

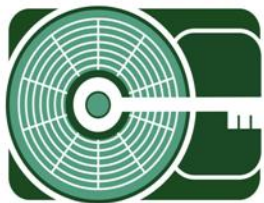
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## Validation Testing of Paraben's Lockdown Hardware Write-Blocking Device

MARSHALL  
INFORMATION SECURITY  
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## TEST PLAN

**Test Number:** LOCKDOWN-01  
**Test Title:** Validation Testing of Paraben's Lockdown  
**Test Date:** 7/13/2006 to 7/15/2006

### Purpose and Scope:

Paraben® Corporation's Lockdown (see figure 1.1) is a hardware write-blocking device that enables the safe viewing and acquisition of subject media within a Windows environment. FastBloc FE is a Universal Serial Bus (USB 2.0) and FireWire 400 (IEEE 1394a) device that provides write-blocking capability to integrated drive electronics (IDE) enabled hard disk drives.

This test plan will test the ability of the Paraben Lockdown to allow normal hard disk write-block operation to occur to source media. This test plan will evaluate one Paraben Lockdown device and will consist of eight test scenarios:

### Requirements:

- 1) The Paraben Lockdown should successfully compute an MD5 hash calculation of the source hard disk.
- 2) The Paraben Lockdown should allow normal hard disk write-block operation to the source hard disk.
- 3) The Paraben Lockdown should successfully compute an MD5 hash calculation that is consistent with the original MD5 hash calculation.

### Description of Methodology:

The IDE enabled source disk will be attached to the Paraben Lockdown and an MD5 hash calculation will be performed using EnCase® v.5.05d for Windows. A write-operation will then be performed on the hard disk by attempting to add a file entitled "Test Document.doc" to the disk. The disk will then be powered down and restarted via the Paraben Lockdown to determine if the write operation was persistent. A subsequent MD5 hash calculation will be performed on the hard disk using EnCase v.5.05d for Windows.

The Paraben Lockdown must successfully protect the IDE hard disk from modification. In addition, the devices should allow for MD5 hash calculations to be performed, in this occurrence, using EnCase Forensic Edition Version 5.05d.

### Expected Results:

- 1) The Paraben Lockdown will successfully calculate an MD5 hash value for the source IDE hard-disk.
- 2) The Paraben Lockdown write-block device will successfully prevent hard disk modification.

- 3) An MD5 hash performed on the source disk after the write attempt will match the original MD5 hash calculation of the source disk

**Test Scenarios:**

Test Number	Environment:	Actions:	Assigned Reqt's	Expected Results:
01-01	Source Drive; Paraben Lockdown connected via USB 2.0; EnCase v.5.05d	MD5 hash calculation performed on source drive	1	MD5 Hash calculation produced.
01-02	Source Drive; Paraben Lockdown connected via USB 2.0; EnCase v.5.05d	Folder added to source drive; Lockdown powered down and restarted	2	No modification to protected hard disk
01-03	Source Drive; Paraben Lockdown connected via USB 2.0; EnCase v.5.05d	MD5 hash calculation performed on source drive	3	MD5 Hash calculation produced.
01-04	N/A	Compare MD5 hash calculation values	3	MD5 calculation matches original MD5 hash calculated on drive.
01-05	Source Drive; Paraben Lockdown connected via FireWire 400; EnCase v.5.05d	MD5 hash calculation performed on source drive	1	MD5 Hash calculation produced.
01-06	Source Drive; Paraben Lockdown connected via FireWire 400; EnCase v.5.05d	Folder added to source drive; Lockdown powered down and restarted	2	No modification to protected hard disk
01-07	Source Drive; Paraben Lockdown connected via Firewire 400; EnCase v.5.05d	MD5 hash calculation performed on source drive	3	MD5 Hash calculation produced.
01-08	N/A	Compare MD5 hash calculation values	3	MD5 calculation matches original MD5 hash calculated on drive.

**Test Data Description:**

Seagate Barracuda ATA III  
 Model: ST320414A  
 Serial Number: 7eC0AS9Y



Part Number: 9R3004-301  
Firmware Number: 3.05  
20 Gigabyte Ultra ATA HDD

**MD5 hash value (before write attempt):**  
f2fe69015f701475863293a71ddda0d7

**MD5 hash value (after write attempt):**  
f2fe69015f701475863293a71ddda0d7

**Drive Parameters:**  
Cylinders: 16383  
Heads: 16  
Sectors: 63  
Addressable Sectors: 39,102,336

**Installed Software:**  
Windows XP 32 Bit O/S w/ SP2  
Microsoft Office 2003 Pro  
Dell GX270 Drivers and Utilities Disk

## SUMMARY REPORT

**Test Number:** LOCKDOWN-01  
**Test Title:** Validation Testing of Paraben's Lockdown  
**Test Date:** 7/13/2006 to 7/15/2006

### Test Description:

This test documents the ability of the Paraben Lockdown to successfully prevent write-attempts to a subject IDE hard drive. The test will additionally document the hardware's ability to produce consistent MD5 hash algorithm calculations.

### Forensic Tool:

**Title:** Lockdown (Powered by ICS)  
**Manufacturer:** Intelligent Computer Solutions (Paraben Corp)  
**Model Number:** F.G.-0452-900A  
**Serial Number:** 1200179

### Test Results:

Test Number	Environment:	Actions:	Assigned Req't's	Expected Results:	Results:
01-01	Source Drive; Paraben Lockdown connected via USB 2.0; EnCase v.5.05d	MD5 hash calculation performed on source drive	1	MD5 Hash calculation produced.	Pass
01-02	Source Drive; Paraben Lockdown connected via USB 2.0; EnCase v.5.05d	Folder added to source drive; Lockdown powered down and restarted	2	No modification to protected hard disk	Pass
01-03	Source Drive; Paraben Lockdown connected via USB 2.0; EnCase v.5.05d	MD5 hash calculation performed on source drive	3	MD5 Hash calculation produced.	Pass
01-04	N/A	Compare MD5 hash calculation values	3	MD5 calculation matches original MD5 hash calculated on drive.	Pass
01-05	Source Drive; Paraben Lockdown connected via FireWire 400; EnCase v.5.05d	MD5 hash calculation performed on source drive	1	MD5 Hash calculation produced.	Pass
01-06	Source Drive; Paraben Lockdown connected	Folder added to source drive;	2	No modification to protected	Pass



	via FireWire 400; EnCase v.5.05d	Lockdown powered down and restarted		hard disk	
01-07	Source Drive; Paraben Lockdown connected via Firewire 400; EnCase v.5.05d	MD5 hash calculation performed on source drive	3	MD5 Hash calculation produced.	Pass
01-08	N/A	Compare MD5 hash calculation values	3	MD5 calculation matches original MD5 hash calculated on drive.	Pass

**Requirements:**

- 4) The Paraben Lockdown should successfully compute an MD5 hash calculation of the source hard disk.
- 5) The Paraben Lockdown should allow normal hard disk write-block operation to the source hard disk.
- 6) The Paraben Lockdown should successfully compute an MD5 hash calculation that is consistent with the original MD5 hash calculation.

**Observations:**

Hard disks can be hot-swapped in Windows only if the Lockdown unit is powered off before switching disks.

**Limitations:**

N/A

**Recommendations:**

N/A

**Figure 1.1-** Contents of the Paraben Lockdown Write Block Device

