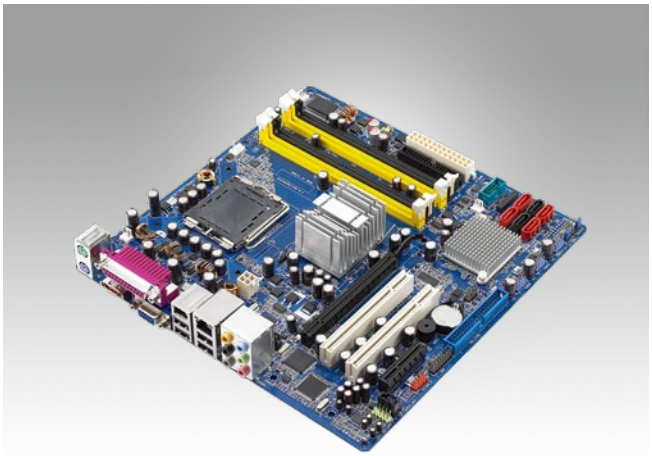
AIMB-564

Intel® Core™2 Quad/Core™2 Duo Processor LGA775 MicroATX with VGA, PCIe, SW RAID, and LAN



Features

- Intel® Q965 chipset 533/800/1066 MHz FSB
- Supports Intel® Core™ 2 Quad/Core™ 2 Duo processor
- Dual channel DDR2 533/667/800 SDRAM up to 8 GB
- Chipset integrated VGA sharing 256 MB system memory
- PCIe x16 slot expansion
- Supports SATA RAID 0, 1, 5, and 10
- Supports single 10/100/1000 Mbps Ethernet via dedicated PCIe x1 bus

Software APIs: SMBus, H/W Monitor

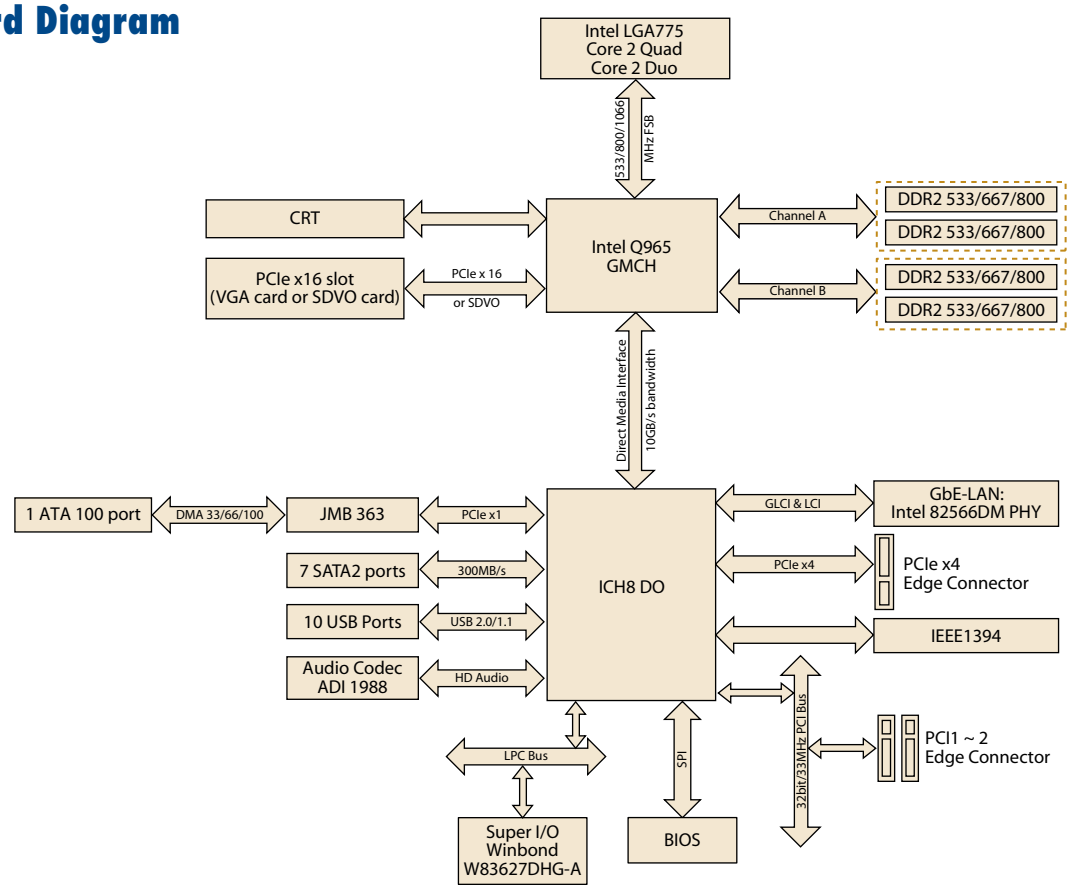
Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU (65nm/ 90nm)	Intel® Core™2 Quad	Intel® Core™2 Duo	Intel® Pentium® Dual-Core	Intel® Pentium® 4	Intel® Celeron® D
	Max. Speed	Q6700 2.66 GHz	E7400 2.8 GHz	E2200 2.2 GHz	672 3.8 GHz	352 3.2 GHz
	L2 Cache	8 MB	3 MB	1 MB	2 MB/1 MB	512 KB
	Chipset	Intel Q965+ICH8 DO				
	BIOS	AMI 16 Mbit, SPI				
	Front Side Bus	533/800/1066 MHz				
Expansion Slot	PCIe x16	4.0 GB/s per direction, 1 slot				
	PCIe x4	1.0 GB/s per direction, 1 slot				
	PCI	32-bit/33 MHz, 2 slots				
Memory	Technology	Dual channel DDR2 533/667/800 MHz				
	Max. Capacity	8 GB				
	Socket	4 x 240-pin DIMM				
Graphics	Embedded	Intel GMA 3000 sharing 256 MB system memory				
	Add-on	PCIe x 16 slot				
Ethernet	Interface	10/100/1000 Mbps				
	Controller	GbE LAN: Intel 82566DM				
	Connector	RJ-45 x 1				
SATA II	Max. Data Transfer Rate	300 MB/s				
	Channel	7				
EIDE	Mode	ATA 100/66/33				
	Channel	1 (max. 2 devices)				
I/O Interface	VGA	1				
	USB	10				
	Audio	8-CH HD Audio (Mic-in, Line-in, Line-out, CD-in, 6 jacks)				
	Serial	1 (RS-232)				
	Parallel	1 (SPP/EPP/ECP)				
	FDD	1				
	PS/2	2 (1 x keyboard and 1 x mouse)				
	eSATA	1				
	IEEE 1394	2 (1 on rear panel, 1 on internal connector)				
Watchdog Timer	Output	System reset				
	Interval	Programmable 1~255 sec/min				
Power Requirements	Power On	Pentium 4 3.4 GHz, 1 GB SDRAM, 80 GB HDD				
		+12 V	+5 V	+3.3 V	5 Vsb	
		3.07A	10.37A	2.83A	0.46A	
Environment		Operating		Non-Operating		
	Temperature	0 ~ 60° C (32 ~ 131° F), depends on CPU speed and cooler solution		-20 ~ 70° C (-4 ~ 158° F)		
Physical Characteristics	Dimensions (W x D)	244 x 244 mm (9.6" x 9.6")				

Last updated : 22-April-2010

Board Diagram



Ordering Information

Part Number	VGA	GbE LAN
AIMB-564VG-00A1E	Yes	Single

*AIMB-564 cannot be installed in ACP-2000MB and 1U chassis.

**We strongly suggest using only Advantech's certified LGA 775 CPU coolers to ensure board reliability under harsh conditions.

Riser Card

Part Number	Description
AIMB-RP3PF-21A1E	2U riser card for 1 PCIe x16 and 2 PCI expansion

Bracket View

AIMB-564VG-00A1E

Packing List

Description	Quantity
IDE HDD cable	1
Serial ATA HDD data cable	4
Serial ATA HDD power cable	2
I/O port bracket	1
Startup manual	1
Utility CD	1

Optional Accessories

Part Number	Description
1750000334	LGA775 CPU cooler (115 W)
1960022033T000	LGA775 CPU cooler for 2U chassis
1700006915	Power relay cable to activate ACP-4000 LED indicators
1700006916	Power relay cable to activate IPC-610H LED indicators

Embedded OS

OS	Part No.	Description
Win XPE	2070003977	XPE SP2 FP2007 AIMB-564 V3.1 ENG 792.81 MB
	2070006570	XPE FP2007 AIMB-564 V3.01 CHT

Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

Software APIs

Control

GPIO

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.

SMBus

SMBus is the System Management Bus defined by Intel® Corporation in 1995. It is used in personal computers and servers for low-speed system management communications. The SMBus API allows a developer to interface a embedded system environment and transfer serial messages using the SMBus protocols, allowing multiple simultaneous device control.

I²C

I²C is a bi-directional two wire bus that was developed by Philips for use in their televisions in the 1980s.
The I²C API allows a developer to interface with an embedded system environment and transfer serial messages using the I²C protocols, allowing multiple simultaneous device control.

Monitor

Watchdog

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own.
A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.

Hardware Monitor

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.

Hardware Control

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

Display

Brightness Control

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.

Backlight

The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

Power Saving

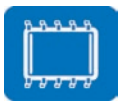
CPU Speed

Make use of Intel SpeedStep technology to reduce power power consumption. The system will automatically adjust the CPU Speed depending on system loading.

System Throttling

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

Software Utilities



BIOS Flash

The BIOS Flash utility allows customers to update the flash ROM BIOS version, or use it to back up current BIOS by copying it from the flash chip to a file on customers' disk. The BIOS Flash utility also provides a command line version and API for fast implementation into customized applications.

Embedded Security ID

The embedded application is the most important property of a system integrator. It contains valuable intellectual property, design knowledge and innovation, but it is easily copied! The Embedded Security ID utility provides reliable security functions for customers to secure their application data within embedded BIOS.

Monitoring

The Monitoring utility allows the customer to monitor system health, including voltage, CPU and system temperature and fan speed. These items are important to a device; if critical errors happen and are not solved immediately, permanent damage may be caused.

eSOS

The eSOS is a small OS stored in BIOS ROM. It will boot up in case of a main OS crash. It will diagnose the hardware status, and then send an e-mail to a designated administrator. The eSOS also provides remote connection: Telnet server and FTP server, allowing the administrator to rescue the system.

Flash Lock

Flash Lock is a mechanism that binds the board and CF card (SQFlash) together. The user can "Lock" SQFlash via the Flash Lock function and "Unlock" it via BIOS while booting. A locked SQFlash cannot be read by any card reader or boot from other platforms without a BIOS with the "Unlock" feature.