

DataPort 25 Enhanced Carrier Manual



www.CRU-DataPort.com

About CRU-DataPort

Founded in 1986 and based in Vancouver, WA USA, CRU-DataPort is a pioneer in data security and data mobility devices. The company's DataPort™ brand of removable hard drive enclosures is the de facto standard for physical data security and safe data transporting for government and education computers. Backed by the industry's leading warranties and connector ratings, DataPort products are available through major distributors, PC manufacturers and resellers throughout the US and abroad. For more information please visit www.CRU-DataPort.com.

Please register your product at www.CRU-DataPort.com and be automatically entered to win a free prize!

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General Description

The DataPort™ 25 is a portable storage device for your computer hard drive that can be easily removed from the computer. The DataPort 25 consists of a frame and carrier that supports up to two 2.5" drives. The frame can be fitted into any standard 3.5" floppy drive bay. The Enhanced Carrier series supports a single IDE or SATA hard drive and functions as an external USB device (DataPort 25u and DataPort 25sus) or external USB and FireWire device (DataPort 25c). There are also encryption models of the Enhanced Carrier (DataPort 25ce and DataPort 25ue) available for IDE hard drives with several versions of encryption key strength (64, 128 and 192 bit) to choose from.

About Encryption

DES (Data Encryption Standard)

The Encryption DataPort 25 uses the DES or TDES algorithm to encrypt the entire hard drive. A DES algorithm with a default 64-bit length secret electronic key is called a cipher. DES mathematically alters the original data with its 64-bit length secret electronic key. The result after DES encryption is called cipher text. A reverse DES computation is called a decryption. However, to derive the original data from the decryption process, one must use a correct (bit-by-bit match) secret electronic key. If the wrong key is used to decrypt, the result will be unintelligible.

TDES (Triple DES)

Triple DES (TDES) is three (3) DES operations cascaded together in sequence. On the first pass, DES encrypts the data with a secret electronic key (key1). On the second pass, the results from the first pass are processed with a second secret electronic key (key2). On the third pass, the second pass result is encrypted with secret electronic key (key3).

Encryption DataPort Features

The encrypted DataPort 25 Enhanced Carrier is a high-performance access control and encryption system that will safeguard the privacy of your data. The cutting-edge technology of the encrypted DataPort 25 Enhanced Carrier offers military-grade protection. The encrypted DataPort 25 Enhanced Carrier has a real-time processor that encrypts the entire disk content bit-by-bit; including the boot sector, temp files, swap files, and operating system, without degrading performance. The encrypted DataPort 25 Enhanced Carrier is totally transparent to users; there are no commands or graphical user interfaces to contend with. The encrypted DataPort 25 Enhanced Carrier is extremely fast, capable of processing 1.16 Gigabits-per-second throughput without taking extra CPU time and system resources. The encrypted DataPort 25 Enhanced Carrier works with all operating systems and does not require any device drivers.

The Encryption DataPort 25 uses an NIST (National Institute of Standards and Technology) certified DES 64-bit & TDES 128/192-bit hardware real-time encryption and decryption engine. These algorithms are certified to provide reliable security and at full strength is virtually impossible to access the encrypted data by guessing or deriving the right TDES key. Because everything on the disk is encrypted, your data is safe even if attackers try to boot from their own disk, or move your disk to an unprotected machine.

The encrypted DataPort 25 Enhanced Carrier is designed to work with DataPort 25 frames via the IDE interface or as an external device via USB or FireWire. Because the hardware encryption engine is on the carrier, a carrier with an encrypted drive can be used with existing DataPort 25 frames that are already installed with IDE support. The carrier and "S-Key" (which provides the secret electronic code) used to encrypt the hard drive can be used in multiple DataPort 25 frames, so that a carrier with encrypted hard drive can be safely used in multiple PCs. Additionally, multiple users can securely use the same PC with their own encrypted DataPort 25 Enhanced Carrier and a unique "S-Key". The encrypted DataPort 25 Enhanced Carrier allows you to encrypt your data while still retaining the mobility and security provided by your DataPort.

Package Contents

Package Contents for DataPort 25u (USB)

<u>Quantity</u>	<u>Description</u>
1	DataPort 25u Enhanced Carrier
1	USB cable
1	Screw kit
1	AC Adapter

Package Contents for DataPort 25c (USB & FireWire)

<u>Quantity</u>	<u>Description</u>
1	DataPort 25c Enhanced Carrier
1	USB cable
1	FireWire cable
1	AC Adapter
1	Screw kit

Package Contents for DataPort 25ue (USB with Encryption)

<u>Quantity</u>	<u>Description</u>
1	DataPort 25ue Enhanced Carrier
1	USB cable
3	Encryption keys
1	AC Adapter
1	Screw kit

Package Contents for DataPort 25ce (USB & FireWire with Encryption)

<u>Quantity</u>	<u>Description</u>
1	DataPort 25ce Enhanced Carrier
1	USB cable
1	FireWire cable
3	Encryption keys
1	AC Adapter
1	Screw kit

Package Contents for DataPort 25sus (USB with SATA hard drive)

<u>Quantity</u>	<u>Description</u>
1	DataPort 25sus Enhanced Carrier
1	USB cable
1	AC Adapter
1	Screw kit

If any of the items are missing or you need special parts, contact your dealer or CRU-DataPort for instructions regarding replacement or service. You can order additional Encryption DataPort carriers or frames for multiple drive applications.



Figure 1 – DataPort 25ue Enhanced Carrier Faceplate

Preparation for Installation

1. To prevent data loss, read this manual thoroughly before installing or operating the DataPort.
2. Before touching any electrical equipment, ground yourself by touching the metal part of your computer chassis to discharge static electricity and help prevent any damage to your computer. CRU-DataPort is not responsible for static discharge damage.
3. Gather the following tools and needed items:
 - Phillips screwdriver
 - Small flat screwdriver
 - Computer Users Manual
 - Hard Disk Drive (HDD) Manual to set jumper

Frame Installation

WARNING!

Only use screws provided by CRU to install your DataPort 25 frame. Use of standard M3 screws can prevent proper functionality of your DataPort 25.

1. Turn off the computer and disconnect its power cord from the electrical outlet.
2. Wait one minute for any residual energy to dissipate from your computer.
3. Remove the cover of the computer.
4. Locate an empty, externally accessible 3.5" bay in which you will mount the DataPort frame assembly, and then remove any filler plates that may be present.
5. If the drive bay requires mounting rails, install one on each side of the DataPort frame. The mounting rails should be provided with your computer system. Mount the frame assembly by sliding the frame into the 3.5" bay from the front of the PC case.
6. If no rails are required, use the screws provided to secure the frame assembly in the computer case with the frame's side mounting holes (see Figure 3). Your DataPort frame also has bottom mount holes in case you need to bottom mount the unit.

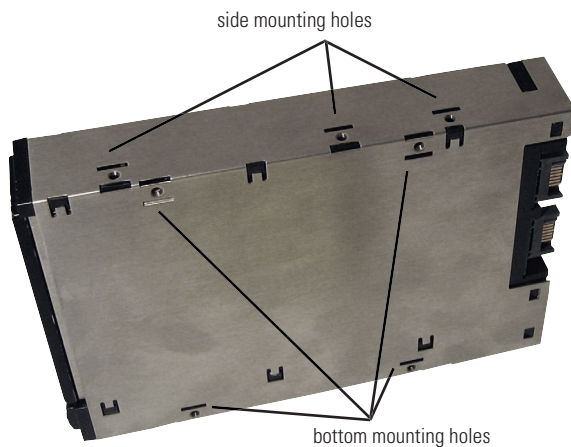


Figure 2 – Location of mounting holes

7. Locate the data cable and connect it to the connector on the rear of the frame.
8. Connect the DC power cable to the frame by locating an available 4-pin DC floppy style power cable from the computer power supply and then plugging it into the power plug (JP3) on the frame.

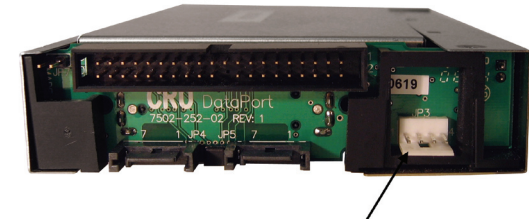


Figure 3 – Location of JP3 Power Plug

The frame installation is now complete.

IDE Hard Drive Installation

IMPORTANT! Read this before installation. To avoid loss of data, read the following section prior to setting up your encrypted DataPort 25 Enhanced Carrier.

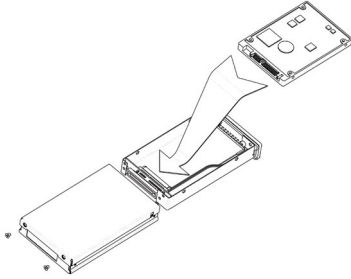
Warning! Always backup your data prior to any hardware installation.

To set up the encrypted DataPort 25 Enhanced Carrier you must format your hard drive with the "S-Key" installed. Formatting will result in a loss of all data on your hard disk drive. Since you are going to format your hard disk drive you must backup any data that you wish to keep. This should be done before installing your hard disk drive in the DataPort.

1. Remove the two screws from the back of the Enhanced Carrier. Slide the metal cover off.
2. Make sure the hard drive is jumpered as master.
3. Install the hard drive upside-down. First connect the power and data cable. Then use the provided screws to secure the hard drive with the bottom of the hard drive facing upwards.
4. Slide the cover back on the carrier and secure it with the cover screws.

SATA Hard Drive Installation

1. Remove the two cover screws from the back of the Enhanced Carrier. Slide the metal cover off.
2. Install the Hard drive upside-down in the carrier. Connect the hard drive (upside-down) to the connector on the circuit board with the bottom of the hard drive facing upwards. Use the provided screws to secure the hard drive.



3. Slide the metal cover on the carrier and use the cover screws to secure it.

Operation

Warning! Exercise caution when touching the connectors. Internal damage could result from electrostatic discharge.

Please read the section below on “S-Keys” before starting operation.

Using Security Keys

Your encrypted DataPort 25 Enhanced Carrier comes with Security Keys called “S-Keys” to authenticate you as the authorized user and to enable encryption/decryption. Without the provided “S-Key”, your computer may NOT be able to boot and/or the data on the disk drive will NOT be seen. After you have set up your encrypted Enhanced Carrier, test the other two keys to ensure that they work correctly.

IMPORTANT!

Never insert the “S-Key” in a FireWire port!! Inserting your “S-Key” into a FireWire port will damage the encryption key and you will be unable to use the key, which can result in the loss of your data.

Always store the duplicate “S-Keys” in a safe place!!

The “S-Key” contains the secret electronic key for the DES/TDES real-time cipher engine. Without this unique secret electronic key, you will be unable to access any data on your encrypted hard disk drive. It is extremely important to store the duplicate keys in a safe place where they can be retrieved in case the original key is lost.

Loss of all three “S-Keys” will make it virtually impossible to recover your data.

There is no “back door” on the Encryption DataPort 25. CRU-DataPort does not keep any records of the random secret electronic key stored on the “S-Key”, so we cannot provide a replacement if all three keys are lost. CRU-DataPort offers an “S-Key” duplication service provided you have one of the original “S-Keys”. Contact CRU-DataPort for details.

Every Encryption DataPort 25 we ship is thoroughly tested and meets the high-quality standards you expect from CRU-DataPort. However, should the Encryption DataPort 25 fail, simply return the carrier to CRU-DataPort. The data on the hard disk drive will not be lost as long as you have the original “S-Keys”.

Ejecting the Carrier

1. Turn the key counter clock wise to unlock the carrier and turn the power off.
2. Press the ejection button to release the button.
3. Press the ejection button again to eject the carrier.
4. Remove the carrier and press the ejection button to re-stow it into the unit.

Setting up the DataPort Enhanced Carrier for Windows 2000/XP or Mac OS 9.x/X via USB or FireWire

Insert the “S-Key” into the “S-Key” port on the front panel of the Encryption DataPort 25. The “S-Key” must be inserted before power to the Encryption DataPort 25 is turned on. Without the proper “S-Key”, your computer will NOT be able to boot and/or the data on the disk drive will NOT be seen.

When used in a DataPort 25 frame, the key lock on the CRU DataPort locks the carrier in place and also serves as an ON/OFF switch for the power. Turn the key lock 90 degrees clockwise to the ON position before turning on the computer.

When using the carrier alone in remote mode, for hot plug, connect the DataPort 25 Enhanced Carrier to an available USB or FireWire port - no new drivers are required. The hard disk drive will use bus power to spin up and be found. A window will pop up stating that new hardware has been detected. The "S-Key" must be inserted when the Enhanced Carrier is connected to the host. For best USB performance connect via USB 2.0.

After the computer has booted up, you should remove the "S-Key" and store it in a secure place. Removing the "S-Key" after the computer has booted up will not affect the operation of the computer.

Note: The "S-Key" port in the front of DataPort carrier is for the "S-Key" only. Please note that this port, while mechanically identical to the IEEE-1394 FireWire, is not a FireWire interface. Please do not attempt to connect standard FireWire products into the "S-Key" port.

For new and encrypted drives on PCs:

- Right click on My Computer.
- Click on Manage.
- In the Storage sub-section, click on Disk Management to display a list of all the drives connected to your computer.
- Left click on Action, select All Tasks and then left click on Create Partition.

REMEMBER, partitioning the drive will require the drive to be formatted and formatting will result in loss of all data on the hard drive.

- This will bring up the Create Partition Wizard screen.
- Follow the instructions and the drive will be ready for use.
- Select standard format for initialization.

For new and encrypted drives on Macs:

The drive is not formatted; you will need to initialize it. After initializing the drive, select the partition tab and select the desired partitions, then click ok. The new disk will be added to your desktop.

REMEMBER, formatting will result in loss of all data on the hard drive.

Setting Up The Encrypted DataPort Enhanced Carrier Via IDE

1. Insert the "S-Key" into the "S-key" port on the front panel of the DataPort 25 Enhanced Carrier. The "S-Key" must be inserted before power to the DataPort 25 Enhanced Carrier is turned on. Without the proper "S-Key", your computer will NOT be able to boot and/or the data on the disk drive will NOT be seen.
2. After the computer has booted up, remove the "S-Key" and store it in a secure place. Removing the "S-Key" after the computer has booted up will not affect the operation of the computer until system shutdown or reset.

Note: The "S-Key" port in the front of DataPort carrier is for the "S-Key" only. Please note that this connector, while mechanically identical to the IEEE-1394 FireWire, is not a FireWire interface. Please do not attempt to connect standard FireWire products into the "S-Key" connector.

3. Turn on the power. The key lock on the CRU DataPort locks the carrier in place and also serves as an ON/OFF switch for the power. Turn the key lock 90 degrees clockwise to the ON position before turning on the computer.
4. You must now FORMAT the disk. Formatting will prepare the disk to be used and encrypt both the boot sector and the file allocation table (FAT).

WARNING!

The FORMAT operation will erase everything on the disk. Please backup your data before starting this operation. We are not responsible for any lost data.

Formatting your hard disk drive will erase all data so please back up anything on the drive before formatting it. With the encrypted DataPort 25 Enhanced Carrier the FORMAT operation must be performed on the disk regardless of whether the drive is new or old. Perform standard FDISK or FORMAT functions as required for your operating system. After formatting is complete, load the operating system and other files you require, including any files you originally backed up. (Contact CRU-DataPort Technical Support if you need technical assistance for this step.)

You have now finished the installation and your DataPort is ready to operate.

Removing the DataPort Enhanced Carrier In USB, Firewire or SATA Mode

For PCs:

- Quit all applications running on the external drive then right click the green arrow icon on the system tray.
- Select Remove/Eject.
- Highlight the Mass Storage Device in the dialog box then click Stop.
- Choose the external disk drive that you want to disconnect, and then click Stop.
- Wait until the “You may safely remove this device” message appears.
- Unplug the data cable from the computer or remove the carrier.

WARNING: If your computer reports that the drive is busy, you must shut down your computer and then remove the drive. Failure to do so may result in data loss or corruption.

For Macs:

- Close all windows and quit all applications that are running on the Enhanced DataPort carrier.
- Drag the external drive icon into the Trash to dismount it from the desk top prior to unplugging the drive.
- Disconnect the hard drive.

Hard Drive Activity LED

The front of the DataPort 25 Enhanced Carrier has two dual function LEDs. A green LED that lights up when the power to the hard drive is on and will flash if there is no IDE cable connected to the frame when the carrier is powered on. And an amber LED that flashes when activity is taking place on the hard drive and will be continuously on in the event of an “S-Key” error.

AC Power Adapter

Some PCs or laptops do not provide enough USB or FireWire bus power for the Enhanced Carrier to function properly. If the hard drive is not detected when connected via USB or FireWire, try using the provided AC Adapter.

Troubleshooting

No power

Make sure the key lock of the DataPort is turned to the ON position and the green power LED light is on. Check the power connection on the back of the frame. Use the provided AC power adapter if your computer does not provide enough power via the USB bus.

“S-Key” error

The amber activity LED is a dual-function LED. When the amber LED is continuously on at boot up, it indicates an error with your “S-Key”. The “S-Key” cannot be read and the encryption processor is unable to encrypt and decrypt any data. Make sure you have inserted the correct “S-Key” into the key port. Without the proper insertion of the correct “S-Key”, your disk drive will not boot or will not be seen.

Drive not recognized by computer

First check all of the cable connections and the jumper configurations. Check the Master/Slave mode setting on the drive. Ensure the carrier and frame are fully seated. Make sure that there is not an “S-Key” error indication. Also, if you have multiple Encrypted DataPorts, make sure you are using the correct key.

Technical Support

Contact your dealer for technical support first. If you still need assistance, then contact the CRU-DataPort technical support department. You can contact CRU-DataPort’s technical support department by visiting our web site at URL <http://www.CRU-DataPort.com>, or by sending an E-mail message to support@CRU-DataPort.com. Technical support is also available by phone at: (800) 260-9800 during the hours of: 8:00 AM to 5:00 PM, PST, Monday through Friday; or by FAX (360) 816-1836.

When you call, please have the following information ready:

- The part number of your CRU DataPort(s)
- The manufacturer’s name and model number of the hard disk drive and computer system you are using
- Any error messages that appeared on your screen
- The name of the dealer from which you purchased your CRU-DataPort product(s)

Limited Product Warranty

CRU-DataPort warrants the DataPort 25 Enhanced Carrier to be free of significant defects in material and workmanship for a period of one year from the original date of purchase.

Product Remedies

CRU-DataPort's entire liability and the original purchaser's exclusive remedy for any breach of warranty, shall be, at CRU-DataPort's option, either (a) return of the price paid or (b) repair or replacement of the hardware, provided that the hardware is returned to CRU-DataPort, with a copy of the sales receipt or applicable documentation. Any replacement hardware will be warranted for the remainder of the original warranty period.

These remedies are void if failure of the hardware has resulted from accident, abuse, misapplication or modification. (This will be determined by CRU-DataPort.)

Limitation of Liability

The warranties set forth in this agreement replace all other warranties. CRU-DataPort expressly disclaims all other warranties, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose and noninfringement of third-party rights with respect to the documentation and hardware. No CRU-DataPort dealer, agent or employee is authorized to make any modification, extension, or addition to this warranty. In no event will CRU-DataPort 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 CRU-DataPort product or service, even if CRU-DataPort has been advised of the possibility of such damages. In no case shall CRU-DataPort's liability exceed the actual money paid for the products at issue.

Material Return

Any product being returned to CRU-DataPort, either by a distributor, dealer, or an end user, for repair or replacement must be accompanied by a Return Material Authorization (RMA) number, which must be obtained by contacting CRU-DataPort's Customer Service Department at (800) 260-9800.

Please have these items available when requesting an RMA: CRU-DataPort Part Number(s) and your return "Ship To" Address.

IMPORTANT!

Returned material must be properly packed to avoid in-transit damage. Damage to CRU-DataPort products due to improper packaging will not be covered by this warranty.

Product return packages must be labeled on the outside of the box as follows:

CRU-DataPort
RMA Dept./RMA #XXXX
1000 SE Tech Center Drive, Suite 160
Vancouver, WA 98683

CRU-DataPort will apply its warranty policy and issue RMA numbers based on a review of the specific circumstances of each request. CRU-DataPort will, at its sole discretion, determine if a product is valid for return to CRU-DataPort or if another remedy is applicable.

RMA product(s) sent to CRU-DataPort must be received within 30 days of the original RMA issue date. All products on each RMA must be shipped together. Prior to returning defective product(s), contact a CRU-DataPort Technical Support Specialist for problem analysis and replacement approval at (800) 260-9800. To return defective product(s), please follow the guidelines below, in addition to the general RMA guidelines described above in the "Material Return" section.