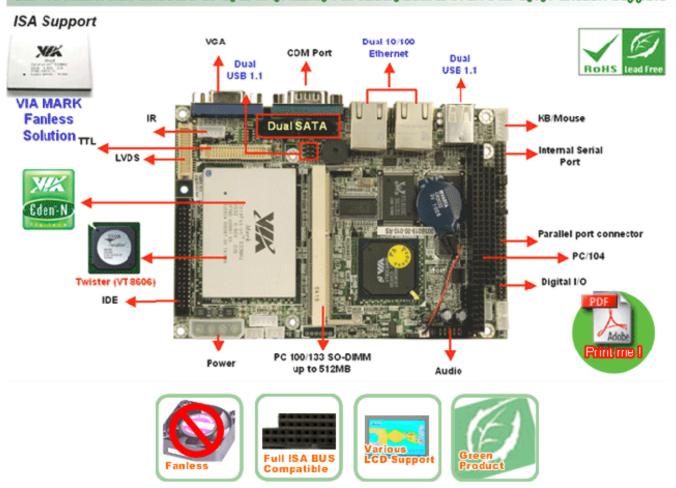


# Fanless VIA MARK Processor Fully LCD & ISA BUS Support!

3.5° VIA Markwith Onboard CPU, SATA, Audio, VEA/LOD, dual LAN & RAID 0,1, Function Support



#### **Features**

#### 1. Longevity Mature Technology

WAFER-MARK integrated VIA Eden-N and Twister-T133 in one processor brings mainstream graphics performance also extends the current product specification and software life up to 2010.

### 2. Direct ISA Support without PCI-ISA Bridge in the South Bridge

Complete ISA PC/104 support, protect your previous development, and investment in PC/104 devices.

#### 3. Built-in LVDS Transmitter

- Ideal for the devices in kinds of LCD display resolutions
- Completed compatibility with VIA VT8606 in various LCD panels' support

### 4. Green Product

RoHS compliance



- Datasheet
- Function Block

- 왿 Manual
- Video Guide

- Ordering Information



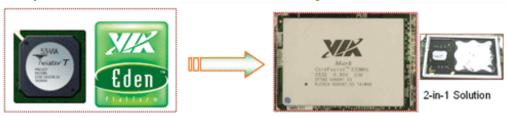


#### What is Mark

#### Easy to replace all VIA VT8606 & Eden/C3 series products without any impact Defines Highly Integrated Solutions for all x86 Designs

- Advanced memory controller supporting up to PC133 SDRAM
- Combines with VIA VT82C686B PCI-ISA South Bridge for state-of-the-art power management
- Provides application support for thin client, POS, IPC, STB, PVR and DVR
- 41mm x 57mm BGA package (Ball Grid Array) with 686 balls

#### Integrate S3-VIA chipset and Eden CPU to be one unit with RoHS ready for the future needs



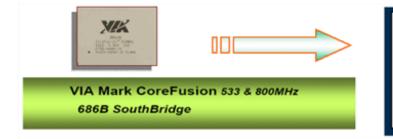
**Current Configuration** 

**New Configuration** 



#### ▶ IEI Mark Solution

The Mark processor integrates VIA's high-performance ProSavage4 3D / 2D graphics controller, LCD and Flat Panel display interfaces, with further superior performance between the CPU, DRAM and PCI bus with pipelined, burst, and concurrent operation.



#### Mark

- 533MHz, 800MHz (New)
- PC133
- Twister-T Driver Ready
- Companion: 686B
- TDP Max: 6W / 8W
- Production: Now

- Chipset life cycle is guaranteed till 2010
- Low Power for Fan-less is up to 800Mhz
- Compatible Drivers and Software
- Complete Windows® CE and Linux Drivers
- Existing BIOS function support





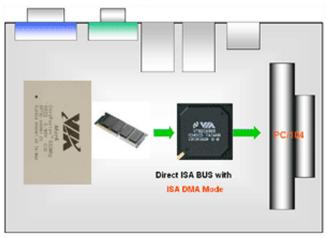
### Direct ISA support without any PCI-ISA bridge in the south bridge

### ▶ Your PC/104 support it?

ONLY WAFER-MARK can fully support 8/16 Bit ISA PC/104!



The ISA device uses the mapped logical addresses to access system memory during DMA operations to enhance CPU performance!



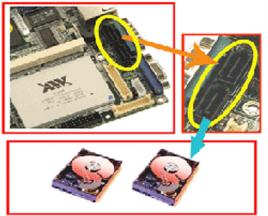
#### Complete ISA PC/104 support, protect your previous development, and investment in PC/104 devices



The VT82C686B South Bridge in WAFER-MARK is a high integration, high performance, powerefficient and high compatibility device that supports PCI bus bridge functionality to make a complete Microsoft PC2001-compliant PCI / ISA system.

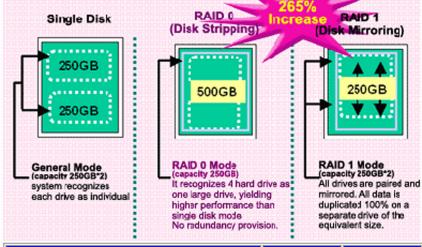
### MAFER-MARK Extra Data Security

## RAID Function Protection





WAFER-MARK RIAD Function make a total security solution to you !!!



RAID	Raid 0	Raid 1
Minimum Disks Requirement	2	2
Capacity	N	N/2
Redundancy	YES	NO



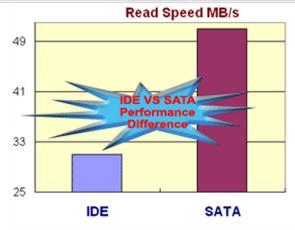
### Storage Performance with Protection

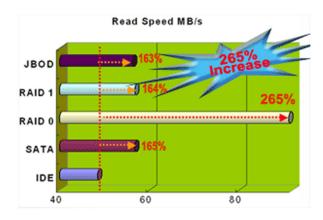
#### System Configuration

Метогу	PC 133 SO-DIMM 512MB	
HDD	Western Digital 120GB	
SATA HDD	Seagate 250GB	
0.S.	Windows XP Embedded	
Power	ACE-710AMP 100W	

IEI SATA RAID Storage Technology provides RAID capability, enabling faster storage performance with data striping with protecting against data loss from a hard drive failure by mirroring all data across multiple devices.

HDD Mode	IDE	SATA	RAID 0	RAID 1	JBOD
Read Speed MB/s	31	51	82.1	50.8	50.3

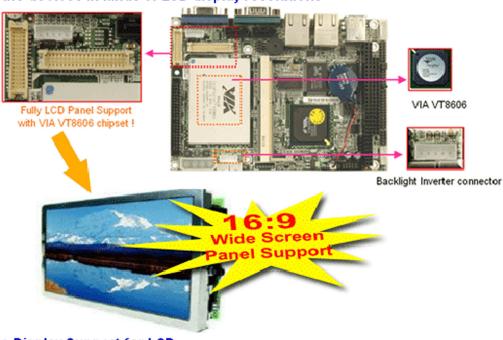




RAID 0 is the performance side of the house. RAID 0 or "striping" uses four two drives in conjunction with one another for speed.

### **▶**Built-in LVDS Transmitter

#### Ideal for the devices in kinds of LCD display resolutions



### **Extensive Display Support for LCD**

- 24-bit TTL/ dual 18-bit LVDS panel support
- Integrated 2-channel 110 MHz LVDS interface
- Support for all resolutions up to 1600x1200
- Panel power sequencing

△T0P



### ▶ The Easy Way to Replace VIA C3/ EDEN CPU with RoHS Now

### WAFER-MARK provides the new chipset with fully compatible support to extend your investment to 2010 Equivalent Table 1

Model Name	WAFER-MARK	WAFER-C800EV	WAFER-E667EV
Form Factor	3.5"	3.5"	3.5"
CPU	VIA Mark 533/800Mhz	VIA C3 1 GHz	VIA Eden 733MHz
NB	Mark (VIA VT8606 inside)	VIA VT8606	VIA VT8606
SB	VT82C686B	VT82C686B	VT8231
Memory	1x 144-Pin up to 512MB	1x 144-Pin up to 512MB	1x 144-Pin up to 512MB
SATA	2 x SATA	N/A	N/A
USB	4 x USB 1.1	2 x USB 1.1	2 x USB 1.1
LAN	Dual RTL8100C for 10/100Mbps	1 x 10/100Mbps	1 x 10/100Mbps
СОМ	1x RS-232, 1x RS-232/422/485	1x RS-232, 1x RS-232/422/485	1x RS-232, 1x RS-232/422/485
Audio	AC'97 2.3 Realtek ALC655	AC'97 2.0	AC'97 2.0
SSD	CFII	CFII	CFII
IDE	1 x IDE	1 x IDE	1 x IDE
LPT	1 x LPT	1 x LPT	1 x LPT
Digital I/O	4 input / 4 output	N/A	N/A
Extension	1x PC104	PCMCIA	PCMCIA
Power	5V only,AT/ATX support	5V only	5V only

### **▶** More Enhance Features

### WAFER-MARK offers Dual LAN, $2 \times SATA$ and $4 \times USB$ ports in the same VIA platform for more enhanced features Equivalent Table 2

Model Name	WAFER-MARK	PCM-9373	PCM-9372	PCM-9371
Form Factor	3.5"	3.5"	3.5"	3.5"
CPU	VIA Mark 533/800Mhz	VIA Eden 400/667MHz	VIA Eden 400/667MHz	ULV Celeron 400MHz
NB	Mark (VIA VT8606 inside)	VIA VT8606	VIA VT8606	VIA VT8606
SB	VT82C686B	VT82C686B	VT82C686B	VT82C686B
Memory	1x 144-Pin up to 512MB			
SATA	2 x SATA	N/A	N/A	N/A
USB	4 x USB 1.1	2 x USB 1.1	2 x USB 1.1	2 x USB 1.1
LAN	Dual RTL8100C for 10/100Mbps	1 x 10/100Mbps	1 x 10/100Mbps	1 x 10/100Mbps
сом	1x RS-232, 1x RS- 232/422/485			
Audio	AC'97 2.3 Realtek ALC655	AC'97 2.0	AC'97 2.0	AC'97 2.0
SSD	CFII	CFII	CFII	CFII
IDE	1 x IDE	1 x IDE	1 x IDE	1 x IDE
LPT	1 x LPT	1 x LPT	1 x LPT	1 x LPT
Digital I/O	4 input / 4 output	N/A	N/A	N/A
Extension	1x PC104	PC/104	PC/104	PC/104
Power	5V only,AT/ATX support	5V only	5V only	5V only



#### ▶ More I/O ports, More Applications, More Business

WAFER-MARK provides more LAN, SATA, USB, and digital I/O functions with a low power, fanless solution to expand your application in more vertical markets.

#### Intelligent Appliances

- Internet Fridges
- · Wall-Mounted Home Control Devices
- Intelligent Displays



#### Mini Mobile Systems

- Car PC with DVD Drive
- Intelligent Portable Displays
- Mobile Thin Clients



#### All-in-One Entertainment System

- Start Hub TV PC Living Room Entertainment Center
- Set on Top box



#### Mini Systems

- Car Entertainment Centers
- Mini-PCs
- Home Automation & Security Systems
- Point of Sale Display
- Automation



### **▶**Emdedded Software

#### One Stop service!

IEI's professional embedded software team provide the customized OS image with industrial grade flah module for you. To have IEI's customized embedded software, you can save 1/3 time in development and have the professionin HAW and SAW integration.

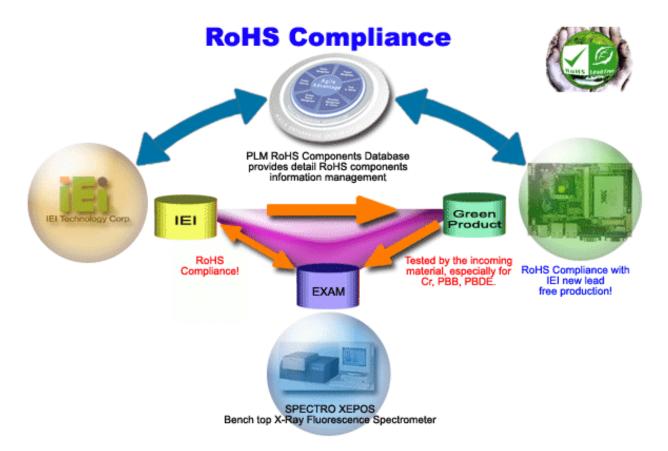


IEI Barebones Solution Short Your Time to Market!



### RoHS Compliance

IEI is committed to compliance with all applicable laws and regulations, including the European Union Restriction of Hazardous Substances (RoHS) in electrical and electronic products. The goal is to exceed compliance obligations by meeting the requirements of the RoHS Directive on a worldwide basis. With IEI's new lead free production, all customers can start to work for their long term projects without worry about the RoHS regulation.





### NAFER-MARK Specification

CPU VIA MARK 533MHz/ MARK 800MHz

System Chipset VIA VT82C686B

BIOS AMI BIOS Label

System Memory 1x 144-pin SO-DIMM SDRAM socket support up to 512MB

Ethernet Dual RTL8100C for 10/100Mbps ethernet

I/O I/O Interface 4 x USB 2.0 2 x SATA 1 x LPT/FDD

> 1 x CFII 1 x RS-232 1 x RS-232/422/485 1 x PS/2 KB/MS

1 x IDE

Digital I/O

4 input / 4 output by VIA VT82C686B

IrDA By VIA VT82C686B

Super I/O VT82C686B Audio AC'97 2.3 Realtek ALC655

Display CRT integrated in VIA MARK 533 LVDS

24-bit TTL/ dual 18-bit LVDS integrated in VIA MARK

Watchdog Timer Software programable supports 1-255 sec. system reset

Power Supply +5V±5% only, AT/ATX support

Power Consumption +5V@2.58 A (VIA MARK-533 CPU with 1 x 128MB PC100/133 SO-DIMM SDRAM) +5V@2.75 A (VIA MARK-800 CPU with 1 x 128MB PC100/133 SO-DIMM SDRAM)

Temperature Operation: 0 ~ 60° (32 ~ 140°F)

Humidity Operation: 5% ~ 95% non-condensing

Dimension 145mm X 102mm

Weight GW: 700g; NW: 260g

# **■**WAFER-MARK Ordering Information

### **Packing List**

1 x WAFER-MARK single board computer	2 x SATA cable ( P/N: 32000-062800-RS)
1 x Mini jumper pack ( P/N: 33100-000079-R8)	1 x SATA power cable ( P/N: 32100-086600-RS)
1 x IDE flat cable 44p/40p/40p ( P/N: 32200-000009-RS)	1 x Second serial port cable ( P/N: 32200-000061-RS)
1 x Keyboard/ PS2 mouse cable ( P/N: 32000-000138-RS)	1 x QIG (quick installation guide)
1 x Audio cable ( P/N: 32000-072100-RS)	

#### Ordering Information

Part No.	Description
WAFER-MARK-533-R10	3.5" SBC with VIA® MARK533 processor, Audio, CRT, LCD/LVDS, Dual LAN and SATA
WAFER-MARK-800-R10	3.5" SBC with VIA® MARK800 processor, Audio, CRT, LCD/LVDS, Dual LAN and SATA
WAFER-MARK-WINXPE	3.5" SBC with VIA® MARK processor, Audio, CRT, LCD/LVDS, Dual LAN , SATA, IFM 512MB and WinXPE image
WAFER-MARK-WINCE050	3.5" SBC with VIA® MARK processor, Audio, CRT, LCD/LVDS, Dual LAN , SATA, IFM 32MB and WinCE image
32200-015100-RS	LPT cable