



Securing Data that Matters

[www.cru-inc.com](http://www.cru-inc.com)

# Introducing the Ditto™ Forensic FieldStation

Value Added Partner:





Securing Data that Matters

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# The New Standard for Digital Data Exploitation and Forensic Acquisition

- Remote operation & preview
- Network source & destination
- Dual drive destination
- Battery operation
- Customize activity logs
- All aluminum construction
- No fan noise





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## Hardware Overview

- LCD
- Navigation pad
- LEDs





## Hardware Overview – Source Side

- SATA/eSATA
- PATA
- USB 2.0
- GbE
- PCIe Expansion Module
- Mini-fit drive power





## Hardware Overview - Destination Side

- Dual SATA/eSATA
- GbE
- Mini-fit drive power
- Stealth switch – blackout mode for low visibility operations





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## Hardware Overview – Top Side

- Power in – barrel or SATA 15-pin
- Power switch
- SD card
- Hook





## System Overview

### Image Destination Options

- GbE
- SATA Drive – single or mirrored
- SD card

### Supported Drive File System (Destination)

- EXT2, EXT3, EXT4, XFS
- HFS+
- FAT32

### Supported Drive File System (Source)

- EXT2, EXT3, EXT4, XFS
- NTFS
- HFS+
- FAT32, exFAT



## System Overview

### Gigabit Ethernet Ports

- Source side – client only, DHCP or Static IP, iSCSI initiator
- Destination side – server or client, DHCP or Static IP, iSCSI initiator
- Network file system types – NFS, (CIFS/SMB/SAMBA in Q2/2013)
- Network firewall with NAT and port forward capabilities

### HPA/DCO Options

- Indicate only (front panel LED and Activity Log)
- Temporarily bypass HPA
- Permanently unhide HPA
- Permanently unhide HPA/DCO





## System Overview

### Expansion Modules

- PCIe-based to speed development of newer interfaces
- USB3 – Q2/2013
- SAS – Q2/2013
- FireWire – Q2/2013
- Media Cards – Q3/2013
- SCSI – Q3/2013
- ThunderBolt – Q3/2013
- PCI / PCIe x4 expansion breakout – Q4/2013 (host bus adapters)



## Action Functions

Clone – to one or two “mirrored” destination drives

Image DD – to one or two “mirrored” destination drives

Image E01 – to one or two “mirrored” destination drives

Clone and image DD in one pass

Hash – MD5, SHA1, MD5+SHA1 (during acquisition or standalone)

Erase – 8 present standards plus user configurable pattern / # passes

Verify – enable to automatically hash destination drive after acquisition



# Web Based Menu Overview

Home

ditto-12

December 9, 2012  
8:08:58am CST

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Home
Configure
Admin
Logs
Utilities

Administrator Log Out

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**Action** Start Abort Note

**Action To Perform:** Clone Source Disk ▼    **Source:** eSATA ▼

**Destination:** eSATA-B ▼

**Current Status**

Idle

**Settings** Hide

<b>Investigator:</b> Forensic J. Wizzard	<b>Stealth Mode:</b> Disabled
<b>Case Number:</b> DEMO.1234	<b>Audible Buzzer:</b> Disabled
<b>Default Format:</b> EXT4	<b>Log HDPARM Info:</b> Enabled
<b>Verify Actions:</b> No	<b>Log SMART Info:</b> Enabled
<b>Image Type:</b> E01	<b>Erase Mode:</b> Clear Partition Table

Start Auto Refresh  Refresh rate in seconds

**Disks** Hide

Port	Model	Capacity	Heads	Sectors	Cylinders	HPA/DCO
Source eSATA	Hitachi HTS725050A9A364	10.7GB	255	63	1305	DCO
	<b>Partition</b>	<b>Boot</b>	<b>Start</b>	<b>End</b>	<b>Blocks</b>	<b>File System</b>
	1		63 2048 20967424	2047 20967423 20971567	1985 20965376 4144	[Free Space] ntfs [Free Space]
Destination eSATA-B	Hitachi HDS5C4040ALE630	4000.8GB	255	63	486401	None
	<b>Partition</b>	<b>Boot</b>	<b>Start</b>	<b>End</b>	<b>Blocks</b>	<b>File System</b>
	1		0 1 2147483647	0 2147483646 7814037167	1 2147483646 5666553521	[Free Space] ext4 [Free Space]



## Web Based Menu Overview

### LOG-IN

- HTTP and HTTPS
- User name and password

### HOME

- Action – specify, control and monitor activity
- Disk View – suspect drive “preview”  
(Browse, Hex View, HD PARM, SMART)
- Settings – summary listing of configuration
- System Log – time sequenced listing of all activity



## Web Based Menu Overview

### CONFIGURE

- System – Investigator name, case number, other static defaults
- Network – Source and Destination IP, Gateway, DNS Information
- Clone – hash, HPA/DCO, fill, sector control
- Image – DD/E01, hash, file name, seg size, HPA/DCO, sector control
- Erase – presets, HPA/DCO, custom pattern/passes
- Hash – type, sector control

### ADMIN

- Create and Manage User Accounts
- Enable Features Accessible by each User (permissions)
- Enable Features Accessible by the Front Panel



## Web Based Menu Overview

### LOGS

- Action Logs – one per each Action
- Purge All Logs / Delete Individual Logs
- XML format
- Log data on SD Card (no SD card, no Log saved after power cycle)

### UTILITIES

- Firmware Update – via HTTP, HTTPS, FTP, USB 2.0
- Update Management – Auto Check, Activity Log
- Reboot
- Date & Time
- Factory Reset – option to purge all logs
- System Verify – firmware signatures and no change has occurred



## Benchmarks

*Note: Contact CRU for latest information.*

Source drive: Seagate Momentus XT (ST750LX003), 2.5"

Destination drives: Seagate Barracuda ES.2 (ST3100034NS), 3.5"

Destination format: EXT4

Performance numbers shown in MB/s (GB/m)

Action	1 Drive	1 Drive MD5	1 Drive SHA1	2 Drives	2 Drives MD5	2 Drives SHA1
Clone Verify	105 (6.3) ---	93 (5.6) 90 (5.4)	83 (5.0) 82 (4.9)	104 (6.2) ---	93 (5.6) ---	82 (4.9) ---
Image DD Verify	89 (5.4) ---	74 (4.5) 90 (5.4)	73 (4.4) 81 (4.9)	88 (5.3) ---	74 (4.5) ---	73 (4.4) ---
Image E01 Verify	55 (3.3) ----	51 (3.1) 73 (4.4)	51 (3.1) 71 (4.3)	54 (3.3) ---	51 (3.1) ---	51 (3.1) ---
Clone and Image DD	---	---	---	75 (4.5)	64 (3.8)	64 (3.8)
Hash Destination	---	95 (5.8)	85 (5.1)	---	---	---
Erase Destination	109 (6.5)	---	---	---	---	---



## Basic Setup and Operation

- Suspect drive, one or two destination drives, laptop (optional)
- Customized Activity Reports (XML Parser)
- Optional battery operation (low-power image to SD Card)

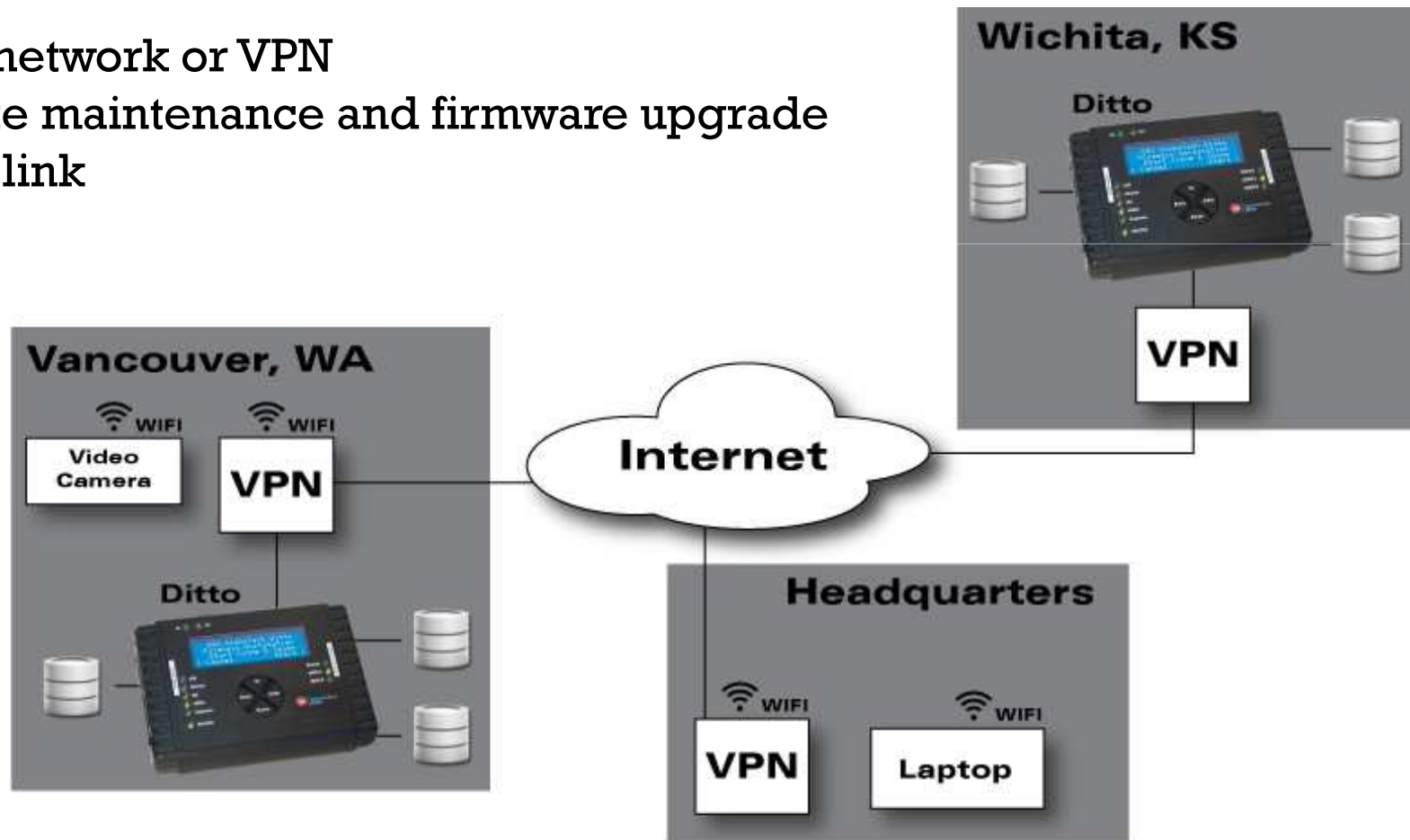






## Remote and Wireless Operation

- Local network or VPN
- Remote maintenance and firmware upgrade
- Video link





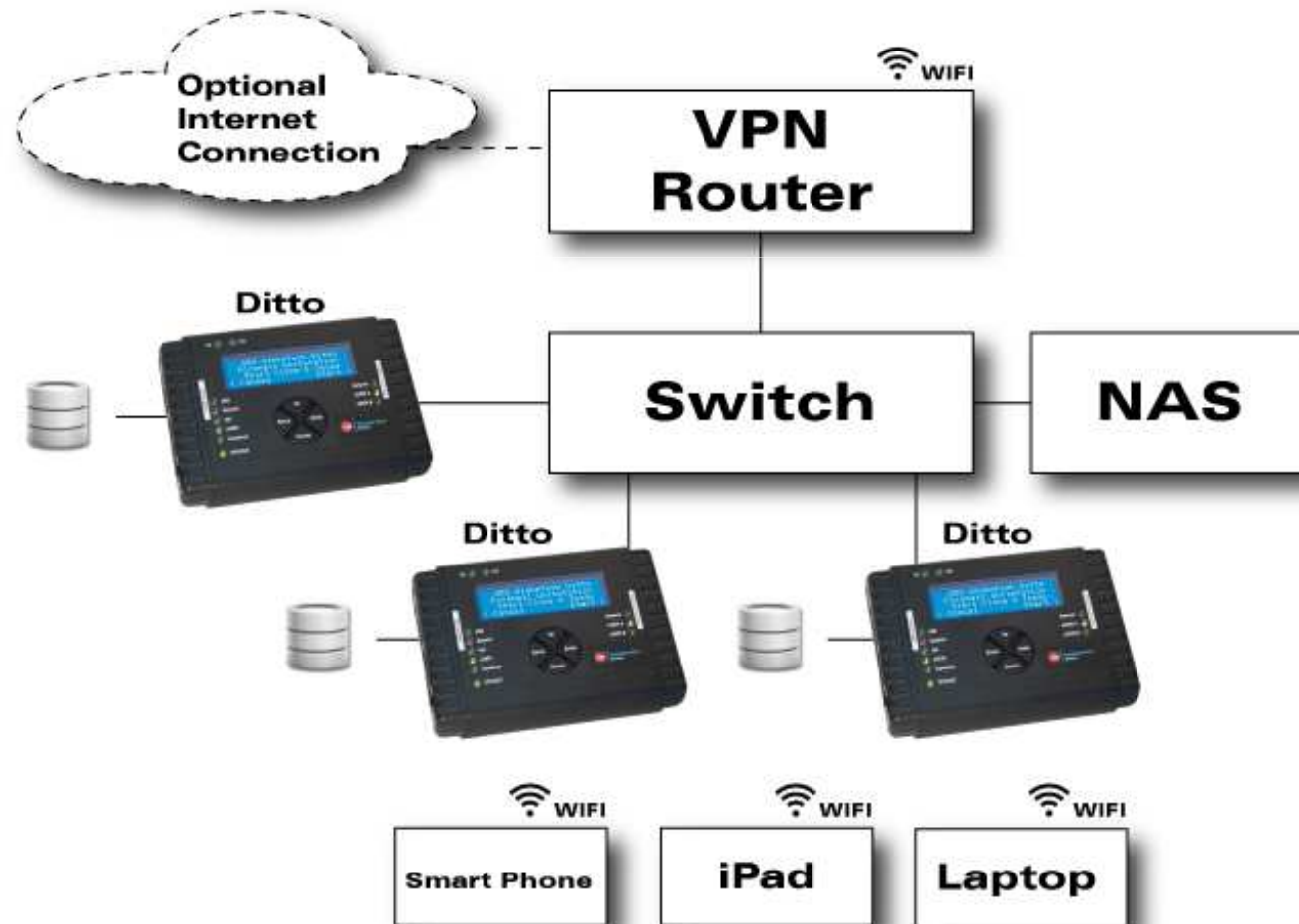
## Network Operation

### Lab Workflow

Push images to network storage

### Field Workflow

Capture multiple  
Suspect drives in parallel





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## Investment Protection and Firmware Updates

- Protect investment with easy-to-install firmware updates that add features and improve performance
- Download updates from [cru-inc.com](http://cru-inc.com)
- E01 and DD Image Performance Enhancements
- More network file system types
- Logical Imaging support
- Data and File Carving support
- Support for users to add custom software modules
- Contact CRU for more information about additional features and schedules



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