

Apacer

Industrial CF Solutions

E-Flash Product Dept.

Apr. 08, 2009

Outline

- **Apacer Industrial CF Solutions**
 - <1> Std. CF III
 - <2> VA CF III
 - <3> ATA CF
 - <4> Applications
- **Add-On Value overview**

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Std. & VA CF III Solutions

● Industrial Std. & VA CF III

- ◆ Compliant with CompactFlash3.0
- ◆ Temp.: -40°C ~ 85°C for ET
- ◆ Auto-Detect Non-Removable (Fix Disk) setting
- ◆ Two types

<1> Standard Type

- ✓ Capacity: 128MB~16GB
- ✓ Performance R/W: Up to 35/15 (MB/s)

<2> High Speed Type

- ✓ Capacity: 256MB~8GB
- ✓ Performance R/W : Up to 35/25 (MB/s)



Standard Type



ET Type

Std. & VA CF III Solutions

- **Industrial Std. CF III**

- ◆ Built-in Hardware ECC
- ◆ Block Management
- ◆ Dynamic wear-leveling technology

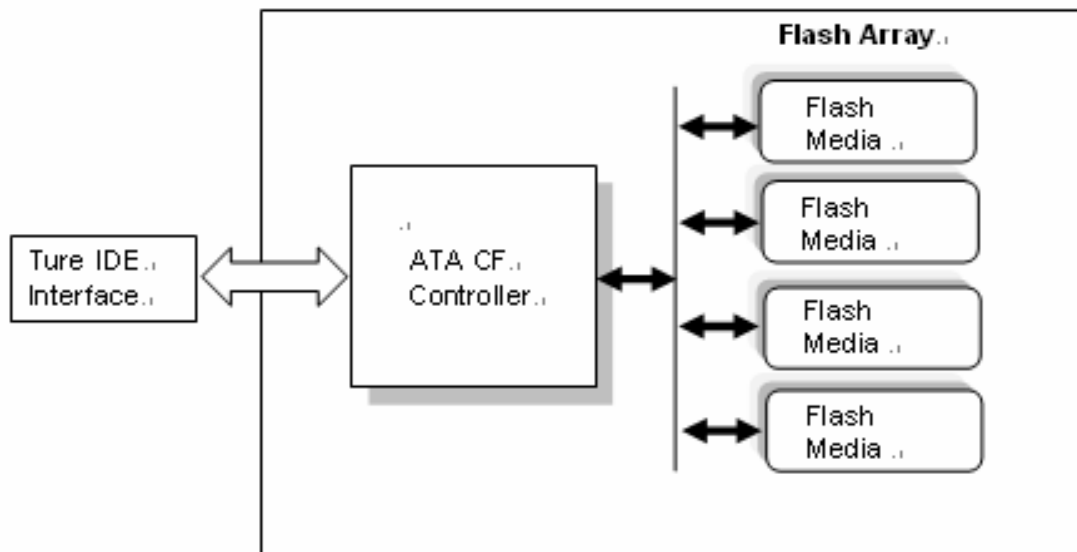
- **Industrial CF III-VA**

- ◆ Built-in Hardware ECC
- ◆ Block Management
- ◆ **Advance wear-leveling technology**
- ◆ **Built-in S.M.A.R.T. Function**
- ◆ **Enhanced Data Integrity**
- ◆ **Intelligent Power Failure Recovery**

ATA CF Solution

What's ATA CF?

- ◆ It's a CompactFlash card form factor which only supports ATA / true IDE mode.



ATA CF Solution

● Industrial ATA CF III

- ◆ Interface: True IDE mode
- ◆ Capacity: 128MB ~ 16GB
- ◆ Temp.: -40°C ~ 85°C for ET
- ◆ Up to 8 bit correction per 512 bytes (BCH)
- ◆ Two types
 - <1> Standard Type
 - ✓ Performance R/W: Up to 35/15 (MB/s)
 - <2> High Speed Type
 - ✓ Performance R/W : Up to 35/25 (MB/s)



ATA CF Solution

- **Support Functions**

- ◆ Support SLC NAND Flash
- ◆ Support Extended Temperature (-40°C ~ 85°C)
- ◆ Support True IDE mode
 - <1> PIO mode 4
 - <2> MWDMA mode 2
 - <3> UDMA mode 4

ATA CF Solution

- **None Support Functions (Reminder!)**
 - ◆ Memory Card mode
 - ◆ I/O Card mode
 - ◆ Access data through card reader is not adopted.

Add-on Value Comparison

Model	Std. CF III	VA CF III	ATA CF
Built-in Hardware ECC	●	●	●
Wear-leveling	●	●	●
Block Management	●	●	●
S.M.A.R.T. Function		●	●
Intelligent Power Failure Recovery		●	●
Enhanced Data Integrity		●	●
Quick Erase			●
Secure Protection Zone			●

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Applications

• POS Machine



Point of Sale System



• Specifications

CPU	Socket-370 base supports up VIA C3, Intel® Tualutin Pentium® III/Celeron™ up to 133MHz FSB
System chipset	VIA CLE266 (VT8623+8235)
System memory	2 x DDR 200/266 SDRAM socket support up to 2GB
VGA Display	Integrated in VT8623 – Resolution: 1920x1440 for CRT display with DB15 and 2x5 box header – DF 14-20F connector for Supports single channel 24-bit TTL / LVDS LCD interface, support dual independent display
SSD	1 x Compact Flash™ Type II socket
Ethernet	– 1 x 10/100Mbps Realtek 8100BL Ethernet Controller (POS-380R)
Audio	AC'97 Codec (Realtek 5.1-channel) – 5 x RS-232 (3 by pin header) – 1 x RS-232/422/485 selectable – 1 x LPT supports SPP/EPP/ECP mode
I/O	– 6 x USB 2.0 (2 x USB connectors, others by 2 x 4 pin-header) – 1 x PS/2 for Keyboard/Mouse – 2 x IDE ATA 66/100/133 (40-pin with 2.54mm pitch) – 1 x Floppy (34-pin with 2.54mm pitch) – 1 x IrDA
Digital I/O	TTL Level, 4 x Inputs and 4 x outputs
Extension Slot	1 x 32-bit PCI slot
WDT	Software programmable supports 1 ~ 255 sec, system reset
Hardware Monitor	Provides CPU Voore, Vcc, CPU/ System fan speed and temperature detecting function
Power Consumption	+5V@8.1A, +5VSB@0.35A (STR), -12V@0.1A, +12V@0.26A (PIII 1GHz, 133MHz FSB 256MB DDR266)
Power Connector	AT & ATX
Operation Temperature	0~60°C
Relative Humidity	5~95%, non-condensing

Applications

- Industrial Automation



CF Card



Applications

•Slot Machine



Waterproof Design

LVDS, TTL, VGA,
DVI Interfaces

DualView

Content Rotation

Fanless System

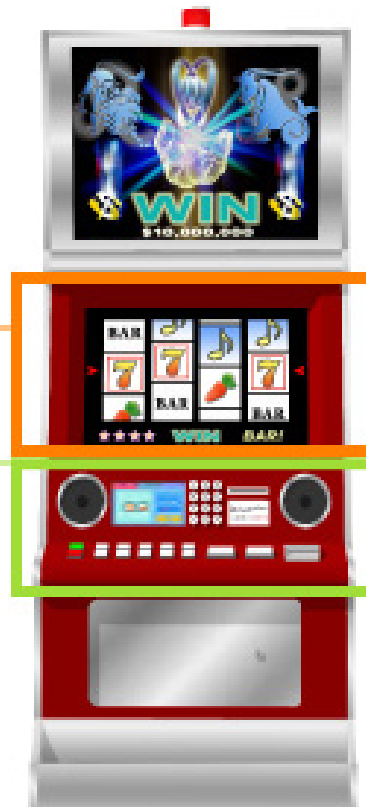
Touchscreen

Integrated Touchscreen
6.2" HVGA LCD

System Integration

Multiple I/O Design

Power-loss Detection



OS and Storage
needed
(CF)

EOS Integration

Fanless Operation
Embedded Computer

Applications

•Lottery Machine



Multiple I/O Design

Customized Embedded Boards

Dual Display

Security



Touchscreen

Customized BIOS

Battery Backup

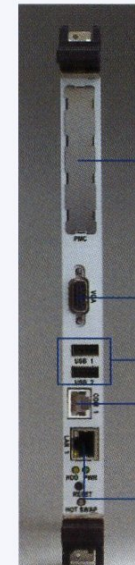
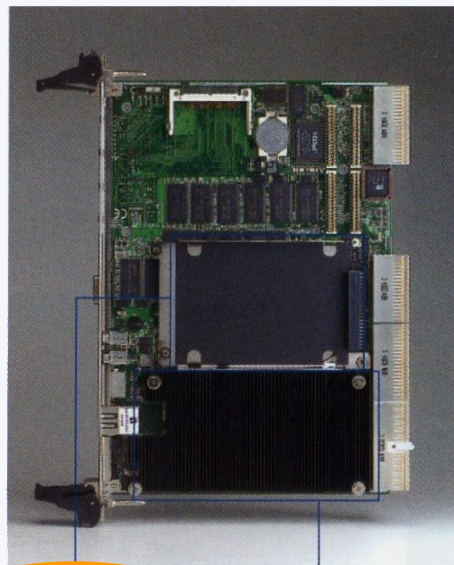
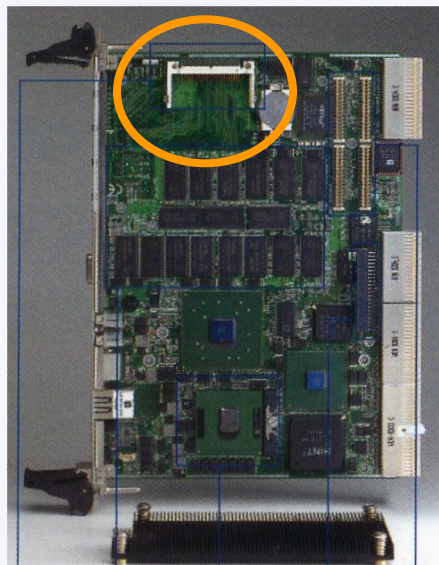
Embedded OS Porting

OS needed (CF card)

Applications

•Networking Equipment

CF Card



- One PMC knockout
- One DB-15 VGA port
- Two USB 2.0 ports
- One RJ-45 COM1 port
- One RJ-45 Gigabit LAN port

- One CompactFlash socket
- Micro-FCPGA socket
- Onboard memory
- One 64-bit/66 MHz PMC connector
- One 2.5" IDE socket

- One 2.5" HDD bay
- One passive CPU heatsink



Onboard Flash

2.5" IDE

2.5" HDD

Applications

•DVR Machine

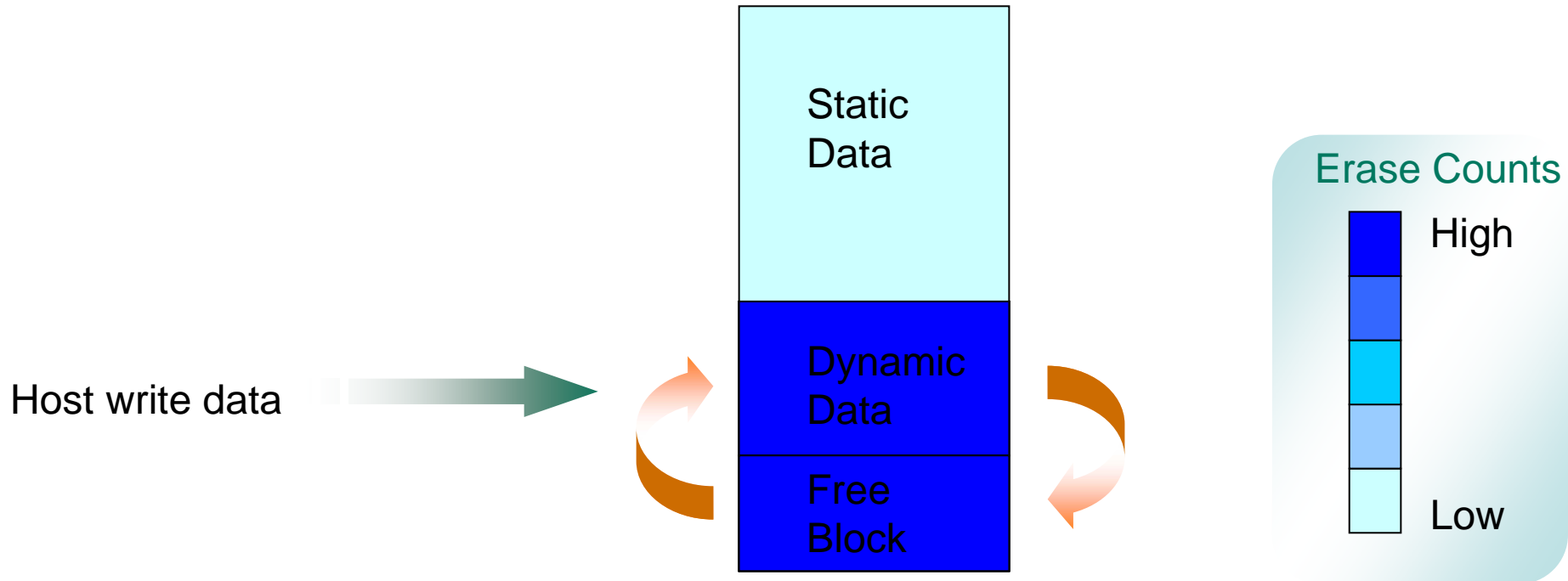
DVR type	Stand alone DVR (Embedded DVR)	PC based DVR
		
Market share	Large	Small, focus on high-end model
OS	ARM/ MIPS+DSP, x86/ Power-PC	Linux/ VxWORKS/ pSOS
Operation	Easy-to-use through front bottom/remoter	Operate in OS
Storage Device	HDD, Disk array External: USB, CDR/DVD	HDD CF card (for O/S installation) External: USB, CDR/DVD
System upgraded	No	Yes (capture card, HDD, memory..etc)
Maintenance	Non-PC-literate users	company's IT technician some computer skills
Top player	IDIS, AV tech, Everfocus, Hunt, Win4Net	IDIS, GeoVision, Win4Net

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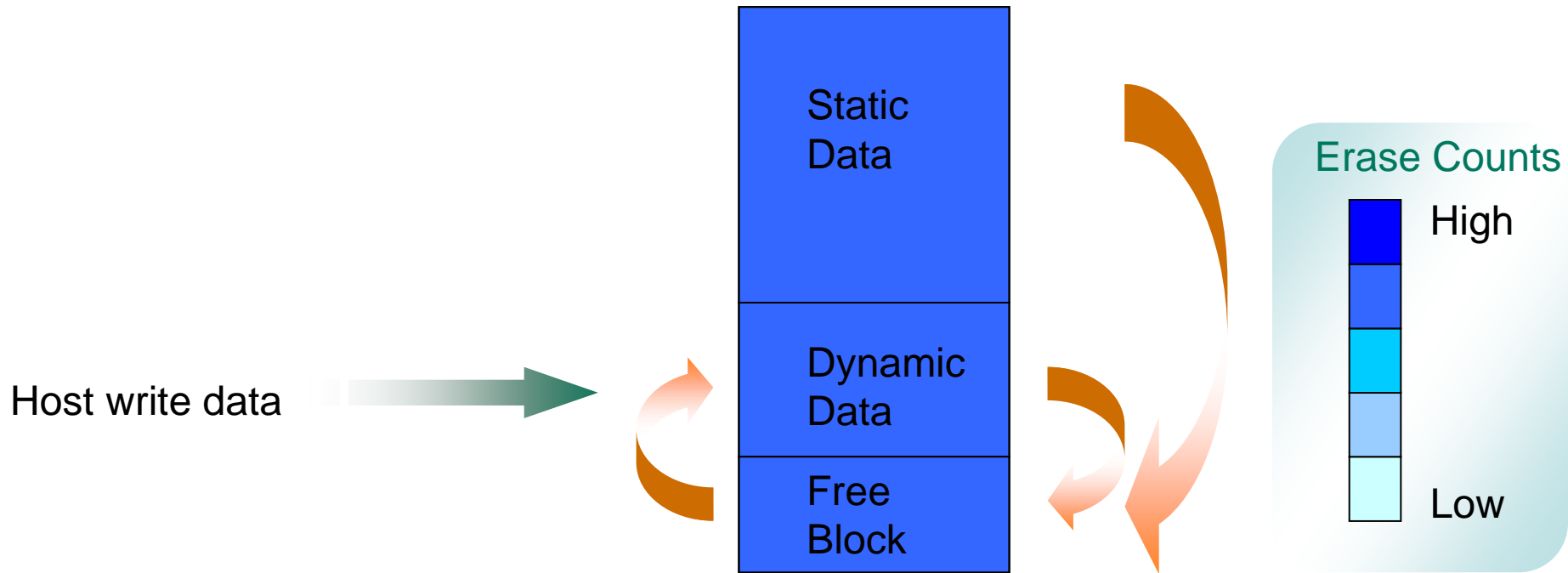
Dynamic wear leveling

Dynamic wear leveling



Advanced wear leveling

Advanced wear leveling (Dynamic + Static)



S.M.A.R.T. Utility

SSD HEALTH STATUS
SSD drive health status information:
✔ - all ok
✖ - replace the drive!

SSD DRIVE INFO
Technical information about the solid-state drive - model, size, serial number, firmware and more.

ANYWHERE VIEW™
Hard drive health and free space information in any Explorer window (works in Windows 2000&XP as well)

WARNINGS
Sample tray hint warning in case any possible troubles with the hard drive and your data are detected.

SSDlife for Apacer version 1.0.23

File Language Help

✔ SSD drive 0

Apacer
Access the best

SSD model: www.apacer.com
8GB ATA Flash Disk
Capacity: **7.45 GB**
731cB
B512H

Does your SSD feel healthy?

is OK!

SSDlife™

last checked: **7/31/2008, 3:59:02 PM**
period: **0 hours 10 minutes**

Data on this drive (volumes):

Volume	Label	File system	Capacity	Free
D:	SSD volume	NTFS	392.18 MB	143.69 MB

Hard Disk Drives (3)

Local Disk (C:)
5.09 GB free of 22.3 GB

SSD volume (D:)
8GB ATA Flash Disk - A191101995A10fC731cB
Health status: OK!

S.M.A.R.T. Utility

SSDlife for Apacer version 1.1.31

File Language Help

SSD drive 0

 www.apacer.com

SSD model: **64G SATA Flash Drive**

Total capacity: **56.34 GB**

Serial number: **C0082215200000000001**

Firmware version: **SFDA402B**

SSD Type: **SLC**

Channel number: **8**

Bank number: **4**

powered by **HDDlife**

Health is OK!

conclusion:

ALL RIGHT!

The reliability and performance of your hard drive are completely all right. But do not forget to back up

health monitoring:

started: **12/4/2008, 7:35:08 PM**

last checked: **12/4/2008, 7:35:08 PM**

period: **0 hours 10 minutes**

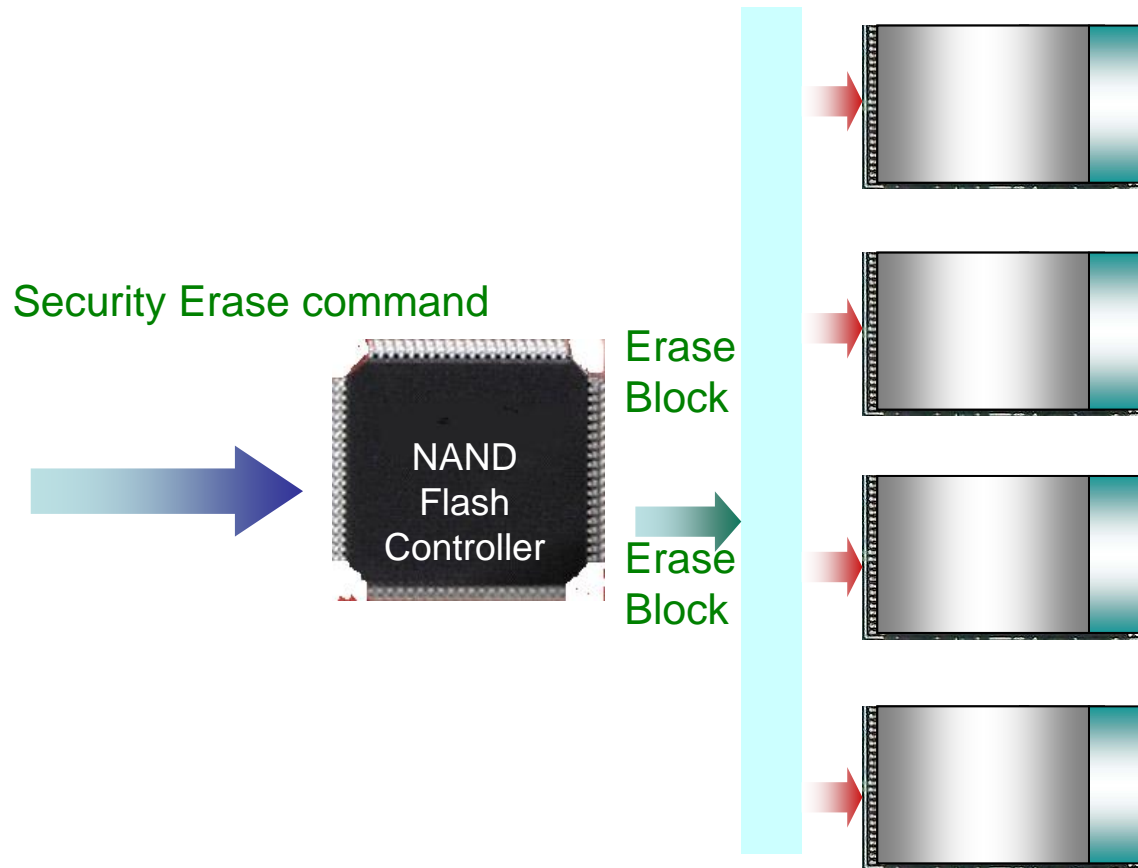
Data on this drive (volumes):

Volume	Label	File system	Capacity	Free
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Quick Erase

- Additional software is not required
- Adopt security erase command
- Quick erase range
 - user block
 - spare block
- Erase block up to 4 chips simultaneously

Quick Erase



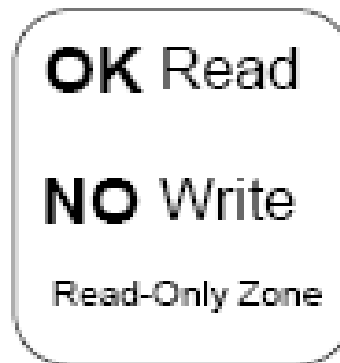
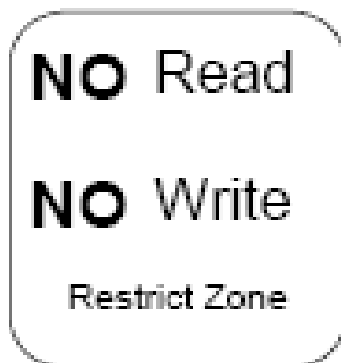
Secure Protection Zone

◆ Configuration



Definition:

- **Unprotected:** A zone in unprotected state will be fully accessible.
- **Read-only:** A zone in read-only state will be accessible by read command only.
- **Restricted:** A zone in restricted state will not be accessible.

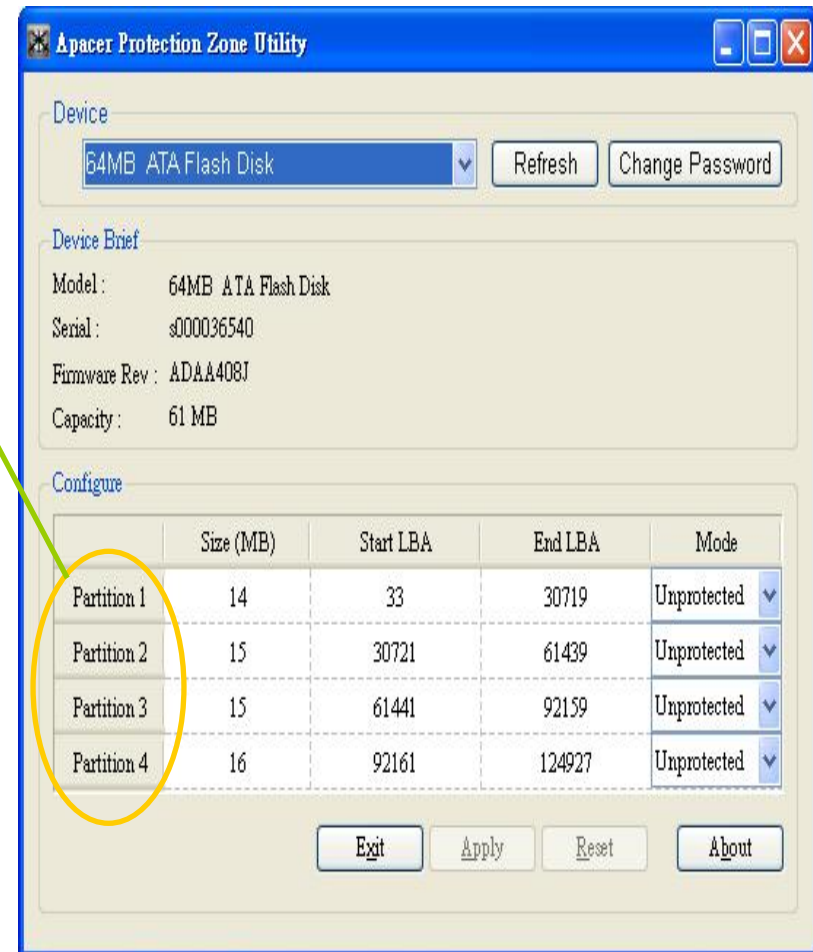


Secure Protection Zone

◆ Configure Partitions

Configure Partitions:

The definition of a zone means a present partition of the CF Card. A maximum of 4 zones (partitions) can be configured for each CF card.



Special Feature Summary

Model	Std. CF III	VA CF III	ATA CF
Built-in Hardware ECC	●	●	●
Wear-leveling	●	●	●
Block Management	●	●	●
S.M.A.R.T. Function		●	●
Intelligent Power Failure Recovery		●	●
Enhanced Data Integrity		●	●
Quick Erase			●
Secure Protection Zone			●

Q/A



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