INTRODUCTION

The Diamond Cipher Drive Cartridge System Kit (DCDCS) features the new generation of eSATA hard drive enclosures with the 256-bit AES hard encryption with choice of either ECB or CBC mode. The encryption is FIPS certified to ensure absolute data security should the drive get stolen or lost. The crypto engine inside the Diamond Cipher enclosure handles all the encryption and decryption on the fly with no detectable performance degradation on data transfer. Using native eSATA interface, the Diamond Cipher Drive Cartridge System supports the highest performance possible today through an externally connected hard drive enclosure.

The Diamond Cipher Drive Cartridge System is designed to enable any SATA hard drive to be used like a tape cartridge via the standard 5 1/4” drive bay of any computer. You can swap hard drive in and out of your computer without restarting your system. Instead of a slow tape cartridge, you enjoy the fast performance of the SATA hard drive. With an optional external power adapter, the DCDCS can also be installed externally for different types of applications. Once the OS detects the presence of the DCDCS enclosure (cartridge), it appears as an additional hard drive to the system. There is no driver to install or special software required to do data backup or restoration. Data is stored uncompressed in its own native file format and can be accessed readily by any application program. (For more detail on drive cartridge system, please visit the following tutorial page.)

Constructed in heavy gauge aluminum with precision finish for smooth operation, the DCDCS is built to last while at the same time providing excellent heat dissipation for the hard drive. With size slightly larger than a VCR cassette, the Diamond Cipher drive enclosure comes with both an eSATA and SATA connector. The eSATA connector allows the Diamond Cipher drive enclosure to be used as an external eSATA hard drive using a standard eSATA cable and an optional power adapter. The SATA connector allows the Diamond Cipher drive enclosure to be used as a removable cartridge in the Diamond Cipher drive cradle installed inside the 5 1/4” drive bay of any computer. The Diamond Cipher drive enclosure can also be attached to the USB port of any computer with an optional USB - eSATA adapter.

Comes built in with the Addonics SATA direct bridge interface, the Diamond Cipher drive enclosure allows the SATA hard drive to appear as a direct connection to the host both in eSATA mode or SATA mode while at the same time isolates the SATA hard drive power and data connectors from the wears and tears incurred in some of the removable SATA hard drive system. 2.5” SATA hard drive can also be installed into the Diamond Cipher drive enclosure using the optional 2.5” hard drive mounting bracket.

The Diamond Cipher drive cradle, equipped with both standard 4P and SATA 15-pin power connectors, has integrated SATA connector for direct connection to SATA port of any system. By attaching different IO converters, the Diamond Cipher drive cradle can also be interfaced to IDE, USB or SCSI port.
Diamond Cipher Drive Cartridge System
model: DCDCS256S, DCDCS256S-C, DCDCS256U, DCDCS256U-C

Diamond Cipher Drive Cartridge System

DIAMOND CIPHER ENCLOSURES

AES 256-bit
Enclosure

DIAMOND ENCLOSURES

SATA Drive Enclosure

IDE Drive Enclosure

DIAMOND DRIVE CRADLES

SATA Drive Cradle

USB Drive Cradle

Diamond Drive Cradle

Cable lock

Power LED

Drive Activity LED

Cipher key

Removable front bezel and optional cooling fan

Cable lock and power switch

SATA or USB connection to motherboard

DIAMOND CIPHER ENCLOSURE SIMPLE INSTALLATION

STEP 1
Use a cross-shaped screwdriver to turn the cover securing screw into the "OPEN" position. Slide the aluminum cover towards the back end of the Diamond Cipher enclosure and remove it.

STEP 2
Carefully place the SATA or IDE hard drive with the label facing up into the Diamond Enclosure. Push the hard drive towards the back end to secure the drive connections onto the Diamond Enclosure's SATA or IDE connector.

STEP 3
Turn the Diamond Enclosure over with the hard drive mounting holes facing up. Use the included anti-slip screws to secure the hard drive onto the bottom of the enclosure. Slide the enclosure cover back onto the enclosure, and turn the screw to the "CLOSE" position.

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FEATURES

Encryption features (for Diamond Cipher only)

- Full disk encryption via a hardware-based NIST and CSE certified cryptographic AES engine
- FIPS 140-2 certified Crypto Module and choice of **ECB or CBC** mode of encryption.
- High performance - Data is encrypted and decrypted on the fly by a certified cryptographic engine inside an ASIC without taking any CPU resources
- Encryption / Decryption via a hardware key, just like using a regular key to open a door.
  To enable the encryption and access the drive, simply the Cipher key into the keyhole of the Diamond Cipher enclosure prior to turn on the power.
- Simple to deploy with no training required, no software to install and no password to remember
- Platform independency - There is no software or driver to install to use Addonics encryption products. As a result, it can be deployed in any systems running any OS. This is important in organization with multi platform computing and legacy systems

Drive enclosures features

- eSATA connector for external eSATA connection
- Can attach to USB port using optional USB - eSATA adapter
- Regular SATA connector for use as a hot swap removable hard drive via the Diamond Drive Cradles installed in a 5 1/4" drive bay
- Choice of SATA / SATA II hard drive enclosures
- Hard drive connectors are isolated by a Direct SATA bridge from wear and tear in removable drive application
- Support large hard drive beyond 137G with single partition.
- No interface cabling between drive and enclosure for reliable connection.
- No switch to set between internal and external hard drive application
- Compact size for easy transportation - slightly larger than a VCR cassette
- Sturdy aluminum body for use in rough environments
- Well ventilated design, good heat conduction without fan for quiet operation
- LED for both power, drive access and Cipher key activation
- Optional cooling fan available
- Simple hard drive installation
- Optional 2.5"/1.8" converter kit

Drive Cradle

- Mount inside any standard 5 1/4" drive bay
- Aluminum construction for effective heat dissipation inside any system
- Choice of SATA or USB 2.0 interface
- 4-pin Molex and 15-pin SATA power connector
- Drive Cradle keylock to secure Drive Enclosure and power on the drive
- Drive Cradle LED can be set to come from hard drive or from controller
- LED for both power and drive access
- OS support
  - SATA - DOS, Windows 95, NT(SP6), 98SE, Me, 2000, XP, Vista, Windows 7, Windows 7, Mac, Linux and Solaris
  - USB - Windows 98SE, Me, 2000, XP, Vista, Windows 7, Windows 7, Mac, Linux and Solaris

*Note: The Diamond Cipher Drive Cartridge System with the SATA interface must be connected to a SATA controller with hot swap capability in order to add and remove drive cartridge without rebooting. Please consult your motherboard or the add-in card manufacturer to determine hot swap support on your SATA controller. All of the Addonics SATA Host Controllers are hot swap capable.
# Specifications

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
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<tbody>
<tr>
<td>Encryption type</td>
<td>256-bit AES hardware encryption via a hardware-based NIST and CSE certified cryptographic AES engine. Choice of <strong>ECB</strong> or <strong>CBC</strong> encryption mode.</td>
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<tr>
<td>Supported Drive Type</td>
<td>3.5&quot; / 2.5&quot; SATA 1.5Gbps or 3.0Gbps or 6.0Gbps</td>
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| Supported Interface for Drive Cradle | • SATA  
• IDE, USB, or SCSI (with optional converter boards)                   |
| Supported Interface for Drive Enclosure | eSATA for external connection and SATA for internal connection via Diamond drive cradle  
USB 3.0 / 2.0 with optional eSATA - USB adapter (ASU3ESA)            |
| Support large hard drive (over 137G) : | Yes                                                                     |
| Power source                         | Internal Drive Cartridge System or Mobile Rack – from PC power supply  
Drive Enclosure or External Drive Cartridge System - from 110/220 power adapter |
| Cooling fan                          | Optional for drive enclosure                                           |
| LED indicators                       | For power and drive access on drive enclosure and drive cradle  
For Cipher key activation on drive enclosure                              |
| Material construction                | Aluminum                                                                |
| Supported OS                         | • USB 3.0 - Windows 2000, XP, 2003, Vista, Windows 7, Mac OS X, Linux Kernel 2.6 and above  
• USB 2.0 - DOS, Windows 2000, XP, 2003, Vista, Windows 7, Mac OS X, Linux Kernel 2.4 and above, Solaris 8 10/00 or later release.  
• SATA - DOS, Windows NT4(SP6), 98SE, Me, 2000, XP, 2003, Vista, Windows 7, Windows 7, Mac OS X, Linux Kernel 2.4 and above or any OS that supports SATA hard drive |
| Dimensions                           | Drive enclosure: 8.19 x 4.57 x 1.46 in. (208 x 116 x 37 mm.)  
Drive Cradle: 8.93 x 5.75 x 1.61 in. (227 x 146 x 41 mm.)            |
| Weight                               | 13.6 oz (enclosure without hard drive)  
15.2 oz (drive cradle)                                           |
| File Systems                         | FAT, FAT32, NTFS and HPFS                                              |
| Operating temperature:              | 0 °C to +50 °C                                                          |
| Operating humidity                   | 5% to 90%                                                               |
| Storage temperature                  | -40 °C to +85 °C                                                        |
| Storage humidity                     | 5% to 95% (non condensing)                                              |
| Warranty                             | One Year                                                                |
| RoHS compliant                       | Yes                                                                     |