AIMB-562 KIOSK

Intel® Core™2 Duo Processor LGA 775 MicroATX with Dual VGA/LVDS, 10 COM, and LAN

Features

- Intel® 945G/945GC chipset supports 533/800/1066 MHz FSB
- Dual channel DDR2 533/667 SDRAM up to 4 GB
- Supports dual VGA and 24-bit LVDS panel, dual channel 3 W amplifier
- Supports 10 serial ports, 8 USB, 16-bit GPIO
- Supports embedded software APIs and utilities

Software APIs: SMBus, H/W Monitor, GPIO, Watchdog

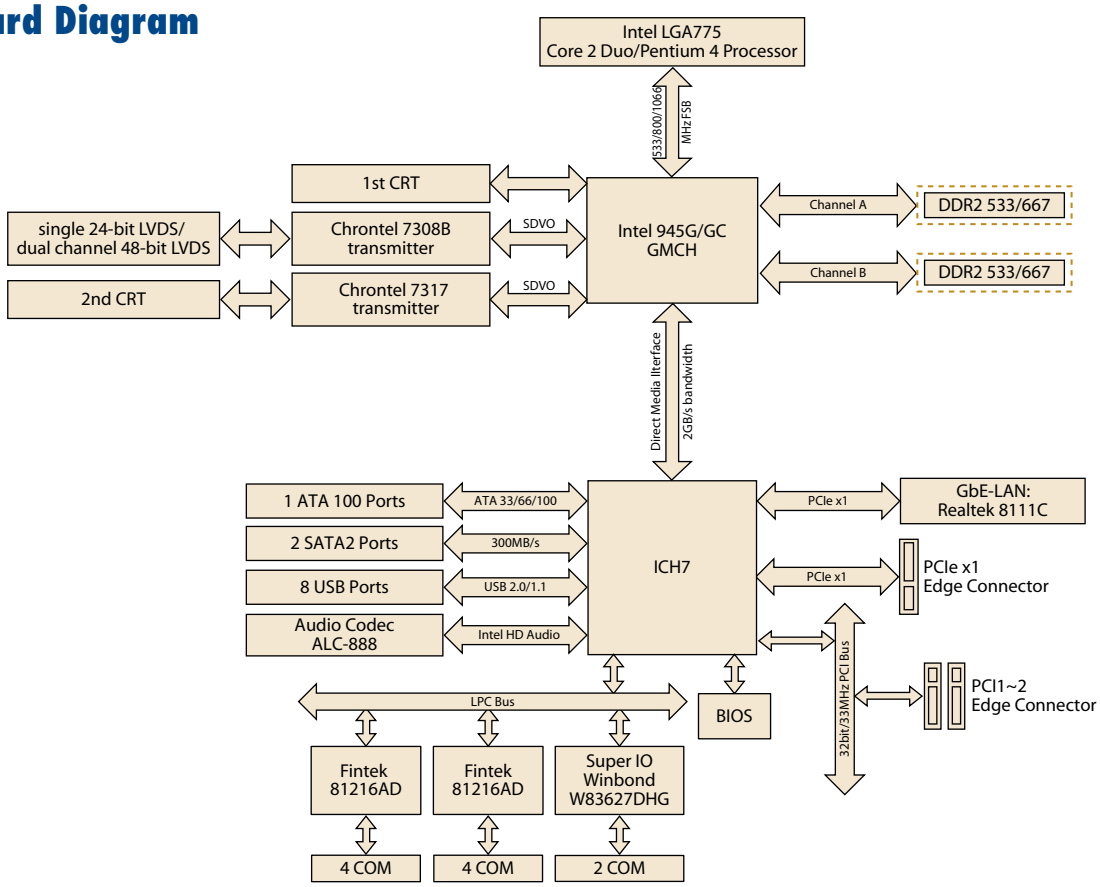
Utilities: BIOS flash, Monitoring

Specifications

Processor System	CPU (65 nm/90 nm)	Intel® Core™2 Duo	Intel® Pentium® Dual-Core	Intel® Pentium® 4	Intel® Celeron®
	Max. Speed	E7400 2.8 GHz	E2200 2.2 GHz	651 3.4 GHz	440 2.0 GHz
	L2 Cache	4 MB	1 MB	2 MB	512 KB
	Chipset	Intel 945G/945GC + ICH7			
	BIOS	Award 16 Mbit, SPI			
	Front Side Bus	533/800/1066 MHz			
Expansion Slot	PCIe x16	-			
	PCIe x1	250 MB per direction, 1 slot			
	PCI	32-bit/33 MHz, 2 slots			
Memory	Technology	Dual channel DDR2 533/667 MHz			
	Max. Capacity	4 GB			
	Socket	2 x 240-pin DIMM			
Graphics	Embedded	Intel GMA 950 sharing 224 MB system memory			
	LVDS	Supports single channel 24-bit/dual channel 48-bit LVDS, via Chrontel 7308B SDVO transmitter			
	2nd VGA	Supports 2nd CRT, via Chrontel 7317 SDVO transmitter			
	Dual Display	CRT + LVDS, CRT + CRT			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN: Realtek 8111C			
	Connector	RJ-45 x 1			
SATA II	Max. Data Transfer Rate	300 MB/s			
	Channel	2			
EIDE	Mode	ATA 100/66/33			
	Channel	1 (max. 2 devices)			
I/O Interface	VGA	2			
	USB	8			
	Audio	2 (Line-out, Mic-in)			
	Serial	10 (8 of RS-232; 2 of RS-232/422/485 supports auto flow control)			
	Parallel	1 (SPP/EPP/ECP)			
	FDD	-			
	PS/2	2 (1 x keyboard and 1 x mouse)			
	GPIO	16-bit GPIO			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirements	Power On	Intel Core 2 Duo E4300 1.8 GHz FSB 800 MHz, 1 GB DDR2 667 SDRAM			
		3.3 V	5 V	12 V	5 Vsb	-12 V
		1.02 A	4 A	2.35 A	0.26 A	0.12 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)	244 x 244 mm (9.6" x 9.6")				

Last updated : 22-April-2010

Board Diagram



Ordering Information

Part Number	Chipset	Display	COM	GbE LAN
AIMB-562VG-KSA1E	945G	2 CRT/LVDS	10	1
AIMB-562VG-GRA1E	945G	2 CRT	10	1
AIMB-562L-KSA1E	945GC	1 CRT	10	1

Riser Card

Part Number	Description
AIMB-R430P-03A2E	2U riser card for 3 PCI expansion

Bracket View

AIMB-562VG-KSA1E
AIMB-562VG-GRA1E

AIMB-562L-KSA1E

Packing List

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

Optional Accessories

Part Number	Description
1750000334	LGA775 CPU cooler (115 W)
1960022033T100	LGA775 CPU cooler for 2U chassis (2 VGA)
1960046434T000	LGA775 CPU cooler for 2U chassis (1 VGA)
1700008461	USB cable with four ports, 30.5 cm
1700002204	USB cable with dual ports, 27 cm
1700003195	USB cable with dual ports, 17.5 cm

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

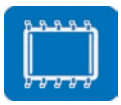
CPU Speed

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.