

Cervoz[®] FlashMonitor

Solid State Drive Monitoring Software

User Manual



Date: 2016.07.18 Revision: 1.0 File: Cervoz_FlashMonitor_User_Manual_Rev1.0



Revision History

Date	Revision	Description
2016/7/18	1.0	First Released



Table of Contents

1.	Overview	4
2.	Cervoz Solid State Drive Families & OS Supported	4
	2.1 Cervoz Solid State Drive Families Supported	4
	2.2 OS Supported	4
3.	Initial Software Configuration	4
	3.1 Operating Procedures	4
	3.1.1 Open Cervoz Flash Monitor.ini	4
	3.1.2 Input PE_Cycle_Limit value	5
4.	Autorun Setting	5
	4.1 Function Setting	5
	4.2 Modify Autorun Setting	6
5.	Welcome Page	7
6.	Main Page	7
7.	Disk Information	8
8.	Health Status	9
9.	SMART	10
10.	Тоо!	11
	10.1 Alert	12
	10.1.1 Alert Setting	12
	10.1.2 Email Setting	13
	10.2 Security Erase	14
	10.2.1 Reminders	14
	10.2.2 Security Erase function	15
11.	System Details	16



1. Overview

Cervoz FlashMonitor is specialized flash disk monitoring software developed in-house dedicated to monitoring disk's health for Cervoz Solid State Drives. Disk relevant information and health conditions can be checked and monitored in real time, preventing functional degradation and predicting disk lifespan.

Cervoz[®] FlashMonitor Features:

- ✓ Disk Information
- ✓ Health Status
- ✓ SMART Information
- 🗸 Tool
- ✓ System Details

2. Cervoz Solid State Drive Families & OS Supported

2.1 Cervoz Solid State Drive Families Supported

Cervoz Series	Families
Momentum Covies	M305
womentum Series	M335

2.2 OS Supported

• Fully compatible with Windows 7, Windows 8, Windows 10

Important Note: Users must have software IE11 installed.

3. Initial Software Configuration

3.1 Operating Procedures

3.1.1 Open Cervoz Flash Monitor.ini





3.1.2 Input PE_Cycle_Limit value

(1) Refer to below table for the correct PE Cycle Limit value

Cervoz Series	PE Cycle Limit Value
Momentum Series	2 000
(Product Family Starts with the letter M, e.g: M335 / M305)	3,000
Reliance Series	20.000
(Product Family Starts with the letter R, e.g: R310)	20,000
Supreme Series	60.000
(Product Family Starts with the letter S, e.g: S310 / S210)	60,000

(2) Input the PE Cycle Limit Value at below marked position in Cervoz Flash Monitor.ini file.



Important Note: The "Health Status" is calculated based on PE Cycle Limit Values; therefore a correct parameter must be entered prior to using Cervoz FlashMonitor.

4. Autorun Setting

4.1 Function Setting

Double click the exe file to run Cervoz FlashMonitor, users can choose Yes/No to decide whether users wish to execute software automatically when entering the operating system.





4.2 Modify Autorun Setting

Operating procedures:

- 1. Windows Start \rightarrow All Programs \rightarrow Accessories \rightarrow Run
 - or Keyboard "Windows Key" + "R"

	Calculator
C:4.	Command Prompt
	Connect to a Network Projector
	Connect to a Projector
	Getting Started
A	Math Input Panel
	Notepad
1	Run
R	Snipping Tool
1	Sound Recorder

2. Type in command "msconfig" and click OK.

	Type the name of a program, folder, document, or Internet resource, and Windows will open it for you.
<u>O</u> pen:	msconfig
	This task will be created with administrative privileges.

- 3. Below is the system configuration interface, select Startup Page.
 - (1) Untick "Cervoz FlashMonitor Application", click OK.
 - (2) Restart software, users will receive the Autorun setting window again.

startup rtem	Manufacturer	Command	Location	Dat
Java Platform SE Auto Updater	Oracle Corpora	"C:\Program Fil	HKLM\SOFTWARE\	
Cervoz FlashMonitor Application	Cervoz	C:\Users\Admi	HKLM\SOFTWARE\	
۷ [m			•



5. Welcome Page

The program is starting... Please wait a few seconds.



6. Main Page

Users can select between Cervoz FlashMonitor functions by using the menu panel. Users can go back to home page by clicking $\widehat{\square}$ icon at any time.





7. Disk Information

The Disk Information page provides all Cervoz disk information, including part number details, firmware version, LBA value, disk capacity status, temperature value and many more.

Special supported features can be acknowledged on this page as well.



Important Note: The temperature shown in software is the temperature of the controller IC, it is normally much higher than the ambient temperature of the Solid State Drive.



8. Health Status

The Health Status page provides Cervoz disk health status in percentage, estimated lifespan, power on hours, power cycle count, and erases count values.

User can choose to monitor Cervoz disk's health degradation by day, month or year.

CERV	oz				înî	• - ×	
		Disk Information	Health Status	SMART	Tool	System Details	
	alth Status						
	aur status		97.8	33 %	Power On Hour	s: 49 t: 20	
Lifespa	n Estimation	🖸 1 Years	91 Days		Erase Cour	tt <mark>65</mark>	
Health	Monitor Displa	yed by	y 👻	Activate Reco	ording		Repo
100						_	
50							
0	16 10/May/2016 1	1/May/2016 12/May	y/2016 13/May/20	16 14/May/2016	15/May/2016 16/Ma	y/2016	
rvoz FlashMonitor V1.0				Copyright	(c) 2016 Cervoz	CERVOZ	

Users can click "Report" to export reports of the health status of the Solid State Drive.

This report will be saved as an Excel file. It contains exported Date, Health, and Erase Count.

Clip	board	A Font	Align	≕ ment	% Number	R∰ C IIII Fe IIII C	ond ormi ell S	
D	17	Ţ] :	×	~	f_x		×
2	A	\		В		С		
1	Date		Healt	h	Eras	Erase Count		
2	2016-0	5-09	100		20	20		
3	2016-0	5-10	100		20	20		
4	2016-0	5-11	100		20	20		
5	2016-0	5-12	100		20	20		
6	2016-0	5-13	98		65	65		
7	2016-0	5-14	98		65	65		
8	2016-0	5-15	98		65	65		
9	2016-0	5-16	98		65			-
10			-		0 8 010			114



9. SMART

The SMART page provides full information of the Cervoz disk's SMART values. Users can easily access to inspect SMART information of the Cervoz disk at any time.

SMART Definition:

Self-Monitoring, analysis, and reporting Technology for prediction of device degradation and/or faults.

IDENTIFY (PACKET) DEVICE and SET FEATURES:

In the IDENTIFY DEVICE command various parameters are communicated to the host from the device. The following sections define those words (Identify ID: 0~255) that are different from and additions to the ATA/ATAPI-6 standard definition of the data contents.

Serial ATA features and capabilities include a means by which their presence and support may be determined, and a means for enabling them if optionally supported.

The IDENTIFY (PACKET) DEVICE settings requirements shall be implemented by native Serial ATA devices.

CERVOZ							înî (D —	×	
	Disk Information	Healt	h s	SMA) IRT	Tool		System Details		
SMART Information							Γ			R
ID Attribute name		Threshold	Value	Worst	Status	Raw Data	Raw Hex			
01 Raw read error rate		0	0	100	ок	00000000	00000000	~		
05 Reallocated sectors count		0	0	100	ОК	00000000	00000000			
09 Power-On hours		0	49	100	ОК	00000049	00000031	-		
0C Power Cycle Count		0	20	100	ОК	00000020	00000014			
A0 UNC command count		0	0	100	ОК	00000000	00000000			
A1 Number of valid spare block		0	44	100	ок	00000044	0000002C	-		
A3 Number of initial invalid block		0	25	100	ок	00000025	00000019	~		
							Г	R		D
		C	escriptio	n			L			
Identify DISK Information Item Word 0: General configuration		0	escriptio	n						
Identify Disk Information Item Word 0: General configuration Word 1: Obsolete		C 0 0)escriptic x0040 x3FFF	'n						
Identify Disk Information Item Word 0: General configuration Word 1: Obsolete Word 2: Specific configuration		0 0 0	escriptio x0040 x3FFF xC837	'n				^		
Identify Disk Information Item Word 0: General configuration Word 1: Obsolete Word 2: Specific configuration Word 3: Obsolete		0 0 0 0 0	escriptio x0040 x3FFF xC837 x0010	n						
Identify Disk Information Item Word 0: General configuration Word 1: Obsolete Word 2: Specific configuration Word 3: Obsolete Word (4:5): Retired			escriptic x0040 x3FFF xC837 x0010 x0000000	n)						
Identity Disk Information Item Word 0: General configuration Word 1: Obsolete Word 2: Specific configuration Word 3: Obsolete Word (4:5): Retired Word 6: Obsolete			escriptic x0040 x3FFF xC837 x0010 x00000000 x003F	n)						

Users can click "Report" to export the report of the health status of the Solid State Drive. This report will be saved as an Excel file.



10. Tool

The Tool page offers two functions:

- 1. Alert Users can easily set up alert parameters of the Cervoz disk; once figures reach the set parameters, system would immediately send out emails, so that user is in complete control. Parameters can be set for temperature, capacity, and health status and lifespan estimation.
- 2. Security Erase With a simple click, user can erase all of Cervoz disk.

CERVOZ Lisk Disk	Image: Constraint of the second s
Security Erase Wenn Security Erase is performed to the target disk, all its cells v factory default status. Please do not perform such erase to the sy	0 % would be marked as empty, restoring it to ystem disk.
rvoz FlashMonitor V1.0	Copyright (c) 2016 Cervoz
tart Alert Function: .) Click "Edit" .) Tick "Enable Alert Function"	

(3) The function will officially start after clicking "Save" once all parameter setting is completed



10.1 Alert

10.1.1 Alert Setting

Alert Cervoz FlashMonitor sends appointed emails an alert once the disk figures reach the set parameters.
1 Temperature 🕲 🕞 Above 70 Under 0
2 Capacity 16 GB
3 Health Status 10 %
4 Lifespan Estimation 0 Years 15 Days
5 Refresh By 1 Day -

- 1. Temperature:
 - (1) Choose $\ensuremath{\,^\circ\! C}$ or $\ensuremath{\,^\circ\! F}$
 - (2) Above: Highest Temperature (3 digits)
 - (3) Under: Lowest Temperature (3 digits)
- 2. Capacity: Desired capacity
- 3. Health Status: Desired health percentage
- 4. Lifespan Estimation: Desired lifespan
- 5. Refresh By: Refresh software detection by Day, Month or Year
 - _____

Important Note:

- a. Field #1~#4 is optional.
- b. Field #5 "Refresh By" is mandatory.



10.1.2 Email Setting

To	Bill@abcco	mpany.com, Jo	ohn@	abccompan
SMTP	Server			
Host	mail.abccor	mpany.com		
Port	25	5		SMTPS / SSL
ID	Peter	7 Password	Aa	123456
		_		

1. From: The administrator's e-mail address

2. To: The e-mail addresses of persons that need to be alerted (Maximum 100 persons) Important Note: Segment with a comma between e-mail addresses.

SMTP Server

- 1. Host: Mail server
- 2. Port: Account Type/Server Port (e.g. POP3/Port : 25)
- 3. SMTPS / SSL: Activate SSL encryption

Important Note: Please confirm that sever port is correct when SSL function is enabled.

- ID: The Sender's e-mail ID
- 1. Password : The password of sender's e-mail
- Email Test : After filling field #1~#7, you can test the setting before saving it Once test is successful, the following window is shown.

Email Test	
Mail was send suc	ccessfully
	Close



10.2 Security Erase

10.2.1 Reminders

1. Running the Security Erase command will permanently delete all the data on disk, if users want to

continue this process, click "Yes."

Computer Management	20.		Ce	ERVOZ				1nî	() – X
File Action View Help								×	-
Computer Management	Volume Layo	ut Type File System Status ole Basic NTFS Healthy (I			Disk Information	Health Status	SMART	of Tool	System Details
Control Task Scheduler Control Task Scheduler	G New Vo Simp G 系統保留 Simp	ole Basic NTFS Healthy () ole Basic NTFS Healthy ()	🚨 Ale	Cervoz FlashMonitor sen once the disk figures read	ds appointed emails an alert ch the set parameters.	Ena	able Alert Function	Edit	
Performance Project Magazane			Temperate	ure 🔞 🗊 Above	Under	From			
 Device Manager Storage Disk Managemen 			Capacity	GB		To		•	
Services and Applicat			Wa Healt	arning			83		
	<	•		Running the Secu	ure Erase command will	permanently de	lete all the data		
	Disk 0	* (C)	Lites	on your drive. Ma you proceed. Cor	ake sure anything you w ntinue?	/ant to keep is ba	acked up before	SMTF	PS / SSL
	119.24 GB Online	100 № 119.14 GB NTFS Healt Healthy (Boot, Pag	Refre			Yes	No	vord Emai	Test
	Disk 2 Basic 476.94 GB Online	New Volume (D:) 476.94 GB NTFS Healthy (Primary Partition)	🦉 Se	ecurity Erase		0 %		_	Start
		<u></u>	Warning	When Security Erase is performe factory default status. Please do	ed to the target disk, all its cells not perform such erase to the	would be marked as system disk.			
•	Unallocated	Primary partition	Cervoz FlashMonito	or V1.0			Copyright (c) 2016 Cervoz	CERVOZ

2. Please remove the file system if the error message of "Please remove the file system first" is popped out. Important Note: After users remove the file system, Cervoz FlashMonitor must be restarted.

☆ Computer Management File Action View Help (구 국) 2 [[]] [] 2 [2] 2 [2] 2 [2]		CERVOZ	¢	•	ŵ 0 − ×
Computer Management System Tools O Task Scheduler Jo @ Task Scheduler Jo @ Shared Folder Signared Folder Signared Folder	File System Status NTFS Healthy (I NTFS Healthy (I NTFS Healthy (:	Alert Cervoz FlashMonitor see once the disk figures real	Disk Healt Information Status nds appointed emails an alert ch the set parameters.	h SMART	Tool System Details Edit Save
Local Users and G Service Manager Disk Managemen Services and Applicat		Temperature 😨 😨 Above Capacity 🔤 GB Health Status 💭 %	Under Fr Error Message	le system first!	
Disk 0 Basic 119,24 GB Online 日日日日日	C:) 9.14 GB NTFS ealthy (Boot, Pag	Lifespan Estimation		OK	SMTPS / SSL
Basic New Yolu 476.94 GB 476.94 GB Online Healthy (P	me (D:) NTFS rimary Partition)	🖉 Security Erase		0 %	Start
< III b Unallocated Primary par	tition	factory default status. Please do	ev to use sarger use, an its cells would be i not perform such erase to the system disk	Copyright (c) 2	

Online	条統! (C: 100 № 119. Healt Hea	e) 14 GB NTFS althy (Boot, Pag	Refresh Bj			
Disk 2 Basic 476.94 GB Online	New Volum 476.94 GB N Healthy (F	re (D:) TFS Open Explore		Carl Disk 0 Basic 119.24 GB Online	条統 1 100 M Healt	(C:) 119.14 GB NTFS Healthy (Boot, Pag
Unallocated	Primary pa	Mark Partition as Active Change Drive Letter and Pat Format Extend Volume Shrink Volume	hs	Basic 476.94 GB Online	476.94 Unalloo	GB cated
		Add Mirror Delete Volume				

10.2.2 Security Erase function

1. Executing Security Erase Function, click "Yes" to continue ERASE function.

E Computer Management				• 83	CER	voz 🦯					1nf (1) - X
File Action View Help	,										-
🗢 🄿 🖄 📅 🔯 🖬	🕑 X 💕	🖻 🔯 📓					C/			1	
Computer Management	Volume 〇〇 (C:) 〇〇 条統保留	Layout Typ Simple Bas Simple Bas	e File System ic NTFS ic NTFS	Status Healthy (I Healthy (!			Disk Information	Health Status	SMART	Tool	System Details
Event Viewer Shared Folders Aero Local Users and G					L Alert	Cervoz FlashMonitor sei once the disk figures rea	ids appointed emails an alert ch the set parameters.		nable Alert Function	Edit	Save
Performance A Device Manager					Temperature	C E Above	Under	From			
⊿ 🚰 Storage					-	Warning				23	
📄 Disk Managemen					Capacity						
Services and Applicat	۰ <u>س</u>			•	Health Status	A Runnir on you you pr	ig the Secure Erase con ir drive. Make sure any oceed. Continue?	mmand will pern thing you want t	nanently delete all the to keep is backed up b	data efore	_
	Disk 0	\$ 45 J	(6)		Lifespan Esti	n			Yes	No	SMTPS / SSL
	119.24 GB Online	100 N Healt	119.14 GB NT Healthy (Boo	FS t, Pag	Refresh By			,			
											Email Test
	Basic 476.94 GB Online	476.94 Unallo	GB cated		y Secu	irity Erase		0 %		_	Start
• <u> </u>	Unallocat	ted 📕 Primary	partition		Warning Warning Cervoz FlashMonitor V	en Security Erase is perform ory default status. Please de 1.0	ed to the target disk, all its or not perform such erase to th	ells would be marked a ne system disk.	as empty, restoring it to Copyright (c) 2016 Cerv	

2. Automatic program execution is now in process, the start button is grayed out.



Once erase execution is completed, it shows 100%.

🕊 Security Erase	100 %	Start
Warning When Security Erase is perf factory default status. Please	ormed to the target disk, all its cells would be marked as empty, restoring it to a do not perform such erase to the system disk.	

Important Note: Security Erase function can only be used on the subsidiary disks; it cannot be used on the host disk (stored with OS) of the platform.



11. System Details

The System Details page shows the detail information about the system:

- 1. Motherboard / System manufacturer, model name and version
- 2. BIOS brand, version and date
- 3. Processor information
- 4. Operating System information
- 5. Memory information
- 6. SATA Driver information
- 7. Solid State Drive / Hard Drive information

CERVOZ				1n7	(i) — >
	Disk Information	Health Status	SMART	Tool	System Details
System Details					
Items	Information				
Motherboard	Manufacturer: Gigabyte Tecl Model: B150M-D3H DDR3-C Version: x.x	hnology Co., Ltd. CF			
BIOS	Brand: American Megatrend Version: F6d Date: 01/14/2016	s Inc.			
Processor	Intel64 Family 6 Model 94 St Intel(R) Core(TM) i3-6100 C	tepping 3 / Genuine PU @ 3.70GHz	eIntel		
OS	Windows 7 Service Pack 1				
Physical memory	3960MB / 3047MB				
SATA Driver	Intel(R) 100 Series/C230 Ch	ipset Family SATA	AHCI Controller 14.	5.0.1081	
Hard Drives	CIS 2S M335 128GB (16030 ST500DM002-1BD142 (Z2A	00000111) DTNLK)			
oz FlashMonitor V1.0			Copyright ((c) 2016 Cervoz	CERVO