diskAshur²®

User Manual
HDD & SSD Range

Available in four colours: Blue, Red, Green and Black

Please make sure you remember your PIN (password), without it there is no way to access the data on the drive.

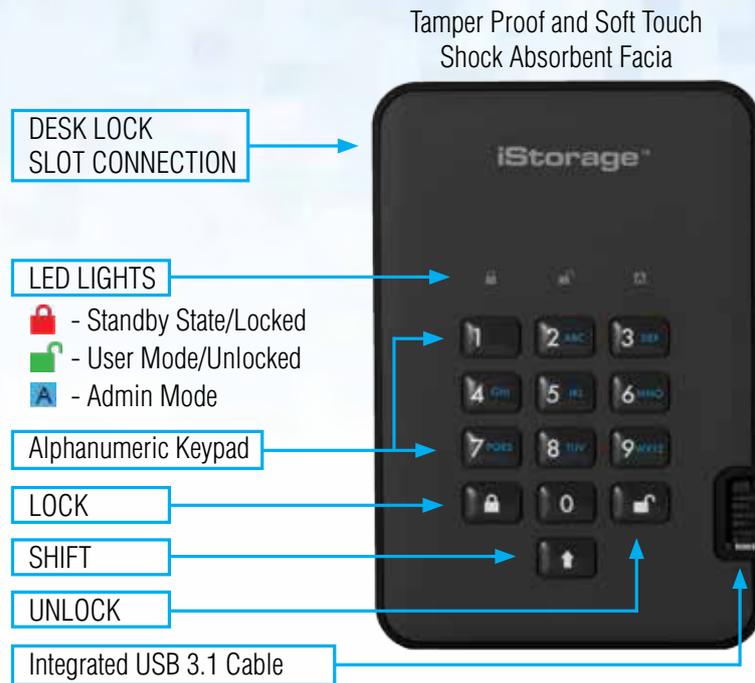If you are having difficulty using your diskAshur² drive please contact our technical department by email - support@istorage-uk.com or by phone on +44 (0) 20 8991 6260.

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Trade Agreements Act (TAA) Compliant

iStorage diskAshur® Manual – v 2.4

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iStorage ®

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Introduction

The diskAshur² is an easy to use, ultra-secure, hardware encrypted portable drive with capacities of up to 2TB. Simply connect the integrated USB 3.1 cable to any computer and enter a 7-15 digit PIN, if the correct PIN is entered, all data stored on the drive will be decrypted and accessible. To lock the drive and encrypt all data, simply eject the diskAshur² from the host computer and the entire contents of the drive will be encrypted (full disk encryption) using military grade AES 256-bit hardware encryption (XTS mode). If the drive is lost or stolen and an incorrect PIN is entered 15 consecutive times, the drive will reset, the encryption key will be deleted and all data previously stored on the drive will be lost forever.

One of the unique and underlying security features of the GDPR compliant diskAshur² is the dedicated hardware based secure microprocessor (Common Criteria EAL4+ ready), which employs built-in physical protection mechanisms designed to defend against external tamper, bypass attacks and fault injections. Unlike other solutions, the diskAshur² reacts to an automated attack by entering the deadlock frozen state, which renders all such attacks as useless. In plain and simple terms, without the PIN there's no way in!

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1. diskAshur² Drive with integrated USB Cable

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diskAshur²

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1. diskAshur² LED States

When the diskAshur² is plugged in, there are three possible behaviours for the LED indicators as shown in the table below.

RED	GREEN	BLUE	diskAshur² State
Solid	Off	Off	Factory Reset [1]
Solid	Solid	Solid	Brute Force [2]
Solid	Off	Off	Standby [3]

1. In Factory Reset State, the drive is waiting for the operation to set up an Admin PIN.
2. In Brute Force state, the drive is waiting for an operation to get more PIN entry attempts.
3. In Standby state, the drive is waiting for an operation to unlock the drive, or enter Admin mode, or reset the drive.

2. How to use the diskAshur² for the first time

The diskAshur² is shipped with a default Admin PIN of **11223344** and although it can be used straight out of the box with the default Admin PIN, for security reasons we **highly recommend a new Admin PIN be created immediately** by following the instructions under section 6 'Changing the Admin PIN'.

Please follow the 3 simple steps in the table below to unlock the diskAshur² for the first time with the default Admin PIN.

Instructions - first time use	LED	LED State
1. Connect the diskAshur² to a USB port	🟥	RED LED will be solid awaiting PIN entry
2. Enter Admin PIN (default - 11223344)	🟥	RED LED remains solid
3. Within 10 seconds press the "**UNLOCK**" button once to unlock diskAshur²	🟩🟦 ➡ 🟩	GREEN and BLUE LEDs will alternately blink several times and then to a solid BLUE LED changing to a blinking GREEN and finally solid GREEN LED

⚠ **Note**: Once the diskAshur² has been successfully unlocked, the GREEN LED will remain on and in a solid state. It can be locked down immediately by pressing the "**LOCK**" button once or by clicking the 'Safely Remove Hardware/Eject' icon within your operating system. To ensure no data is corrupted, we recommend using 'Safely Remove Hardware/Eject'.

3. Unlocking the diskAshur²

The diskAshur² can be unlocked with either an Admin or User PIN whilst in standby state (solid RED LED).

1. To unlock as the Administrator, enter the **Admin** PIN and press the "**UNLOCK**" button.

2. To unlock as a **User**, first press the "**UNLOCK**" button (all LEDs, ▬ ▬ ▬ blink on and off) and then enter the **User** PIN and press the "**UNLOCK**" button again.

3. If correct User PIN is entered, both GREEN and BLUE LEDs will blink alternately and then return to a solid GREEN LED.

4. If correct Admin PIN is entered, both GREEN and BLUE LEDs will blink alternately, then to a solid BLUE for 1 second and then to the unlocked state, a solid GREEN LED.

5. If correct PIN is entered, the drive displays as "iStorage diskAshur² USB Device" under "Computer Management/Device Manager".

In an unlocked state (GREEN LED), there are two possible behaviours for the LED indicators, shown in the table below.

RED	GREEN	BLUE	diskAshur²
Off	Solid	Off	No data transfer
Off	Blink	Off	Data transfer in progress

4. Locking the diskAshur²

To lock the drive, press the "**LOCK**" button once or by clicking the 'Safely Remove Hardware/Eject' icon within your operating system. If data is still being written to the drive, please wait until all data has been written to the drive before pressing the 'LOCK' button or safely ejecting from the Operating System. When the unattended Auto-Lock timeout is activated, the drive will automatically lock after a predetermined amount of time.

⚠️ **Note:** The diskAshur² cannot be recognized by the operating system in standby state.

5. Entering Admin Mode

To enter the Admin Mode, do the following:

1. In standby state (solid RED LED), press and hold down "**UNLOCK + 1**" buttons	▬ ➡ ▬ ▬	Solid RED LED will change to blinking GREEN and BLUE LEDs
2. Enter the Admin PIN (default - 11223344) and press "**UNLOCK**" button	▬ ➡ ▬ ▬	GREEN and BLUE LEDs blink rapidly together for a few seconds then to a solid GREEN and finally a solid BLUE LED indicating the diskAshur² is in "Admin Mode"

To exist Admin mode, press the "**LOCK**" button.

6. Changing the Admin PIN

PIN requirements:

- Must be between 7-15 digits in length
- Must not contain only repetitive numbers, e.g. (3-3-3-3-3-3-3)
- Must not contain only consecutive numbers, e.g. (1-2-3-4-5-6-7), (7-8-9-0-1-2-3-4), (7-6-5-4-3-2-1)

Password Tip: You can create a memorable word, name, phrase or any other Alphanumerical PIN combination by simply pressing the key with the corresponding letters on it.

Examples of these types of Alphanumerical PINs are:

- For "**Password**" you would press the following keys:
  7 (**p**qrs) **2** (**a**bc) **7** (pqr**s**) **7** (pqr**s**) **9** (**w**xyz) **6** (mn**o**) **7** (pqr**s**) **3** (**d**ef)
- For "**iStorage**" you would press:
  4 (gh**i**) **7** (pqr**s**) **8** (**t**uv) **6** (mn**o**) **7** (pqr**s**) **2** (**a**bc) **4** (**g**hi) **3** (d**e**f)

Using this method, long and easy to remember PINs can be created.

Note: The **SHIFT** key can be used for additional combinations. **SHIFT** + 1 is a separate value than just 1. To create a PIN using additional combinations, press and hold down the **SHIFT** button whilst entering your 7-15 digit PIN. e.g. **SHIFT** + **26756498**.

To change the Admin PIN, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**UNLOCK + 2**" buttons		Solid BLUE LED will change to blinking GREEN and solid BLUE LEDs
2. Enter NEW Admin PIN and press "**UNLOCK**" button		Blinking GREEN and solid BLUE LEDs will switch to a single GREEN LED blink and then back to blinking GREEN and solid BLUE LEDs
3. Re-enter the NEW Admin PIN and press "**UNLOCK**" button		Blinking GREEN and solid BLUE LEDs change to a rapidly blinking BLUE LED and finally to a solid BLUE LED indicating the Admin PIN has been successfully changed

7.   Setting a User PIN Policy

The Administrator can set a restriction policy for the User PIN. This policy includes setting the minimum length of the PIN (from 7 to 15 digits), as well as requiring or not the input of a '**Special Character**'. The "Special Character" functions as '**Shift + digit**'.

To set a User PIN Policy (restrictions) you will need to enter 3 digits, for instance '**091**', the first two digits (**09**) indicate the minimum PIN length (in this case, **9**) and the last digit (**1**) denotes that a 'Special Character' must be used, in other words '**Shift + digit**'. In the same way, a User PIN Policy can be set without the need of a 'Special Character', for instance '**120**', the first two digits (**12**) indicate the minimum PIN length (in this case,**12**) and the last digit (**0**) meaning no Special Character is required.

Once the Administrator has set the User PIN Policy, for instance '091', a new User PIN will need to be created. If the Administrator creates the User PIN as '**247688314**' with the use of a '**Special Character**' (Shift+digit), this can be placed anywhere along your 7-15 digit PIN during the process of creating the User PIN as shown in the examples below.
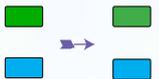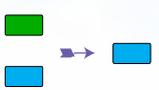
A.   '**Shift + 2**', '4', '7', '6', '8', '8', '3', '1', '4',

B.   '2', '4', '**Shift + 7**', '6', '8', '8', '3', '1', '4',

C.   '2', '4', '7', '6', '8', '8', '3', '1', '**Shift + 4**',

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⚠️   **Note:**
• If a 'Special Character' was used during the creation of the User PIN, for instance, example '**A**' above, then the drive can only be unlocked by entering the PIN with the 'Special Character' entered precisely in the order created, as per example '**A**' above - ('**Shift + 2**', '4', '7', '6', '8', '8', '3', '1', '4').

• Users are able to change their PIN but are forced to comply with the set 'User PIN Policy' (restrictions), if and when applicable.

• Setting a new User PIN Policy will automatically delete the User PIN if one exists.

• This policy does not apply to the 'Self-Destruct PIN'. The complexity setting for the Self-Destruct PIN and Admin PIN is always 7-15 digits, with no special character required.

To set a **User PIN Policy**, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**UNLOCK + 7**" buttons		Solid BLUE LED will change to blinking GREEN and solid BLUE LEDs
2. Enter your **3 digits**, remember the first two digits denote minimum PIN length and last digit (0 or 1) whether or not a special character has been used.		Blinking GREEN and solid BLUE LEDs will continue to blink
3. Press the "**SHIFT**" button ⬆ once		Blinking GREEN and Solid BLUE will change to a solid GREEN LED and finally to a solid BLUE LED indicating the User PIN Policy has been successfully set.

8. How to check the User PIN Policy

The Administrator is able to check the User PIN Policy and can identify the minimum PIN length restriction and whether or not the use of a Special Character has been set by noting the LED sequence as described below.

To check the User PIN Policy, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode press and hold down **SHIFT** (⬆) **+ 7**"		Solid BLUE LED will change to blinking GREEN and BLUE LEDs
2. Press the "**UNLOCK**" button and the following happens; a. All LED's (RED, GREEN & BLUE) become solid for 1 second. b. A RED LED blink equates to ten (10) units of a PIN. c. Every GREEN LED blink equates to a single (1) unit of a PIN d. A BLUE blink indicates that a 'Special Character' was used. e. All LED's (RED, GREEN & BLUE) become solid for 1 second. f. LEDs return to solid BLUE		

The table below describes the LED behaviour whilst checking the User PIN Policy, for instance if you have set a 12 digit User PIN with the use of a Special Character, the RED LED will blink once (**1**) and the GREEN will blink twice (**2**) followed by a single BLUE LED blink indicating that a **Special Character** must be used.

PIN Description	3 digit Setup	RED	GREEN	BLUE
12 digit PIN with use of a Special Character	121	1 Blink	2 Blinks	1 Blink
12 digit PIN with NO Special Character used	120	1 Blink	2 Blinks	0
9 digit PIN with use of a Special Character	091	0	9 Blinks	1 Blink
9 digit PIN with NO Special Character used	090	0	9 Blinks	0

9.   Adding a new User PIN in Admin Mode

To add a **New User**, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.
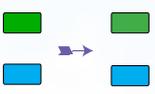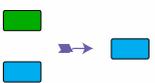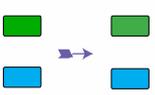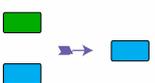
1. In Admin mode, press and hold down "**UNLOCK + 3**" buttons		Solid BLUE LED will change to blinking GREEN and solid BLUE LEDs
2. Enter New User PIN and press "**UNLOCK**" button		Blinking GREEN and solid BLUE LEDs will switch to a single GREEN LED blink and then back to blinking GREEN and solid BLUE LEDs
3. Re-enter the New User PIN and press "**UNLOCK**" button		GREEN LED rapidly blinks for a few seconds then changes to a solid BLUE LED indicating the User PIN has been successfully created

10.   Changing the User PIN in Admin Mode

To change an existing **User PIN**, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**UNLOCK + 3**" buttons		Solid BLUE LED will change to blinking GREEN and solid BLUE LEDs
2. Enter New User PIN and press "**UNLOCK**" button		Blinking GREEN and solid BLUE LEDs will switch to a single GREEN LED blink and then back to blinking GREEN and solid BLUE LEDs
3. Re-enter the New User PIN and press "**UNLOCK**" button		GREEN LED rapidly blinks for a few seconds then changes to a solid BLUE LED indicating the User PIN has been successfully changed

11.   Deleting the User PIN in Admin Mode

To delete a **User PIN**, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**SHIFT + 3**" buttons		Solid BLUE LED will change to blinking RED LED
2. Press and hold down "**SHIFT + 3**" buttons again.		Blinking RED LED will change to solid RED LED and then to a solid BLUE LED indicating the User PIN was successfully deleted

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12. Set Read-Only in Admin Mode

⚠️ **Important:** If data has just been copied to the diskAshur², make sure to properly disconnect the drive first by clicking 'Safely Remove Hardware/Eject' the diskAshur² from the Operating System before reconnecting and setting the diskAshur² as 'Read-Only/Write-Protect'.

When Admin writes content to the diskAshur² and restricts access to read-only, the User cannot change this setting in User mode. To set the diskAshur² to Read-Only, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**7 + 6**" buttons. (7=**R**ead + 6=**O**nly)	🟦 ➜ 🟩🟦	Solid BLUE LED will change to blinking GREEN and BLUE LEDs
2. Release 7+6 buttons and press "**UNLOCK**"	🟩🟦 ➜ 🟦	GREEN and BLUE LEDs will change to a solid GREEN LED and then to a solid BLUE LED indicating the drive is configured as Read-Only

13. Enable Read/Write in Admin Mode

To set the diskAshur² to Read/Write, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**7 + 9**" buttons. (7=**R**ead + 9=**W**rite)	🟦 ➜ 🟩🟦	Solid BLUE LED will change to blinking GREEN and BLUE LEDs
2. Release 7+9 buttons and press "**UNLOCK**"	🟩🟦 ➜ 🟦	GREEN and BLUE LEDs change to a solid GREEN LED then to a solid BLUE LED indicating the drive is configured as Read/Write

14. How to create a Self-Destruct PIN

The self-destruct feature allows you to set a PIN which can be used to perform a crypto-erase on the entire drive. When used, the self-destruct PIN will **delete ALL data, Admin/User PINs** and then unlock the drive. Activating this feature will cause the Self-Destruct PIN to become the new User PIN and the diskAshur² will need to be partitioned and formatted before any new data can be added to the drive.

To set the Self-Destruct PIN, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

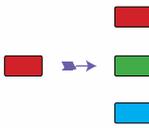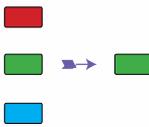|		
1. In Admin mode, press and hold down "**UNLOCK + 6**" buttons	🟦 ➜ 🟩🟦	Solid BLUE LED will change to blinking GREEN and solid BLUE LEDs
2. Create a 7-15 digit Self-Destruct PIN and press the "**UNLOCK**" button	🟩🟦 ➜ 🟩🟦	Blinking GREEN and solid BLUE LEDs will switch to a single GREEN LED blink and then back to blinking GREEN and solid BLUE LEDs
3. Re-enter the PIN and press the "**UNLOCK**" button	🟩🟦 ➜ 🟦	GREEN LED will rapidly blink for several seconds and then changes to a solid BLUE LED to indicate the Self-Destruct PIN has been successfully configured

15. How to Delete the Self-Destruct PIN

To delete the Self-Destruct PIN, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**SHIFT + 6**" buttons	🟦 ➡ 🟥	Solid BLUE LED will change to a blinking RED LED
2. Press and hold down "**SHIFT + 6**" buttons again	🟥 ➡ 🟦	Blinking RED LED will become solid and then change to a solid BLUE LED indicating the Self-Destruct PIN was successfully deleted

16. How to Unlock with the Self-Destruct PIN

When used, the self-destruct PIN will **delete the encryption key, ALL data, Admin/User PINs** and then unlock the drive. Activating this feature will cause the **Self-Destruct PIN to become the new User PIN** and the diskAshur² will need to be partitioned and formatted before any new data can be added to the drive.

To activate the Self-Destruct mechanism, the drive needs to be in the standby state (solid RED LED) and then proceed with the following steps.

1. In standby state, press the "**UNLOCK**" button	🟥 ➡ 🟥🟩🟦	RED LED switches to all LEDs, RED, GREEN & BLUE blinking on and off
2. Enter the Self-Destruct PIN and press the "**UNLOCK**" button	🟥🟩🟦 ➡ 🟩	RED, GREEN and BLUE blinking LEDs will change to GREEN and BLUE LEDs alternating on and off for approximately 15 seconds and finally shifts to a solid GREEN LED

⚠️ **Important**: When the Self-Destruct mechanism is activated, all data, the encryption key and the Admin/User PINs are deleted. **The Self-Destruct PIN becomes the User PIN.** No Admin PIN exists after the Self-Destruct mechanism is activated. The diskAshur² will need to be reset (see 'How to perform a complete reset' Section 26, on page 17) first in order to create an Admin PIN with full Admin privileges including the ability to create a User PIN.

17. How to Create an Admin PIN after a Brute Force attack or Reset

It will be necessary after a Brute Force attack or when the diskAshur² has been reset to create an Admin PIN before the drive can be used. If the drive has been brute forced or reset, the drive will be in a standby state (solid RED LED). to create an Admin PIN proceed with the following steps.

PIN requirements:

- Must be between 7-15 digits in length
- Must not contain only repetitive numbers, e.g. (3-3-3-3-3-3-3)
- Must not contain only consecutive numbers, e.g. (1-2-3-4-5-6-7), (7-8-9-0-1-2-3-4), (7-6-5-4-3-2-1)

⚠️ **Note:** The **SHIFT** key can be used for additional combinations. **SHIFT** + 1 is a separate value than just 1. To create a PIN using additional combinations, press and hold down the **SHIFT** button whilst entering your 7-15 digit PIN. e.g. **SHIFT** + **26756498**.

1. In Standby state, press and hold down "**Shift + 1**" buttons	🟥 ➡ 🟩 🟦	Solid RED LED will change to blinking GREEN and solid BLUE LEDs
2. Enter NEW Admin PIN and press "**UNLOCK**" button	🟩🟦 ➡ 🟩🟦	Blinking GREEN and solid BLUE LEDs will switch to a single GREEN LED blink and then back to blinking GREEN and solid BLUE LEDs
3. Re-enter the NEW Admin PIN and press "**UNLOCK**" button	🟩🟦 ➡ 🟦	Blinking GREEN LED and solid BLUE LED change to BLUE LED rapidly blinking for a few seconds and then to a solid BLUE LED indicating the Admin PIN was successfully configured.

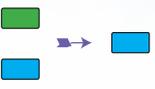## 18. Setting the Unattended Auto-Lock Clock

To protect against unauthorised access if the drive is unlocked and unattended, the diskAshur² can be set to automatically lock after a pre-set amount of time. In its default state, the diskAshur² Unattended Auto Lock feature is turned off. The Unattended Auto Lock can be set to activate between 5 - 99 minutes.

To set the Unattended Auto Lock, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**UNLOCK + 5**" buttons	🟦 ➡ 🟩🟦	Solid BLUE LED will change to blinking GREEN and BLUE LEDs
2. Enter the amount of time that you would like to set the Auto-Lock timeout feature for, the minimum time that can be set is 5 minutes and the maximum being 99 minutes (5-99 minutes). For example enter: **05 for 5 minutes** **20 for 20 minutes** **99 for 99 minutes**		
3. Press the "**SHIFT**" button	🟩🟦 ➡ 🟦	Blinking GREEN and BLUE LEDs will change to a solid GREEN for a second and then finally to a solid BLUE LED indicating the Auto-Lock time out is successfully configured

19. Turn off the Unattended Auto-Lock Clock

To turn off the Unattended Auto Lock, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode, press and hold down "**UNLOCK + 5**" buttons		Solid BLUE LED will change to blinking GREEN and BLUE LEDs
2. Enter "**00**" and press the "**SHIFT**" button		Blinking GREEN and BLUE LEDs will change to a solid GREEN for a second and then finally to a solid BLUE LED indicating the Auto-Lock time out has been successfully switched off

20. How to check the Unattended Auto-Lock Clock

The Administrator is able to check and determine the length of time set for the unattended auto-lock clock by simply noting the LED sequence as described on the table at the bottom of this page.
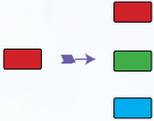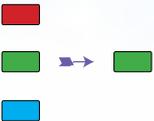
To check the unattended auto-lock, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode press and hold down **SHIFT** (⬆) **+ 5**"		Solid BLUE LED will change to blinking GREEN and BLUE LEDs
2. Press the "**UNLOCK**" button and the following happens; a. All LED's (RED, GREEN & BLUE) become solid for 1 second. b. Each RED LED blink equates to ten (10) minutes. c. Every GREEN LED blink equates to one (1) minute. d. All LED's (RED, GREEN & BLUE) become solid for 1 second. e. LEDs return to solid BLUE		

The table below describes the LED behaviour whilst checking the unattended auto-lock, for instance if you have set the drive to automatically lock after **26** minutes, the RED LED will blink twice (**2**) and the GREEN LED will blink six (**6**) times.

Auto-Lock in minutes	RED	GREEN
8 minutes	0	8 Blinks
15 minutes	1 Blink	5 Blinks
26 minutes	2 Blinks	6 Blinks
40 minutes	4 Blinks	0

21. How to Unlock diskAshur² with User PIN

1. In a standby state (solid RED LED) Press the "**UNLOCK**" button		RED LED switches to all LEDs, RED, GREEN & BLUE blinking on and off
2. Enter User PIN and press the "**UNLOCK**" button		RED, GREEN and BLUE blinking LEDs will change to alternating GREEN and BLUE LEDs then to a rapidly blinking GREEN LED and finally shifts to a solid Green LED indicating drive successfully unlocked in User mode

22. Changing the User PIN in User Mode

To change the **User PIN**, first unlock the diskAshur² with a User PIN as described above in section 21. Once the drive is in **User Mode** (solid GREEN LED) proceed with the following steps.

1. In User mode press and hold down "**UNLOCK + 4**"		Solid GREEN LED will change to a blinking GREEN LED and a solid BLUE LED
2. Enter New User PIN and press the "**UNLOCK**" button		Blinking GREEN and solid BLUE LEDs will switch to a single GREEN LED blink and then back to blinking GREEN and solid BLUE LEDs
3. Re-enter New User PIN and press the "**UNLOCK**" button		Blinking GREEN and solid BLUE LEDs will switch to a rapidly blinking GREEN LED and then to a solid GREEN LED indicating successful User PIN change

23. Set Read-Only in User Mode

⚠️ **Important:** If data has just been copied to the diskAshur², make sure to properly disconnect the drive first by clicking 'Safely Remove Hardware/Eject' the diskAshur² from the Operating System before reconnecting and setting the diskAshur² as 'Read-Only/Write-Protect'.

To set the diskAshur² to Read-Only, first enter the "**User Mode**" as described in section 21. Once the drive is in **User Mode** (solid GREEN LED) proceed with the following steps.

1. In User mode, press and hold down "**7 + 6**" buttons. (7=**R**ead + 6=**O**nly)	🟩 ➡ 🟩🟦	Solid GREEN LED will change to blinking GREEN and BLUE LEDs
2. Release 7+6 buttons and press "**UNLOCK**"	🟩🟦 ➡ 🟩	GREEN and BLUE LEDs will change to a solid GREEN LED indicating the drive is configured as Read-Only

⚠️ **Note:** 1. This setting is activated the next time the drive is unlocked.
2. If a User set the drive as Read-Only, Admin can override it by setting the drive as Read/Write in Admin mode.
3. If Admin set the drive as Read-Only, the User cannot set the drive as Read/Write

24. Enable Read/Write in User Mode

To set the diskAshur² to Read/Write, first enter the "**User Mode**" as described in section 21. Once the drive is in **User Mode** (solid GREEN LED) proceed with the following steps.

1. In User mode, press and hold down "**7 + 9**" buttons. (7=**R**ead + 9=**W**rite)	🟩 ➡ 🟩🟦	Solid GREEN LED will change to blinking GREEN and BLUE LEDs
2. Release 7+9 buttons and press "**UNLOCK**"	🟩🟦 ➡ 🟩	GREEN and BLUE LEDs will change to a solid GREEN LED indicating the drive is configured as Read/Write

⚠️ **Note:** 1. This setting is activated the next time the drive is unlocked.
2. If a User set the drive as Read-Only, Admin can override it by setting the drive as Read/Write in Admin mode.
3. If Admin set the drive as Read-Only, the User cannot set the drive as Read/Write

25. Brute Force Protection

If an incorrect PIN is entered 15 (3 x 5 PIN clusters) consecutive times, then all Admin/User PINs, the encryption key and all data will be deleted and lost forever. The diskAshur² will then need to be formatted and partitioned before it can be reused.

1. If a PIN is entered incorrectly 5 (five) consecutive times, all LEDs - RED, GREEN, BLUE will light up and become solid.

2. Unplug the drive and re-plug it into the host to get five more PIN attempts. If PIN is incorrectly entered 5 more times, (10 in total - 5 from step 1 and 5 from step 2) all LEDs - RED, GREEN, BLUE will light up and become solid again.

3. Unplug the drive, hold down the "**SHIFT**" button and replug it into the host, all LEDs - RED, GREEN, BLUE will light up and blink together.

4. With all LEDs blinking, enter "**47867243**" and press the "**UNLOCK**" button to get 5 final attempts.

> ⚠️ **Caution:** After 15 consecutive incorrect PIN entries the Brute Force Defence Mechanism activates and deletes all Admin/User PINs, the encryption key and data. A new Admin PIN must be created, refer to Section 17 on page 13 on 'How to Create an Admin PIN after a Brute Force attack or Reset', the diskAshur² will also need to be partitioned and formatted before any new data can be added to the drive.

26. How to perform a complete reset

To perform a complete reset, the diskAshur² must be in a standby state (solid RED LED). Once the drive is reset then all Admin/User PINs, the encryption key and all data will be deleted and lost forever and the drive will need to be formatted and partitioned before it can be reused.

To reset the diskAshur² proceed with the following steps.

1. In standby state, press and hold down "**0**" button until all LEDs blink alternately on and off	🟥 ➡️ 🟩 🟦	Solid RED LED will change to all LEDs, RED, GREEN and BLUE blinking alternately on and off
2. Press and hold down "**2 + 7**" buttons until all LEDs become solid for a second and then to a solid RED LED	🟥 🟩 ➡️ 🟥 🟦	RED, GREEN and BLUE alternating LEDs will change to all solid for a second and then to a solid RED LED indicating the drive has been reset

> ⚠️ **Important:** After a complete reset a new Admin PIN must be created, refer to Section 17 on page 13 on 'How to Create an Admin PIN after a Brute Force attack or Reset', the diskAshur² will also need to be partitioned and formatted before any new data can be added to the drive.

# 27. Initialising and formatting the diskAshur²

After a 'Brute Force Attack' or a complete reset of the diskAshur² will delete all data, encryption key and partition settings. You will need to initialise and format the diskAshur² before it can be used.

To initialise your diskAshur², do the following:

1. Attach the diskAshur² to the computer.

2. Create a new Admin PIN - see page 13, section 17, 'How to create an Admin PIN after a Brute Force attack or reset'.

3. With the diskAshur² in standby state (RED LED) enter New Admin PIN to unlock (GREEN LED).

4. **Windows 7:** Right click **Computer** and then click **Manage** and then select **Disk Management**
    Windows 8: Right-click left corner of desktop and select **Disk Management**
    Windows 10: Right click on the start button and select **Disk Management**

5. In the Computer Manage window, click **Disk Management**. In the Disk Management window, the diskAshur² is recognised as an unknown device that is uninitialised and unallocated.

> ⚠️ **Note:** If the Initialise Disk Wizard window opens, click **Cancel.**
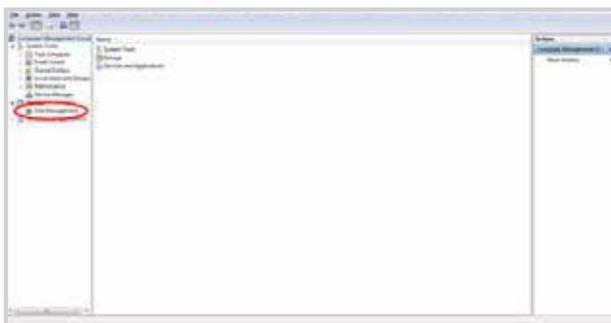
6. Right-click Unknown Disk, and then select Initialise Disk.

iStorage diskAshur® Manual – v 2.4
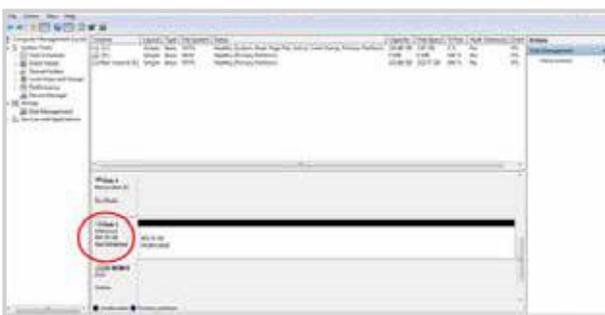
7. In the Initialise Disk window, click **OK**.

8. Right-click in the blank area under the Unallocated section, and then select New Simple Volume. The Welcome to the New Simple Volume Wizard window opens.

9. Click **Next**.

10. If you need only one partition, accept the default partition size and click **Next**.

11. Assign a drive letter or path and click **Next**.

12. Create a volume label, select Perform a quick format, and then click **Next**.

13. Click **Finish**.

14. Wait until the format process is complete. The diskAshur² will be recognised and it is available for use.

28. diskAshur² Setup for Mac OS

Your diskAshur² is preformatted in NTFS for Windows. To reformat the drive to a Mac compatible format please read below. Once the drive is unlocked, open Disk Utility from Applications/Utilities/Disk Utilities.

To format the diskAshur²:

1. Select diskAshur² from the list of drives and volumes. Each drive in the list will display its capacity, manufacturer, and product name, such as 'iStorage diskAshur² Media' or 232.9 diskAshur².

2. Click the 'Erase' button (figure 1).

figure 1

3. Enter a name for the drive (figure 2). The default name is Untitled. The name of the drive will eventually appear on the desktop.

figure 2

4. Select a scheme and volume format to use. The Volume Format dropdown menu (figure 3) lists the available drive formats that the Mac supports. The recommended format type is 'Mac OS Extended (Journaled).' The scheme format dropdown menu lists the available schemes to use (figure 4). We recommend using 'GUID Partition Map' on drives larger than 2TB.


figure 3

figure 4

5. Click the 'Erase' button. Disk Utility will unmount the volume from the desktop, erase it, and then remount it on the desktop.

29. diskAshur² Setup for Linux (Ubuntu 14.04)

If your diskAshur² has been initialised and formatted in NTFS for Windows, you can directly use the drive on Ubuntu.
If not, please read below.

To format the diskAshur² as FAT file system:

1. Open '**Unity Dash**' and type '**Disks**' in the search box. Click on the 'Disks' utility when displayed.
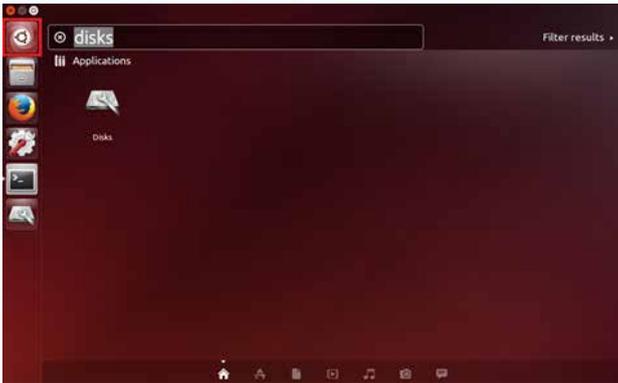
2. Click to select the drive (500 GB Hard Disk) under 'Devices'. Next click on the gears icon under 'Volumes' and then click on '**Format**'.
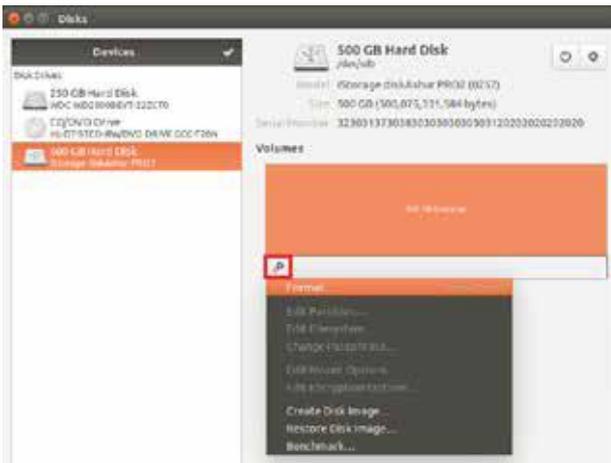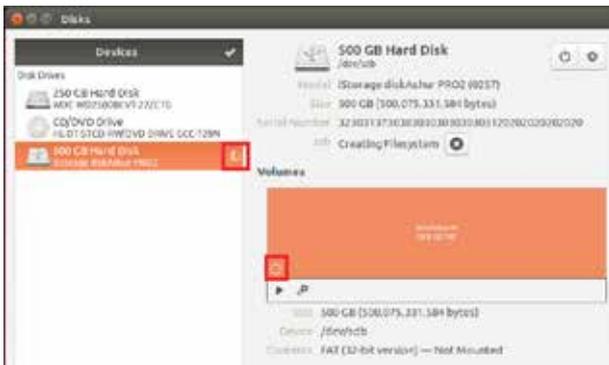

3. Select '**Compatible with all systems and devices(FAT)**' for the 'Type' option. And enter a name for the drive, e.g: diskAshur². Then, click the '**Format**' button.
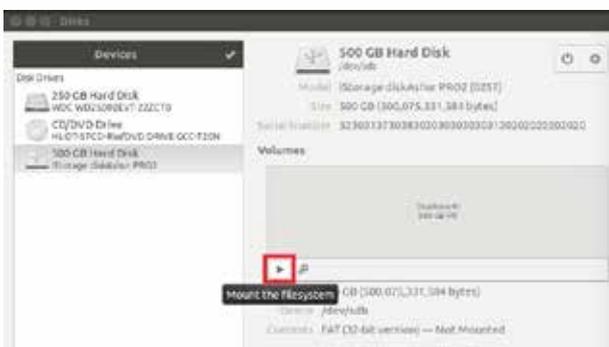
iStorage diskAshur² Manual – v 2.4
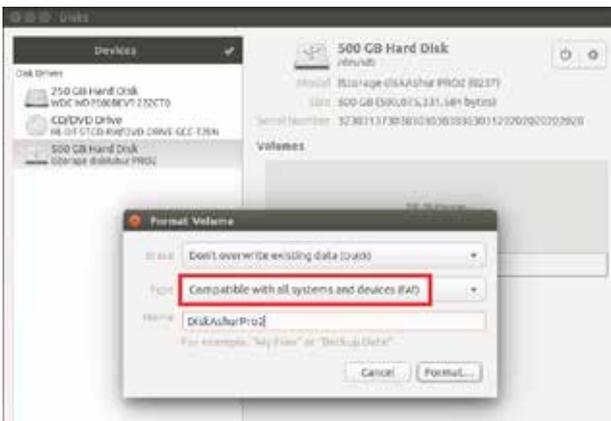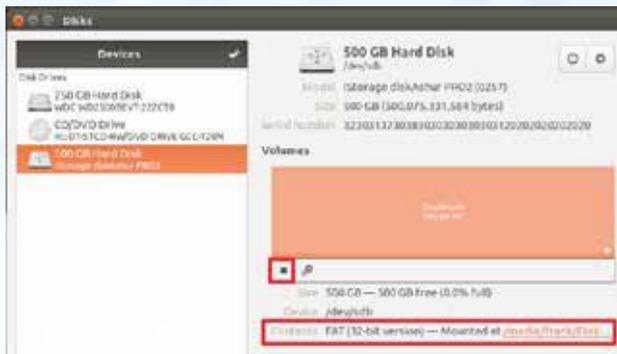
4. Click '**Format**' again.

5. The drive will start to be formatted.

6. After the format process is finished, click [▶] to mount the drive to Ubuntu.

7. Now the drive should be mounted to Ubuntu and ready to use.

8. A disk icon will be shown as seen in the image below. You can click the disk icon to open your drive.

Lock diskAshur² for Linux (Ubuntu 14.04)

It is strongly recommended to right click your drive icon and then click '**Safely remove**' in the OS to eject (lock) your diskAshur², especially after data has been copied or deleted from the drive.
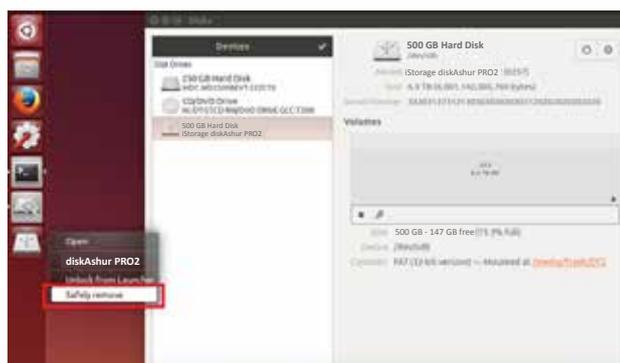
30. Hibernating, Suspending, or Logging off from the Operating System

Be sure to save and close all the files on your diskAshur² before hibernating, suspending, or logging off from the operating system.

It is recommended that you lock the diskAshur² manually before hibernating, suspending, or logging off from your system.

To lock, simply press the 'LOCK' button on the diskAshur² or by clicking the 'Safely Remove Hardware/Eject' icon within your operating system.

> ⚠️ **Attention:** To ensure your data is secure, be sure to lock your diskAshur² if you are away from your computer.

31. How to check Firmware in Admin mode

To check the firmware revision number, first enter the "**Admin Mode**" as described in section 5. Once the drive is in **Admin Mode** (solid BLUE LED) proceed with the following steps.

1. In Admin mode press and hold down "3 + 8" until GREEN and BLUE LEDs blink together	🟦 ➡️ 🟩🟦	Solid BLUE LED will change to blinking GREEN and BLUE LEDs
2. Press the "**UNLOCK**" button and the following happens; a. All LED's (RED, GREEN & BLUE) become solid for 1 second. b. RED LED blinks indicating the integral part of the firmware revision number. c. GREEN LED blinks indicating the fractional part. d. All LED's (RED, GREEN & BLUE) become solid for 1 second. e. LEDs return to solid BLUE		

For example, if the firmware revision number is '1.2', the RED LED will blink once (1) and the GREEN LED will blink two (2) times. Once the sequence has ended the RED, GREEN & BLUE LED's will blink together once and then return to a solid BLUE LED.

32. How to check Firmware in User Mode

To check the firmware revision number, first enter the "**User Mode**" as described in section 21. Once the drive is in **User Mode** (solid GREEN LED) proceed with the following steps.

1. In User mode press and hold down "3 + 8" until GREEN and BLUE LEDs blink together		Solid GREEN LED will change to blinking GREEN and BLUE LEDs
2. Press the "**UNLOCK**" button and the following happens; a. All LED's (RED, GREEN & BLUE) become solid for 1 second. b. RED LED blinks indicating the integral part of the firmware revision number. c. GREEN LED blinks indicating the fractional part. d. All LED's (RED, GREEN & BLUE) become solid for 1 second. e. LEDs return to solid GREEN		

For example, if the firmware revision number is '1.2', the RED LED will blink once (1) and the GREEN LED will blink two (2) times. Once the sequence has ended the RED, GREEN & BLUE LED's will blink together once and then return to a solid BLUE LED.

33. Technical Support

iStorage provides the following helpful resources for you:

iStorage's Website
https://www.istorage-uk.com

E-mail correspondence
support@istorage-uk.com

Telephone support with our Technical Support Department on **+44 (0) 20 8991-6260**.
iStorage's Technical Support Specialists are available from 9:00 a.m. to 5:30 p.m.
GMT - Monday through Friday

34. Warranty and RMA information

Two Year Warranty:

iStorage offers a 2-year warranty on the iStorage diskAshur^2 against defects in materials and workmanship under normal use. The warranty period is effective from the date of purchase either directly from iStorage or an authorised reseller.

Disclaimer and terms of warranty:

THE WARRANTY BECOMES EFFECTIVE ON THE DATE OF PURCHASE AND MUST BE VERIFIED WITH YOUR SALES RECEIPT OR INVOICE DISPLAYING THE DATE OF PRODUCT PURCHASE.
ISTORAGE WILL, AT NO ADDITIONAL CHARGE, REPAIR OR REPLACE DEFECTIVE PARTS WITH NEW PARTS OR SERVICEABLE USED PARTS THAT ARE EQUIVALENT TO NEW IN PERFORMANCE. ALL EXCHANGED PARTS AND PRODUCTS REPLACED UNDER THIS WARRANTY WILL BECOME THE PROPERTY OF ISTORAGE.
THIS WARRANTY DOES NOT EXTEND TO ANY PRODUCT NOT PURCHASED DIRECTLY FROM ISTORAGE OR AN AUTHORIzED RESELLER OR TO ANY PRODUCT THAT HAS BEEN DAMAGED OR RENDERED DEFECTIVE: 1. AS A RESULT OF ACCIDENT, MISUSE, NEGLECT, ABUSE OR FAILURE AND/OR INABILITY TO FOLLOW THE WRITTEN INSTRUCTIONS PROVIDED IN THIS INSTRUCTION GUIDE: 2. BY THE USE OF PARTS NOT MANUFACTURED OR SOLD BY ISTORAGE; 3. BY MODIFICATION OF THE PRODUCT; OR 4. AS A RESULT OF SERVICE, ALTERNATION OR REPAIR BY ANYONE OTHER THAN ISTORAGE AND SHALL BE VOID. THIS WARRANTY DOES NOT COVER NORMAL WEAR AND TEAR.
NO OTHER WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OR MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, HAS BEEN OR WILL BE MADE BY OR ON BEHALF OF ISTORAGE OR BY OPERATION OF LAW WITH RESPECT TO THE PRODUCT OR ITS INSTALLATION, USE, OPERATION, RSPLACEMENT OR REPAIR.
ISTORAGE SHALL NOT BE LIABLE BY VIRTUE OF THIS WARRANTY, OR OTHERWISE, FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGE INCLUDING ANY LOSS OF DATA RESULTING FROM THE USE OR OPERATION OF THE PRODUCT, WHETHER OR NOT ISTORAGE WAS APPRISED OF THE POSSIBILITY OF SUCH DAMAGES.

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