



FORENSIC COMBODOCK™ V5 USER MANUAL

Revised September 17, 2012



Features

- Dual mode: Write-block and Read/write
- Four separate host attachment options (USB 3.0, FireWire 800, FireWire 400, and eSATA) for compatibility with virtually any computer
- Multiple LEDs indicate operational status, including disk activity, hidden area detection, error state, and the status of power input and output
- LCD menu allows user to configure settings and view information on attached drives
- Detects and indicates hidden areas (HPAs or DCOs) found on hard drives
- Able to create HPAs and DCOs
- All-aluminum case for rugged durability and excellent heat dissipation

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Forensic Device User Advisory

We recommend that you perform a final check on this product.

Prior to first use, please verify that the write-blocking function of this product is working properly. This is easily done: attach a known good formatted drive, and verify that the drive mounts properly on your computer. Use a drive that has data on it that you are willing to overwrite. Transfer files to the drive. The files will appear to transfer to the drive. Thereafter, unmount the drive and remount the drive. The files that you wrote to the drive should not appear after the drive is remounted. If they do appear, there is a problem with your forensic device, and you should contact our support department for further instructions.

CRU support may be reached at:
 (800) 260-9800 (toll free)
 (360) 816-1836 (fax)

You can also contact us online through www.cru-dataport.com

1. Pre-Setup

1.1 Check the accessories packaged with your Forensic ComboDock

Forensic ComboDock v5 ships with everything you need to get started. Please contact CRU if any items are missing or damaged. The box should contain:

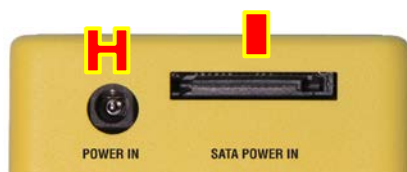
Contains	Number
Forensic ComboDock unit	1
AC adapter & power cord	1
USB 3.0 cable	1
FireWire 800 cable	1
FireWire 400 cable	1
eSATA cable	1
SATA drive attachment cable	1
IDE cable	1
Molex mini-fit to legacy power cable	1
Metal drive plate	1
Packet of screws and bumpers	1
Quick Start Guide and Warranty Info	1

1.2 Take a moment to familiarize yourself with the parts of your new Forensic ComboDock. This will aid you in the remaining steps.



- A eSATA connector for connecting SATA drives
- B 4-pin square connector for power cable to the drive
- C 40-pin IDE header for external IDE cable attachment

- D FireWire 400 connector
- E dual FireWire 800 connectors
- F USB 3.0 connector
- G eSATA connector



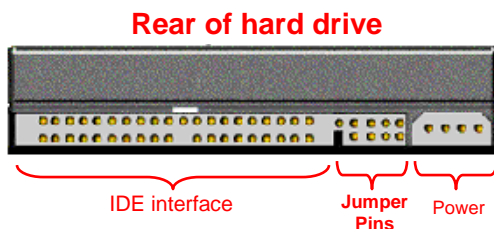
- H Power input from AC adapter
- I SATA power input
- J USB mode switch (see section 4)

- K** Write Block Indicator LED (green)
- L** Error LED (red)
- M** HDD access LED (amber)
- N** HPA/DCO Indication LED (green)
- O** LCD screen
- P** Navigation buttons
- Q** Power switch
- R** Power output status LED (green)
- S** Power input status LED (green)



2. Setup

- a) Attach protective metal drive plate to your 3.5" hard drive.** (This step is optional.) The purpose of the bottom plate is to provide protection to your drive electronics and aid heat dissipation.
- b) If attaching an IDE/PATA drive, configure the jumpers on the rear of the drive.** The drive must be set to the Master setting. Consult the instructions for your drive (some drives display configuration information on the drive's label).



- c) Connect Forensic ComboDock to the drive (or adapter) using either the IDE ribbon cable for IDE drives or the SATA data/power cable for SATA drives.**
- d) If using an adapter, connect the drive to the adapter.**
- e) Attach the power cable to Forensic ComboDock and to the drive.** For SATA drives, the power cable and data cable are combined into a single SATA drive interface.
- f) Connect the eSATA, FireWire or USB cable from your computer into the corresponding port on Forensic ComboDock.**
- g) Provide power to Forensic ComboDock.** Use either the included AC adapter or you can connect a SATA power cable from inside a computer case. This is useful if you wish to access a drive inside a computer without removing it first.
- h) Turn on the power switch.** The connected drive will power up and Forensic ComboDock's main menu will appear on the LCD screen.

You are now ready to use Forensic ComboDock to access the drive.

3. Menu Structure/Usage of Forensic ComboDock v5

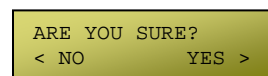
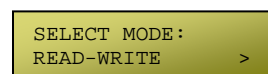
Use the LCD and 4-button navigation interface to view information about the drive and dock or adjust HPA/DCO handling. On the 4-button navigation interface, UP and DOWN allow scrolling through options, while ENTER selects and BACK exits or returns to the previous screen.

Forensic ComboDock’s menu consists of the following screens:

3.1 Select Mode

Every time you switch Forensic ComboDock on, the “Select Mode” screen displays. You can switch between write-blocked or read-write modes. Write-blocked will always be the default mode.

- Press UP or DOWN to toggle between the two modes.
- Press ENTER to select the mode you want.
- If you select read-write mode, you will be prompted to confirm your selection.
- Press ENTER to select the mode you wish to use.
- A “Standby” screen will briefly display.



Forensic Combo Dock is now in the mode you selected.

3.2 View Drive Info

This screen displays information about the attached drive.

- Press ENTER, and then use the UP or DOWN buttons to scroll through and view the following info about the drive.



Appearance on LCD	Explanation
Disk Temp	Temperature of the attached drive, measured in degrees Celsius.
Capacity (MB)	Capacity of the HDD, measured in megabytes.
Manufacturer	Manufacturing company name of the HDD.
Model number	Model number of the HDD.
Serial number	Serial number of the HDD.
Firmware Rev	Firmware revision number of the HDD.
HPA size (MB)	The size of the Host Protected Area of the HDD, measured in megabytes.
DCO size (MB)	The size of the Device Configuration Overlay of the HDD, measured in megabytes.
Disk health	Displays the S.M.A.R.T. health status of the drive.
Start/Stops	S.M.A.R.T. information on how many times the drive has spun up and spun down.
Power cycles	S.M.A.R.T. information on how many power on/off cycles the drive has underwent.
Bad sectors	Number of bad sectors reported by the drive.

3.3 View Dock Info

This screen displays information about your Forensic ComboDock unit.



- From the “View Drive Info” screen, press the UP or DOWN buttons to get to the “View Dock Info” screen. Press ENTER.
- Use the UP or DOWN buttons to scroll through and view the following info about Forensic ComboDock.

Appearance on LCD	Explanation
Product Name	Brand name of the product (e.g. “Forensic ComboDock”).
Unique ID#	A specific, unique number assigned to the unit for identification, akin to a serial number.
Firmware ver. #	Firmware version currently installed on the Forensic ComboDock product.

3.4 HPA/DCO Auto

This screen allows you to configure the way Forensic ComboDock will automatically handle hidden areas it detects on drives during power up.



- From the “View Drive Info” screen, press the UP or DOWN buttons to get to the “HPA/DCO Auto” screen. Press ENTER.
 - Press UP or DOWN to scroll through the four ways Forensic ComboDock can handle HPAs and DCOs.

1) **Ignore all** - Detects and indicates their presence, but does not remove them.



2) **Temp Unlock HPA** - Temporarily remove HPA only.



3) **Perm Unlock HPA** - Permanently remove HPA only



4) **Unlock All** - Permanently remove any HPA or DCO



- Press ENTER when your desired mode appears on the LED. Forensic ComboDock will then set your desired mode as the default.



3.5 Create HPA/DCO

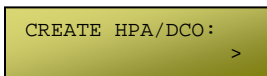
You can create an HPA or DCO on the attached drive only if you are in Read-Write mode. If you try to create an HPA/DCO in Write-Blocked mode, the screen will display “SUPPORTED IN R/W MODE ONLY.” To create an HPA/DCO, cycle power on the unit and switch to Read-Write mode.



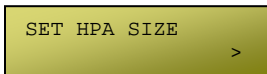
3.5.1 Set DCO Size

This option is only available if no HPA exists on the drive. It allows you to set a new size for DCO (Device Configuration Overlay). Each drive can only have one such area. Use the navigation buttons to select its size. The disk capacity available to a computer will be reduced by this amount. A value of zero means no DCO. Values exceeding available capacity are not accepted.

- From the “View Drive Info” screen, press the UP or DOWN buttons to get to the “Create HPA/DCO” screen. Press ENTER.



- Press UP or DOWN to toggle between “Set HPA size” and “Set DCO size” screens. When “Set DCO Size” displays, press ENTER.



- A notification will appear on the screen that continuing will end any data transfer. Make sure no data is being written to or read from the drive, then press ENTER.
- Use the UP, DOWN, BACK and ENTER buttons to enter the size of the DCO that you want. Press ENTER.
- Forensic ComboDock will ask you to confirm. If not sure, Press BACK. If sure, press ENTER.
- Forensic ComboDock will then create the DCO. When complete, you will be notified to cycle power on the unit.

WILL END ANY
DATA XFER >

DCO SIZE (MB):
00000000>

HPA SIZE (MB):
ARE YOU SURE? >

CREATING DCO
CYCLE POWER NOW

After Forensic ComboDock is turned off and back on, the DCO exists on the connected drive.

3.5.2 Set HPA Size

From this screen, you can set a new size for HPA (Host Protected Area). Each drive can only have one such area. Use the navigation buttons to select its size. The disk capacity available to a computer will be reduced by this amount. A value of zero means no HPA. Values exceeding available capacity are not accepted.

- From the “View Drive Info” screen, press the UP or DOWN buttons to get to the “Create HPA/DCO” screen. Press ENTER.
- Press UP or DOWN to toggle between “Set HPA size” and “Set DCO size” screens. When “Set HPA Size” displays, press ENTER.
- A notification will appear on the screen that continuing will end any data transfer. If this is OK, press ENTER.
- Use the UP, DOWN, BACK and ENTER buttons to enter the size of the HPA that you want. Press ENTER.
- Forensic ComboDock will ask you to confirm. If not sure, Press BACK. If sure, press ENTER.
- Forensic ComboDock will then create the HPA. When complete, you will be notified to cycle power on the unit.

CREATE HPA/DCO:
>

SET HPA SIZE
>

WILL END ANY
DATA XFER >

HPA SIZE (MB):
00000000>

HPA SIZE (MB):
ARE YOU SURE? >

CREATING HPA
CYCLE POWER NOW

After Forensic ComboDock is turned off and back on, the HPA exists on the connected drive.

4. USB Mode Switch

There are two USB modes on Forensic ComboDock.

- **USB 3.0 Mode:** Use this mode when Forensic ComboDock is connected to a USB 3.0 port on your computer with a USB 3.0 cable (such as the cable included with the product). If Forensic ComboDock is used with a USB 2.0 port or cable and it is switched to USB Normal mode, the dock will not function correctly.
- **USB 2.0 Mode:** This mode ensures that Forensic ComboDock is backwards-compatible with USB 2.0. In this mode you can use any cable or USB port type, but it will operate at USB 2.0 speed. USB Admin mode should also be used when using CRU applications (such as Forensic Software Utility) to update the dock.

5. Using Forensic ComboDock with Combo Adapters

Combo Adapters are available from CRU that can allow your Forensic ComboDock to access all kinds of drives. Follow these three simple steps to use a Combo Adapter with your dock:

- A. Attach the dock's 4-wire power connector to the adapter.
- B. Connect the dock's IDE ribbon cable to the adapter's IDE pins.
- C. Connect the drive to the adapter.

You are now ready to use your dock to access the drive. Combo Adapters are available for a variety of drive types. See the WiebeTech website for more details (www.wiebetech.com).



6. Frequently Asked Questions

Q: When I connect Forensic ComboDock to my computer via USB, it does not function. Why?

A: Check the USB mode switch on the side of Forensic ComboDock. If you are connecting to a USB 2.0 host or using a USB 2.0 cable, the switch must be set to USB Admin mode for Forensic ComboDock to work properly. See section 4 above.

Q: My Forensic ComboDock works great with SATA drives but I am having compatibility issues with IDE/PATA drives. What should I do?

A: First check to make sure the SATA power/data cable is unplugged from the SATA output port. IDE/PATA drives cannot be recognized if a SATA connection is made with the SATA output. Next check to make sure the 4-pin power cable is plugged into the IDE/PATA drive. If the power and host connection are securely attached to Forensic ComboDock, then the IDE cable may be faulty. Contact Technical Support for further instructions.

Q: Why does my dock experience errors or unmount during long file transfers?

A: The environment in which the dock is used can affect its performance. The surface that the dock and drive are set upon may not allow heat to dissipate away from the units. The bottom plate supplied with the product will help to dissipate heat away from the hard drive and dock. If placed on a non-conductive surface, the drive or dock may suffer heat related failures. After cooling, the units usually return to a useable state. Occasionally these heat-related failures can be permanent.

Q: How should I set the jumpers on my drive?

A: *Note: This is only necessary for IDE/PATA drives (the type of drive that has a 40-pin data interface).* Try the MASTER setting first. This is the recommended setting. Some hard drives have two different MASTER settings: one for when there is a SLAVE drive present and one for when there is NO SLAVE drive present. Choose the setting for NO SLAVE present. There may be some drives that will not work with either of these settings. The next choice is CABLE SELECT. If this does not work, try using NO jumpers. This may be the same as MASTER with NO SLAVE present. If you're unsure how to change the jumper configuration, check the manual that came with your hard drive, or the manufacturer's website. Some drives also have the information printed on the label.

Q: Can I attach an eSATA drive enclosure to the SATA drive connection on Forensic ComboDock? Will this allow me to access it via FireWire or USB on my computer as if it were a bare hard drive?

A: Yes. By using an eSATA to eSATA cable, you can connect an eSATA drive enclosure to the eSATA connector on the "drive side" of the dock. You can then connect the "host side" of the dock to a computer via any of the connections. This should give you access to the drive without requiring its removal from its housing.

7. Technical Specifications

Product Name	Forensic ComboDock v5
Drive Compatibility	<ul style="list-style-type: none"> • 2.5-inch & 3.5-inch SATA drives • 3.5-inch IDE/PATA drives • Additional types using optional adapters
Host Interfaces	<ul style="list-style-type: none"> • USB 3.0 (USB 2.0 when switch is set to USB 2.0 mode) • eSATA 3G • FireWire 800 (two ports, daisy-chainable) • FireWire 400
Power Supply	Input: 100-240VAC; Output: +12V 3.5A
Operating System	<ul style="list-style-type: none"> • Windows 7, Vista, XP • Mac OS X • Linux distributions supporting the desired connection type
Unit Dimensions	75 mm x 110 mm x 27 mm
Shipping Weight	4 pounds, including accessories
Compliance	CE, FCC
Support	We don't expect anything to go wrong with your product. But if it does, Tech Support is standing by and ready to help. Contact us through www.cru-dataport.com or call (800) 260-9800.

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Limited Product Warranty

CRU-DataPort (CRU) warrants Forensic ComboDock to be free of significant defects in material and workmanship for a period of two years from the original date of purchase. CRU'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. CRU 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 CRU dealer, agent or employee is authorized to make any modification, extension, or addition to this warranty. In no event will CRU 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 product or service, even if CRU has been advised of the possibility of such damages. In no case shall CRU's liability exceed the actual money paid for the products at issue. CRU 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 home or 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.

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.

