E** on your keyboard to open a File Explorer window. Then click on **Computer** in the File Explorer window's navigation pane.



## 3.2 Usage with macOS

### 3.2.1 Accessing or Disconnecting the ioSafe Duo in macOS

#### Accessing the ioSafe Duo

If the ioSafe Duo is already formatted, an icon representing it will appear on the desktop. Double-click on the icon to access it.

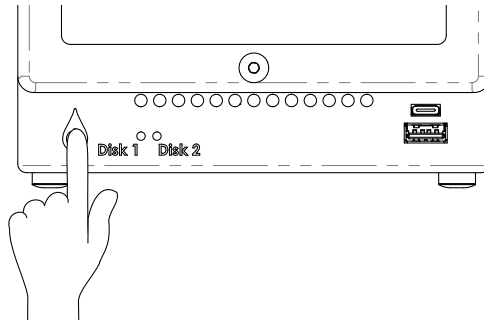
#### **NOTE**

If you purchased an ioSafe Duo with pre-installed hard drives and this is your first time using it, then you will need to reformat it before you can write files to it.

If it's unformatted, a message will appear on the desktop saying that the disk is unreadable. Use Disk Utility to easily format the drive (see Section 3.2.2).

#### Disconnecting the ioSafe Duo

- a. Eject the ioSafe Duo before powering down the unit by dragging the ioSafe Duo's icon to the **Trash**, or by selecting the ioSafe Duo's icon and then pressing **Command + E** on your keyboard.
- b. Power off the ioSafe Duo.



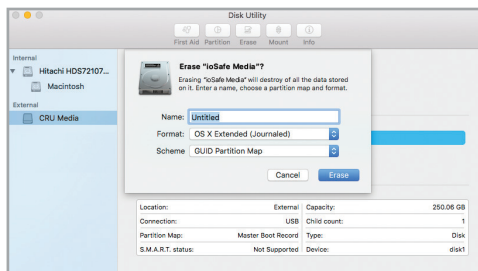
#### **NOTE**

Turning off the ioSafe Duo or disconnecting it from your computer without following the procedure above can result in data loss.

### 3.2.1 Formatting the ioSafe Duo

Use Disk Utility to format the drives in the Duo, which can be found in **Applications** → **Utilities**, or by selecting **Spotlight Search** (Command + Space) and typing in "Disk Utility" and then hitting **Return** on your keyboard.

- Click on the drive in the window to the left.
- Click on the **Erase** button at the top.
- Enter a name for the new volume.
- Select the format type. Select **APFS** if you are using SSDs. If you purchased the ioSafe Duo with pre-installed drives or are using your own hard drives, choose **OS X Extended (Journaled)**. If you need to use your ioSafe Duo with both macOS and Windows computers, select **ExFAT** instead.
- For the scheme, select **GUID Partition Map**.
- Click **Erase** to start the process.
- Once the format is complete, click **Done**.
- Once the ioSafe Duo is formatted, double-click on the icon representing the Duo on the desktop to access it.



macOS Disk Utility, showing the "Erase" submenu.



### 3.2.3 Create a Boot Drive

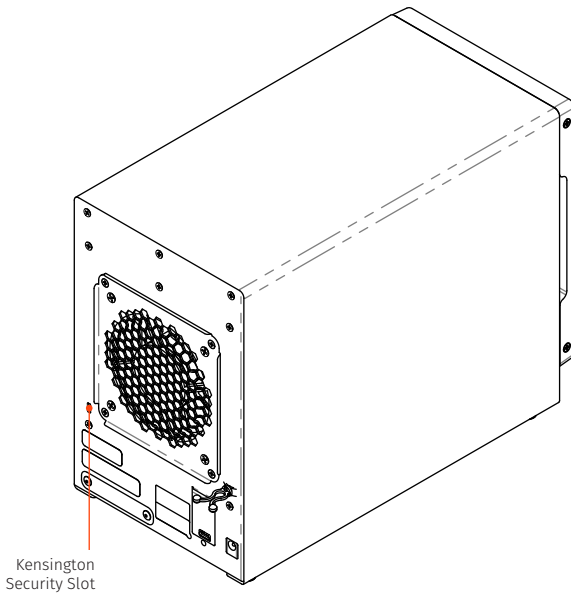
To create a boot drive, you must first install macOS on the ioSafe Duo by using a third-party app like MacDaddy Install Disk Creator. Next, go to **System Preferences** → **Startup Disk**. A window will list the available bootable volumes. Select the volume from which you wish to boot. Another method is to hold down the Option key during boot up. A screen should appear that allows you to select the volume you wish to use. This is useful if you are sporadically booting from the ioSafe Duo.





## 4 Securing the ioSafe Duo

For drive security, the ioSafe Duo is equipped with a Kensington security slot, which supports a standard Kensington security cable (sold separately). For more information on the Kensington security slot and available products, visit [kensington.com](https://www.kensington.com).





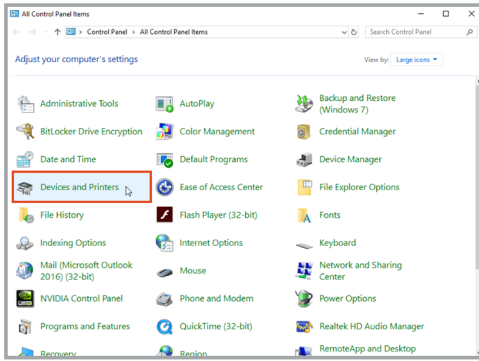
## 5 Hardware Maintenance

### 5.1 Verify RAID Creation in Windows

You can verify that the RAID was created correctly by following these steps:

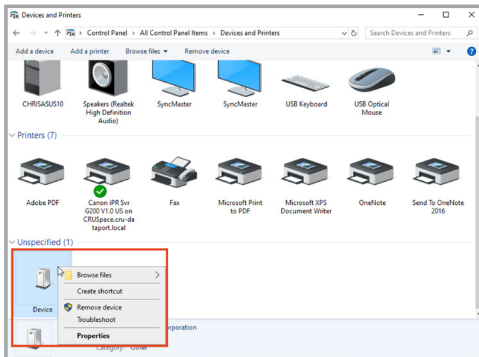
- a. In Windows, go to **Control Panel** → **Devices and Printers**. In Windows 10, you can find the Control Panel by typing “Control Panel” into the taskbar search field and selecting the **Control Panel app** in the results listing.

If your Control Panel is sorted by category, then “Devices and Printers” can be found in the “Hardware and Sound” category.



The Control Panel, sorted by Large Icon view.

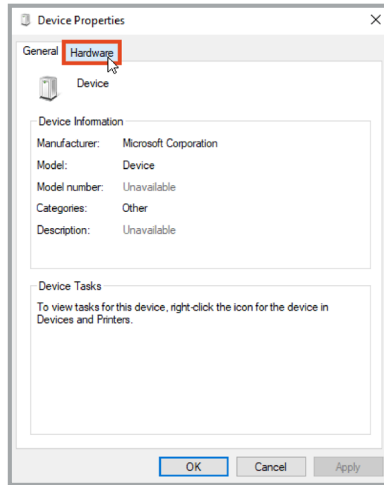
- b. Right click on the ioSafe Duo device and select **Properties**. It may be categorized under the “Unspecified” category and named “Device”.



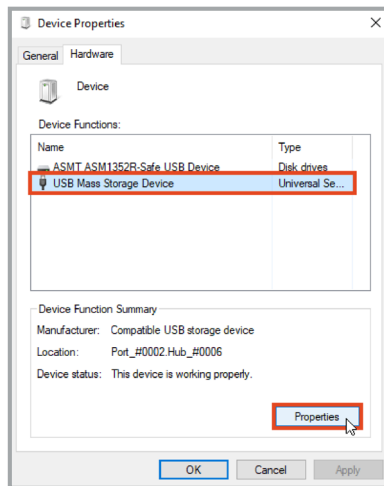
Right-clicking on the ioSafe Duo device in “Devices and Printers”.



- c. In the Device Properties window that opens, select the **Hardware tab**.

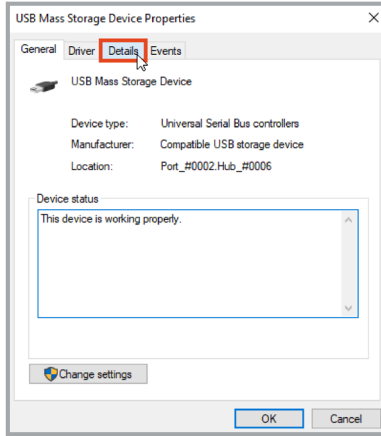


- d. Select **USB Mass Storage Device** from the list on the Hardware tab. Then click the **Properties button**.

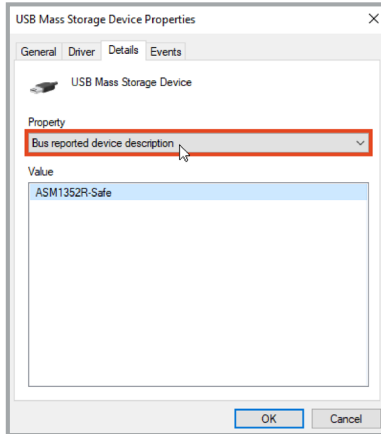




- e. In the properties window that opens, select the **Details tab**.



- f. Click on the **Property drop-down box** and select **Bus reported device description** from the list that appears.





- g. In the Value box, you should see text similar to “ASM1352R-XXXXXX,” where the X’s are placeholder names. The X’s correspond to the RAID mode that the device is currently in.

Mode	Corresponding Device Name
RAID 0	ASM1352R- <b>FAST</b>
RAID 1	ASM1352R- <b>SAFE</b>
JBOD	ASM1352R- <b>PM</b>
SPAN	ASM1352R- <b>VOLUME</b>

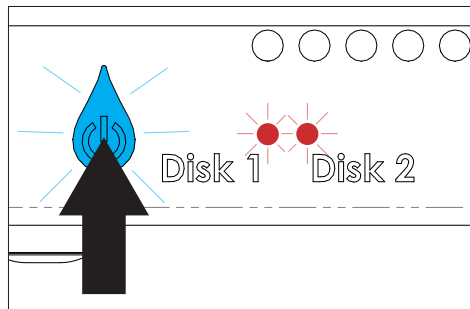
If the text corresponds to the RAID mode you expected, then you have successfully verified that the RAID array was created successfully. You may skip the remaining steps.

If the text does not correspond to the RAID mode you expected, continue to the next steps to recreate the RAID.

**STOP!**

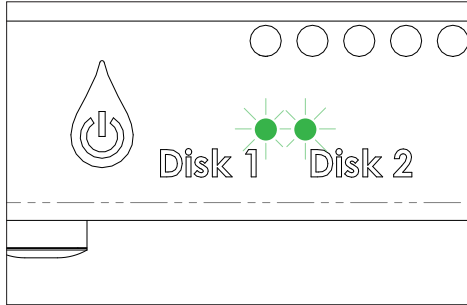
Recreating the RAID will result in the loss of data on your drives. Do not proceed to the next step unless you are sure your data is backed up!

- h. If the RAID mode is incorrect or the ioSafe Duo does not appear on your computer, restart the array creation process by powering off the ioSafe Duo. Then, press and hold down on the Power button until the Power button begins blinking blue. The Drive Activity LEDs for both disks will also briefly blink red. The blinking indicates that the array is being created.





- i. The Disk Activity LEDs will glow a solid green once the array has been created. Repeat the steps above to verify the RAID.



## 5.2 Replace a Failed Drive in a RAID 1 Array

- a. Note which drive has failed, indicated by the Disk Activity LEDs on the front of the ioSafe Duo. The LED corresponding to the failed drive will be red.
- b. Shut down the ioSafe Duo.
- c. Disconnect the USB cable connecting the ioSafe Duo to your computer.
- d. Remove the failed drive. Refer to Section 2.1.2 for detailed instructions.
- e. If the good drive is located in the bay labelled “Disk 2”, then move it to the side labelled “Disk 1”.

### **STOP!**

It is very important to move the remaining good drive to Bay 1. After being powered off, the ioSafe Duo will always rebuild a RAID 1 mirror from the drive located in Bay 1. Failure to place the good drive in Bay 1 will cause your data to be overwritten.

- f. Insert the replacement drive into the bay labelled “Disk 2”.

### **NOTE**

ioSafe recommends that you use a replacement drive with the same capacity as the remaining drive.

- g. Reattach the waterproof drive cover and the front cover. Refer to Section 2.1.2 for detailed instructions.



- h. Reconnect the ioSafe Duo to your computer using the USB cable you removed in Step C.

## **NOTE**

Leaving the ioSafe Duo disconnected from your computer during a RAID rebuild can cause much longer rebuild times.

- i. Turn on the ioSafe Duo. The Disk Activity LED corresponding to the drive being overwritten will begin flickering red very quickly, indicating that the RAID is rebuilding. This process may take several hours.

## **STOP!**

Do not attempt to use the ioSafe Duo while the RAID is rebuilding. While the ioSafe Duo can handle data transfers during a rebuild, if something else happens like a loss of power while data is transferring during a RAID rebuild, there is a chance that data loss may occur.

The Disk Activity LEDs will glow a solid green when the RAID rebuilding process is complete.

### **5.3 Drive Rotation as Part of a Backup Schedule**

The following directions demonstrate how to rotate drives for backup purposes.

## **NOTE**

ioSafe does **not** recommend using a backup rotation schedule for the ioSafe Duo, since regular rotation of drives can wear down the waterproof seal and the drives are protected well enough to survive the vast majority of disaster scenarios. Drive rotation should only be carried out between lengthy intervals, if at all.

- a. Shut down the ioSafe Duo.
- b. Disconnect the USB cable connecting the ioSafe Duo to your computer.
- c. Remove the drive from Bay 2. Refer to Section 2.1.2 for detailed instructions.

## **STOP!**

It is very important to only replace the drive located in Bay 2. After being powered off, the ioSafe Duo will always rebuild a RAID 1 mirror from the drive located in Bay 1. Inserting a replacement drive into Bay 1 will cause your data to be overwritten.

- d. Insert the replacement drive into Bay 2.
- e. Reattach the waterproof drive cover and the front cover. Refer to Section 2.1.2 for detailed instructions.
- f. Reconnect the ioSafe Duo to your computer using the USB cable you removed in Step B.

## **NOTE**

Leaving the ioSafe Duo disconnected from your computer during a RAID rebuild can cause much longer rebuild times.



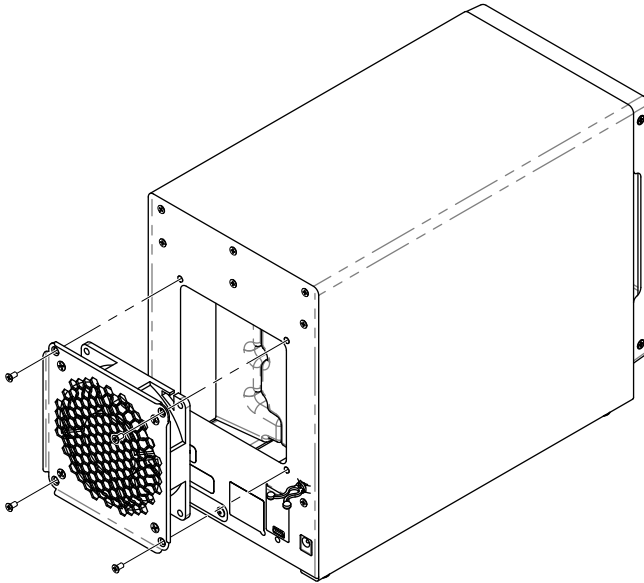
- g. Turn on the ioSafe Duo. The Disk Activity LED for Bay 2 will begin flickering red very quickly, indicating that the RAID is rebuilding. This process may take several hours.

The Disk Activity LEDs will glow a solid green when the RAID rebuilding process is complete.

## 5.4 Replace System Fan

The power LED will turn a solid red if the system fan is not working. Follow the steps below to replace the malfunctioning fan.

- a. Shut down your ioSafe Duo. Disconnect all cables connected to your ioSafe Duo to prevent possible damage.
- b. Remove the four (4) perimeter screws around the rear fan assembly plate.



- c. Pull the assembly from the back panel of your ioSafe to expose the fan connections.
- d. Disconnect the fan cables from the connector wires attached to the rest of the ioSafe and then remove the assembly.
- e. Install the new fan assembly or replace the existing fans. Connect the fan cables of the new fans to the fan connector wires attached to the main ioSafe unit.
- f. Replace and tighten the four (4) screws you removed in Step B.



## 6 Troubleshooting

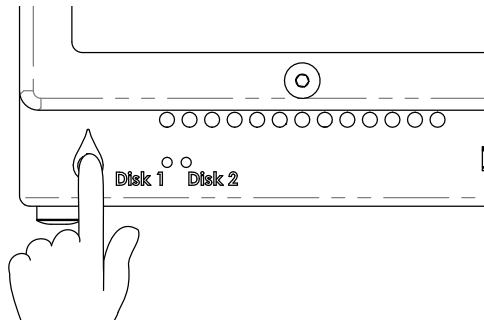
### **My ioSafe Duo will not show up on my Windows computer and causes it to make repeating disconnection sounds.**

If you have properly connected your ioSafe Duo to your Windows computer and turned it on, try turning off the ioSafe Duo and connecting it to a different USB port.

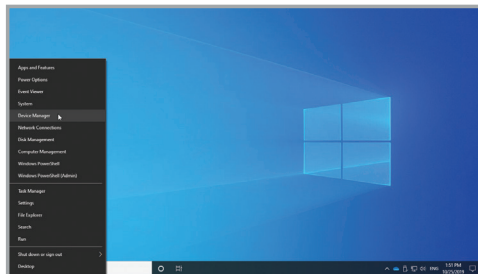
If that is unsuccessful, then you have likely connected the ioSafe Duo to a USB port on your computer that uses what's known as an ASMedia™ USB host controller, which will need different driver software to work correctly with the ioSafe Duo.

Follow these simple steps to change the driver.

- a. Power off the ioSafe Duo.



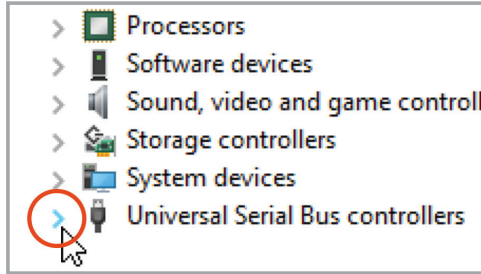
- b. Press **Windows Key + X** on your keyboard and click on **Device Manager** from the menu that pops up from the bottom-left corner of the screen.



The Quick Access Menu, pictured, allows you to access the Device Manager.

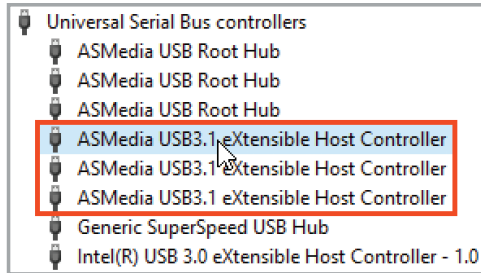


- c. Click on the **arrow** next to “Universal Serial Bus controllers” from the Device Manager window that pops up to expand the list of USB controllers.



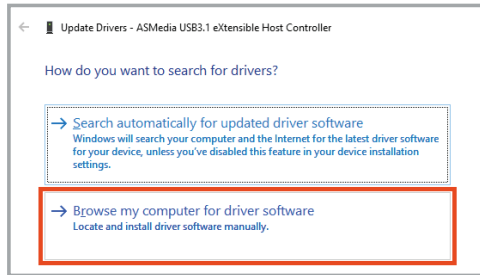
The “Universal Serial Bus controllers” list is located at the bottom of the Device Manager.

- d. Right-click on an item in the list that contains *both* “ASMedia” and “Host Controller” in the label. There may be more than one item in the list. In the submenu that appears, click **Update driver**.



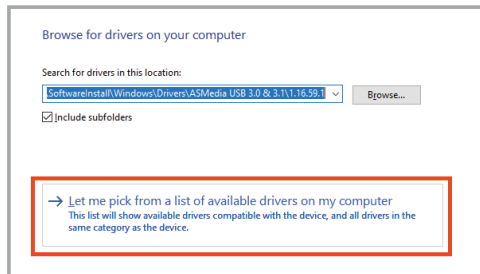
These items will need their driver updated to work properly with the ioSafe Duo. Choose one and follow the remaining steps.

- e. Select **Browse my computer for driver software** on the new window that appears.



Choose “Browse my computer for driver software”.

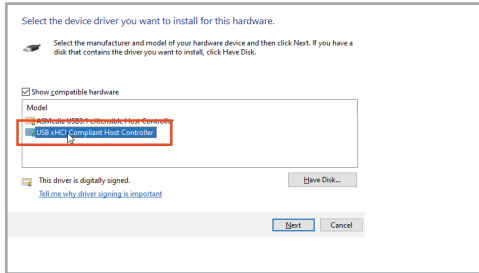
- f. Choose **Let me pick from a list of available drivers on my computer.**



Click “Let me pick from a list of available drivers on my computer”.



- g. Make sure **Show compatible hardware** is checked. Then click on **USB xHCI Compliant Host Controller**. Finally, click the **Next** button.



This is the USB driver that comes standard in Windows and works with ASMedia USB add-on cards.

- h. Repeat Steps C through F for all items in the Device Manager list that say both “ASMedia” and “Host Controller”.

The ioSafe Duo should now appear on your computer. If you experience any issues with this procedure, please contact ioSafe Technical Support (see Section 6.3).

### How can I tell if one of the drives has failed?

The ioSafe Duo’s drive LEDs provide an indication of drive health, but some failure conditions may not be indicated this way. CDSG recommends using a third-party software utility to monitor drive health on a continuous basis. One software application we have tested with Duo and recommend is Hard Disk Sentinel.

Hard Disk Sentinel is available with a free trial period. The software runs in the background and verifies the drives’ health status by monitoring their SMART data (Self-Monitoring, Analysis and Reporting Technology). If an error is found or unexpected behavior is detected, the application will warn you and can perform appropriate actions such as starting an automatic backup to another disk drive.

You can download Hard Disk Sentinel at its website [www.hdsentinel.com](http://www.hdsentinel.com).

### My ioSafe Duo is taking a very long time to complete a RAID 1 rebuild. How can I reduce the time it takes?

First, keep the USB cable plugged in throughout the process to prevent the RAID controller from going idle. Second, pause any scheduled backup or write actions, and avoid manually writing data to the Duo until the rebuild process is complete.



## 7 Product Support

Congratulations! You are now ready to enjoy all the features of your ioSafe Duo. For more information regarding specific features, please refer to our online resources available at [iosafe.com](https://iosafe.com).

### 7.1 Activate Data Recovery Service Protection

Register your product to activate your Data Recovery Service protection plan and warranty by visiting [iosafe.com/activate](https://iosafe.com/activate).

### 7.2 ioSafe No-Hassle Warranty

If the ioSafe Duo breaks during the warranty period, we will repair or replace it.

The standard term for the warranty is two (2) years from the date of purchase. A five (5) year extended term warranty service is available for purchase upon activation of the Data Recovery Service. See the website or contact [customerservice@iosafe.com](mailto:customerservice@iosafe.com) for help. ioSafe reserves the right to have its representative inspect any product or part to honor any claim, and to receive a purchase receipt or other proof of original purchase before warranty service is performed.

This warranty is limited to the terms stated herein. All expressed and implied warranties including the warranties of merchantability and fitness for a particular purpose are excluded, except as stated above. ioSafe disclaims all liabilities for incidental or consequential damages resulting from the use of this product, or arising out of any breach of this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may have other rights as well, which will vary from state to state.

### 7.3 Data Recovery Procedure

If the ioSafe faces possible data loss for any reason, you should immediately call the ioSafe Disaster Response Team at 1-888-984-6723 extension 430 (US & Canada) or 1-530-820-3090 extension. 430 (International). You can also send an email to [disastersupport@iosafe.com](mailto:disastersupport@iosafe.com). ioSafe can determine the best actions to take to protect your valuable information. In some cases a self-recovery can be performed and provide you with immediate access to your information. In other cases, ioSafe may request that the product be returned to the factory for data recovery. In any case, contacting us is the first step.

The general steps for disaster recovery are:

- a. Email [disastersupport@iosafe.com](mailto:disastersupport@iosafe.com) with your serial number, product type and date of purchase. If you cannot email, call the ioSafe Disaster Support Team at 1-888-984-6723 (US & Canada) or 1-530-820-3090 (International) extension 430.



- b. Report the disaster event and obtain return shipping address/instructions.
- c. Follow ioSafe team instructions on proper packaging.
- d. ioSafe will recover all data which is recoverable according to the terms of the Data Recovery Service Terms and Conditions.
- e. ioSafe will then place any recovered data on a replacement ioSafe device.
- f. ioSafe will ship the replacement ioSafe device back to the original user.
- g. Once the primary server/computer is repaired or replaced, the original user should restore the primary drive data with the ioSafe backup data.

## 7.4 Contact Us

### Customer Support

USA Toll Free Phone: 888.98.IOSAFE (984.6723) x400

International Phone: 530.820.3090 x400

Email: [customersupport@iosafe.com](mailto:customersupport@iosafe.com)

### Technical Support

USA Toll Free Phone: 888.98.IOSAFE (984.6723) x450

International Phone: 530.820.3090 x450

Email: [techsupport@iosafe.com](mailto:techsupport@iosafe.com)

### Disaster Support

US Toll Free Phone: 888.98.IOSAFE (984.6723) x430

International Phone: 530. 820.3090 x430

Email: [disastersupport@iosafe.com](mailto:disastersupport@iosafe.com)



## Appendix: Technical Specifications

Product Models	ioSafe Duo, ioSafe Duo Pro
Fire Protection	Up to 1550° F, 30 minutes per ASTM E-119
Water Protection	Fully submersed, fresh or salt water, 10 foot depth, 72 hours
Theft Protection	Metal Kensington Lock Slot
Interface Types & Speeds	USB 3.2 Gen 2: up to 10 Gbps
Front USB Peripheral Connectors	One (1) USB Type-A connector One (1) USB Type-C connector
Rear Data Connector	One (1) USB Type-C connector
Host Compatibility	USB 2.0, 3.0, 3.1, and 3.2 ports
Supported Drive Types	3.5-inch SATA hard drives 2.5-inch SATA hard drives 2.5-inch SATA SSDs Complete list of qualified drive models available on <a href="https://iosafe.com">iosafe.com</a>
Drive Bays	2
Max Internal Capacity	28 TB (14 TB x 2)* (Capacity may vary by RAID mode)
Torque	2.5-inch drives, M3 screws: 4 inch-pounds max. 3.5-inch drives, #6-32 screws: 6 inch-pounds max.
Supported RAID Types	JBOD, SPAN, RAID 0, RAID 1
RAID Configuration	Jumper pin
Number of LEDs	3
Description of LEDs	HDD1 status/activity, HDD2 status/activity, power on/fan failure
Temperature LED Alert	Yes
Supported Operating Systems	Windows 11, 10, and 8.1 macOS 10.14 "Mojave" or newer Red Hat Enterprise Linux and Ubuntu LTS
Cooling Fan	One (1) 92mm cooling fan
Variable Fan Speed	Yes
Power Switch	Illuminated push-button switch
Power Supply Unit	60W 12V 5A Adapter
Environmental Requirements	Line voltage: 100V to 240V AC Frequency: 50/60Hz, Single Phase



Product Weight	Unpopulated: 23.8 pounds (10.80 kg) Populated: 25.8-26.8 pounds (11.70-12.16 kg) (depending on drive model)
Product Dimensions	5.9in W x 11.5in L x 9.06in H (150mm W x 292mm L x 230mm H)
Compliance	EMI Standard: FCC Part 15 Class A EMC Standard: EN55024, EN55032 CE, RoHS, RCM
Warranty	2 or 5 years, depending on purchased configuration. A 5 year warranty service is also available upon activation of Data Recovery Service.
US Patents	7291784, 7843689, 7855880, 7880097, 9854700
International Patents	AU2005309679B2, CA2587890C, EP1815727B1, JP2011509485A, WO2006058044A2, WO2012036731A1, WO2016195755A1

\*Product has been tested with up to 14TB drives, but may support larger drives.







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Use of the full ioSafe Duo product is subject to all of the terms and conditions of this User Manual and the above referenced License.

CRU®, ioSafe®, and No-Hassle™ (collectively, the “Trademarks”) are trademarks owned by CDSG and are protected under trademark law. Kensington® is a registered trademark of Kensington Computer Products Group. ASMedia™ is a trademark of ASMedia Technology, Inc. This User Manual does not grant any user of this document any right to use any of the Trademarks.

#### Product Warranty

CDSG warrants this product to be free of significant defects in material and workmanship for a period of two (2) years from the original date of purchase. A five (5) year extended warranty service is available for purchase upon activation of the Data Recovery Service. CDSG’s warranty is nontransferable and is limited to the original purchaser.

#### Limitation of Liability

The warranties set forth in this agreement replace all other warranties. CDSG expressly disclaims all other warranties, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose and non-infringement of third-party rights with respect to the documentation and hardware. No CDSG dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty. In no event will CDSG or its suppliers be liable for any costs of procurement of substitute products or services, lost profits, loss of information or data, computer malfunction, or any other special, indirect, consequential, or incidental damages arising in any way out of the sale of, use of, or inability to use any CDSG product or service, even if CDSG has been advised of the possibility of such damages. In no case shall CDSG’s liability exceed the actual money paid for the products at issue. CDSG reserves the right to make modifications and additions to this product without notice or taking on additional liability.

**FCC Compliance Statement:** “This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at this own expense.

In the event that you experience Radio Frequency Interference, you should take the following steps to resolve the problem:

- 1) Ensure that the case of your attached drive is grounded.
- 2) Use a data cable with RFI reducing ferrites on each end.
- 3) Use a power supply with an RFI reducing ferrite approximately 5 inches from the DC plug.
- 4) Reorient or relocate the receiving antenna.

