

INTRODUCTION

The Sapphire Cipher Snap-In is a simple solution for securing any 3.5" or 2.5" SATA hard drive with FIPS certified AES 256-bit full disc hardware encryption. Drives are added or removed from the Sapphire Cipher Snap-In like a VHS cassette. Encryption is activated by a simple insertion of a Cipher key, just like locking the door. There is no password to remember or special software to install. If the drive is stolen or lost, all the information is inaccessible without the Cipher key. The drive will appear as a blank drive without any traces of data when it is connected to a system. It is the ideal solution for securing sensitive data stored in any hard drive or for transporting hard drives containing sensitive information.

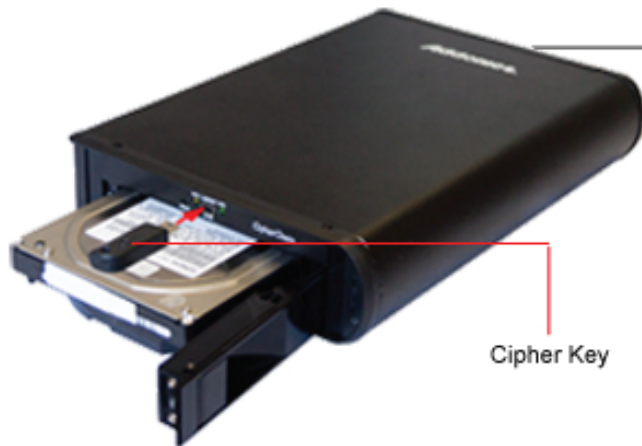
Constructed with a rugged aluminum body for tough handling and effective heat dissipation, the Sapphire Cipher Snap-In System comes in choice of models with eSATA or a combo eSATA / USB 3.0 interface for easy connection to any Desktop or Notebook system.

Sapphire Cipher External Drive Cartridge

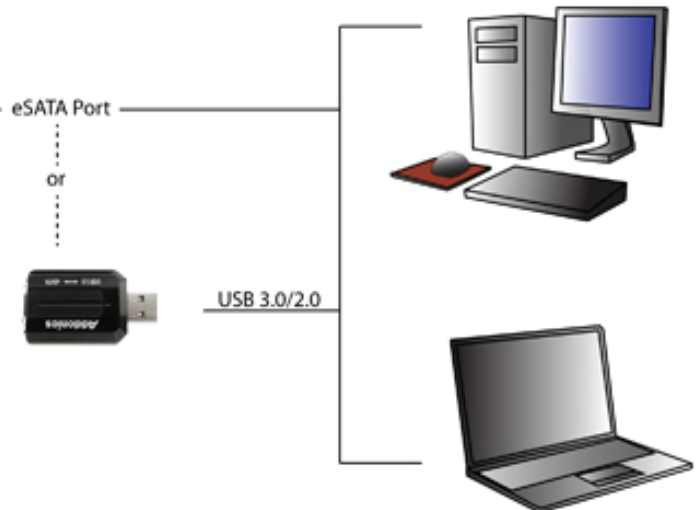


Illustration of drive installation / removal and the insertion of Cipher key

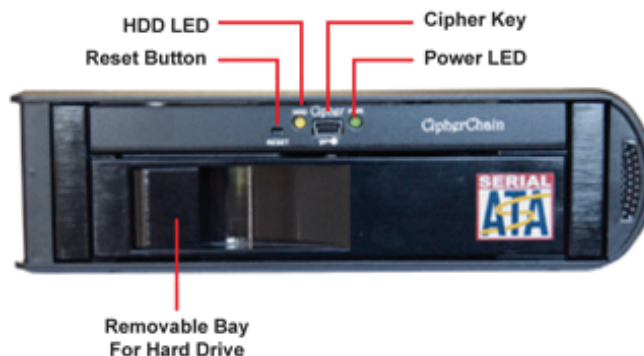
(hard drive is for illustration only and is not part of the product)



Connect to eSATA or USB 3.0 using Addonics mini eSATA - USB 3.0 adapter

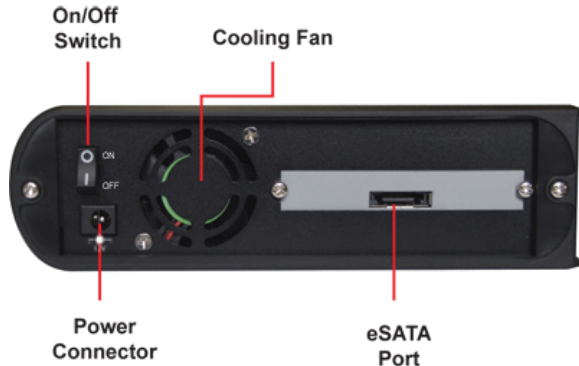


Front View

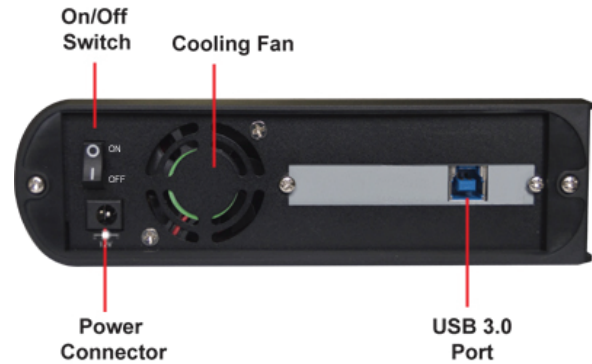


Rear view for model with eSATA connection

(can also connect to USB 3.0/2.0 connection using optional USB 3.0 -eSATA adapter, model ADU3ESAM)



Rear View for model with integrated USB 3.0/2.0



Drive sanitization

The Sapphire Cipher Drive Cartridge System can also be used to sanitize drives, wiping clean all previous data on a used hard drive by using the following operation procedures:

1. Install the hard drive that is to be sanitized into the Sapphire Cipher Drive Cartridge System.
2. Initialize and perform a standard formatting (not quick format) of the hard drive with the Cipher key.
3. Transfer unimportant data to completely fill the hard drive inside the Sapphire Cipher Drive Cartridge System. This essentially writes over every sector in the hard drive or the flash media with unimportant encrypted data that are invisible to any OS. The drive or the flash media, when connects directly to a system, will appear as a brand new media with no trace of any data.
4. Now connect the drive directly to any computer. initialize and format the hard drive with any OS to use it as a brand new hard drive.

Simple to use

Similar to all other Addonics encryption products, the Sapphire Cipher Drive Cartridge System is a pure hardware solution. This means that there is no software to run, no driver to install and no password to remember. There is very little user training required to use the Sapphire Cipher Drive Cartridge System. All the user needs to do is inserting the correct Cipher key at the back of the drive enclosure before turning on the power. The Sapphire Cipher Drive Cartridge System can connect to any system and is OS independent. It is the ideal security solution for organizations with heterogeneous computing environments and legacy systems.

Security

The Sapphire Cipher Drive Cartridge System is equipped with the CipherChain ES which is a full disk encryption solution. This means that the boot sector, partition table and all the information on the drive is encrypted. If the Sapphire Cipher Drive Cartridge System is stolen and the SATA drive inside is removed from the enclosure, it will appear as a brand new drive with no traces of any data if it's connected it to a computer. The AES 256-bit encryption provided by the CipherChain ES is considered the highest level of encryption standards, secure enough to protect classified information designated as "Top Secret". For those who needs the absolute maximum security, the Sapphire Cipher Drive Cartridge System is available with CBC* mode of encryption.

Performance

Inside the Sapphire Cipher Drive Cartridge System, data stored on the hard drive is encrypted and decrypted on the fly using a FIPS certified AES 256-bit crypto engine. Unlike software encryption products which depend on the system CPU


to encrypt and decrypt data, the encryption in the Sapphire Cipher Drive Cartridge System has no impact to CPU utilization. This leaves the system CPU to perform all its computing task at normal speed. There is also no measurable impact to the performance on the hard drive.

Cipher key

The AES 256-bit Cipher key used for the encryption/decryption in the Sapphire Cipher Drive Cartridge System is the same Cipher key as used in the Addonics Diamond Cipher drive kit, Ruby Cipher drive kit, CipherChain and CipherChain-ES. As a result, you can share the same Cipher key to operate on the storage device that has been encrypted by either the CipherChain, Diamond Cipher or Ruby Cipher drive kit. You may also order Cipher keys with the same key codes when you order multiple Sapphire Cipher Drive Cartridge Systems or Cipher keys. You may also re-programmed the Cipher keys to other codes using the optional key management system or sending the keys to Addonics for the re-programming at no charge.

***Software encryption in CBC mode** requires an enormous amount of processor power and is impractical to implement. All Addonics CBC encryption solutions use a certified CBC hardware crypto engine to encrypt and decrypt data in CBC mode. None of Addonics CBC encryption solution requires any processor resource, thus ensuring optimal system performance in wide range of computing hardware platforms.

FEATURES

- Great for the following applications:
 - Prevent sensitive data from unauthorized access when the hard drive is lost or stolen
 - Shipping or transporting hard drives containing sensitive data.
 - sanitization of used hard drives
- Support following hard drive:
 - any 3.5" SATA hard drive
 - any 2.5" SATA hard drive or SSD using the optional Addonics 3.5" to 2.5" drive converter (model: AE25SN35SA)
- Drives are added or removed like a VHS cassette. No special tool is required.
- Choice of model with eSATA connection only or eSATA and USB 3.0 via mini USB 3.0 -eSATA adapter
- FIPS 140-2 certified Crypto Module listed in NIST
- AES 256-bit encryption - the highest level of encryption standard
- Full disk encryption. The encrypted drive, when it is connected to any system, appeared as a brand new drive with no trace of any recoverable data
- Choice of model with ECB or CBC mode encryption
- Simple to use - no software to run or any password to remember
- No training required. Encryption / Decryption via a hardware key , just like using a regular key to open a door.
- High performance - up to 150 MB/sec
- OS independent - can be used on any system

Note on Cipher key code

Each pair of Cipher keys is set with a unique key code. When ordering multiple Cipher kits and extra Cipher keys and wish that all the keys be set to the same key code, please provide instructions at the final checkout when placing the order at our online store. Customers may also e-mail the instructions with reference to the sales order number after final checkout. When ordering from an Addonics reseller or distributor, be sure to leave the instructions when placing the order. Keys can be sent back to Addonics at any time if re-coding is desired there is no charge for re-coding keys, the only charge is the return shipping of the newly re-coded keys.

SPECIFICATIONS

- Onboard AES 256-bit crypto engine
- SATA I / II / III compliant
- Connector on back of unit:
 - eSATA connector
 - 12V input input jack
- LEDs: Power, Cipher activation, drive access
- RESET: To clear cipher key code and reset the CipherChain. This also remove the drive icon when the storage device is removed from the Sapphire Cipher External Drive Cartridge System and connecting to USB or a hot swappable eSATA port.
- Maximum throughput - 150 MB/sec
- Light weight, sturdy anodized aluminum housing
- Low noise high CFM cooling fan
- Power consumption (excluding the storage media): ~ 1.5 watts
- Dimensions (L x W x H): 9.88 x 6.88 x 2.00 in (251 x 175 x 50.8 mm)
- Weight: ~ 2.75 lb (1.25 kg) without drive
- Operating temperature and humidity: 0 °C to + 60 °C, 5% - 95% (non condensing)
- Storage temperature and humidity: -40 °C to + 70 °C, 5% - 90% humidity