

# AIMB-766

Intel® LGA775 Core™ 2 Quad/Core™ 2 Duo ATX with VGA, 4 COM, and Dual LAN

**NEW**



## Features

- Intel® Q35 and ICH9 DO supporting 800/1066/1333 MHz FSB
- Supports dual core and quad core process with 45nm processing
- Dual channel DDR2 667/800 SDRAM up to 8 GB
- Supports 4 PCI , PCIe x1,6 SATA ports and dual LAN
- Supports Embedded Software API and Utility

### Software APIs:



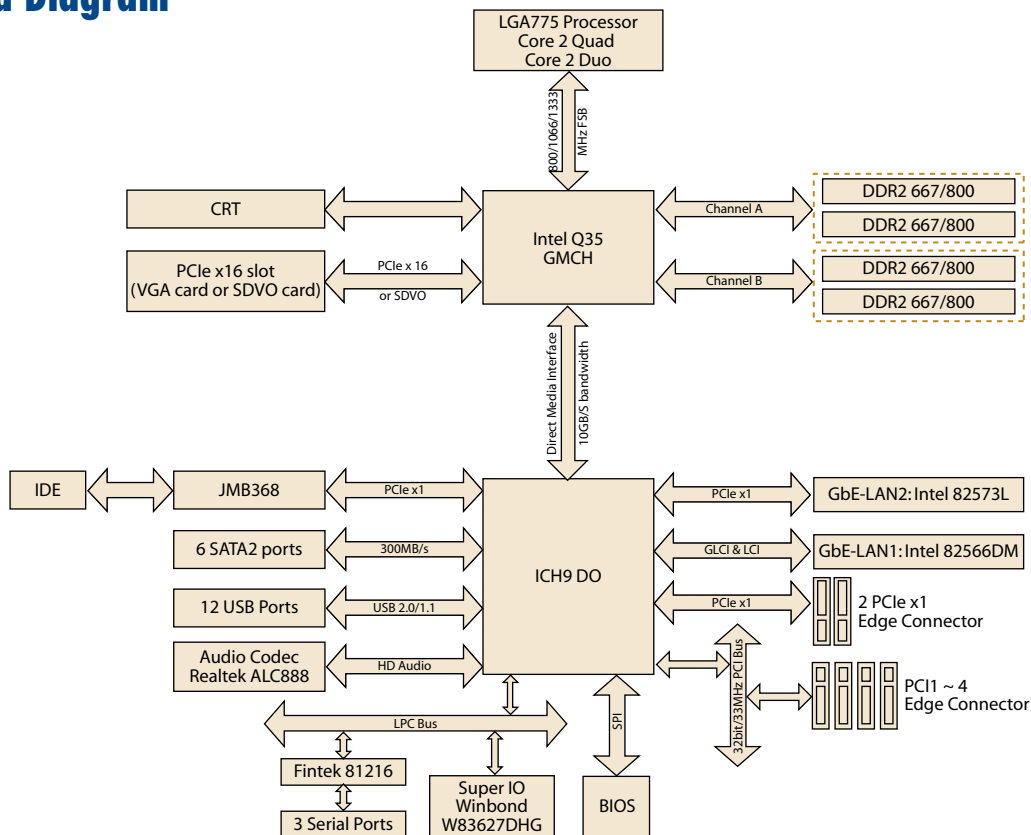
### Utility:



## Specifications

Processor System	CPU (45/65nm)	Intel Core 2 Quad	Intel Core 2 Duo	Intel Pentium Dual-Core	Intel Celeron
	Max. Speed	Q9400 2.66 GHz	E8500 3.16 GHz	E2200 2.2 GHz	440 2.0 GHz
	L2 Cache	6 MB	6 MB	1 MB	512 KB
	Chipset	Intel Q35 + ICH9 DO			
	BIOS	AMI 32 Mbit, SPI			
	Front Side Bus	800/1066/1333 MHz			
Expansion Slot	PCIe x16	4.0 GB/s per direction, 1 slot			
	PCIe x1	250 MB/s per direction, 2 slot			
	PCI	32-bit/33 MHz, 4 slots			
Memory	Technology	Dual channel DDR2 667/800 MHz			
	Max. Capacity	8 GB			
	Socket	4x 240-pin DIMM			
Graphics	Embedded	Intel GMA 3100 sharing 384 MB system memory			
	Add-on	PCIe x16 slot			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE-LAN1: Intel 82566DM, GbE-LAN2: Intel 82573L			
	Connector	RJ-45 x 2			
SATA II	Max. Data Transfer Rate	300 MB/s			
	Channel	6			
EIDE	Mode	ATA 100/66/33			
	Channel	1 (max. 2 devices)			
I/O Interface	VGA	1			
	USB	12			
	Audio	2 (Mic-in, Line-out)			
	Serial	4 (3 of RS-232, 1 of RS-232/422/485)			
	Parallel	1 (SPP/EPP/ECP)			
	FDD	1			
	PS/2	2 (1 x keyboard and 1 x mouse)			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1~ 255 sec/min			
Power Requirement	Power On	Intel Core 2 Quad9300 2.5 Ghz (1333 MHz FSB), 4 x 1 GB DDR2 800 SDRAM			
		+5 V	+3.3 V	+12 V	+5 Vsb -12 V
		3.58 A	2.86 A	3.52 A	0.74 A 0.02 A
Environment		Operating		Non-Operating	
	Temperature	0 ~ 60° C (32 ~ 140° F), depends on CPU speed and cooler solution		-20 ~ 70° C (-4 ~ 158° F)	
Physical Characteristics	Dimensions (W x D)	304.8 x 244 mm (12" x 9.6")			

## Board Diagram



## Ordering Information

	Chipset	GbE	COM	SATA	SW RAID	AMT 3.0
AIMB-766VG-00A1E	Q35/ICH9	Single	4	4	None	None
AIMB-766G2-00A1E	Q35/ICH9 DO	Dual	4	6	Yes	Yes

## Riser Card

Part Number	Description
AIMB-RP30P-03A1E	2U riser card with 3 PCI expansion
AIMB-RP3PF-21A1E	2U riser card with 2 PCI and PCIe x16 expansion

## Bracket View



AIMB-766VG-00A1E



AIMB-766G2-00A1E

## Packing List

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

## Accessories

Part Number	Description
1750000334	LGA775 CPU cooler for 4U, 5U, and 7U chassis
1960022033T000	LGA775 CPU cooler for 2U chassis
1960013266T000	LGA775 CPU cooler for ACP-1320 (only for Core 2 Duo)
1700002204	USB cable with dual ports, 27 cm
9680004525	TPM module

# 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.

### 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.

### 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.

### Power Saving



**CPU Speed**

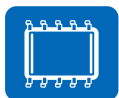
Make use of Intel SpeedStep technology to reduce power consumption. The system will automatically adjust the CPU Speed depending on system loading.



**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.