AIMB-267 KIOSK

Intel® Core™2 Quad LGA 775 mini-ITX with VGA/LVDS, 8 COM, Dual LAN
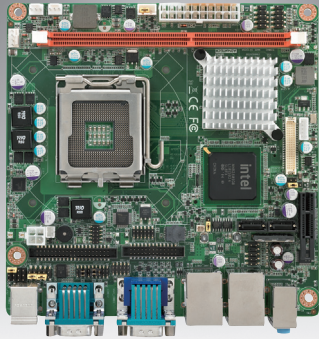
Features

- Intel® G41 chipsets supports 1333/1066/800 MHz FSB
- Single channel DDR3 1066/800 MHz SDRAM up to 4 GB
- Supports VGA and single/dual channel 24/48 bit LVDS panel and dual channel 6 W amplifier
- Supports 8 serial ports, 8 USB, 8-bit GPIO, dual LAN
- Support PCIex1, CF card
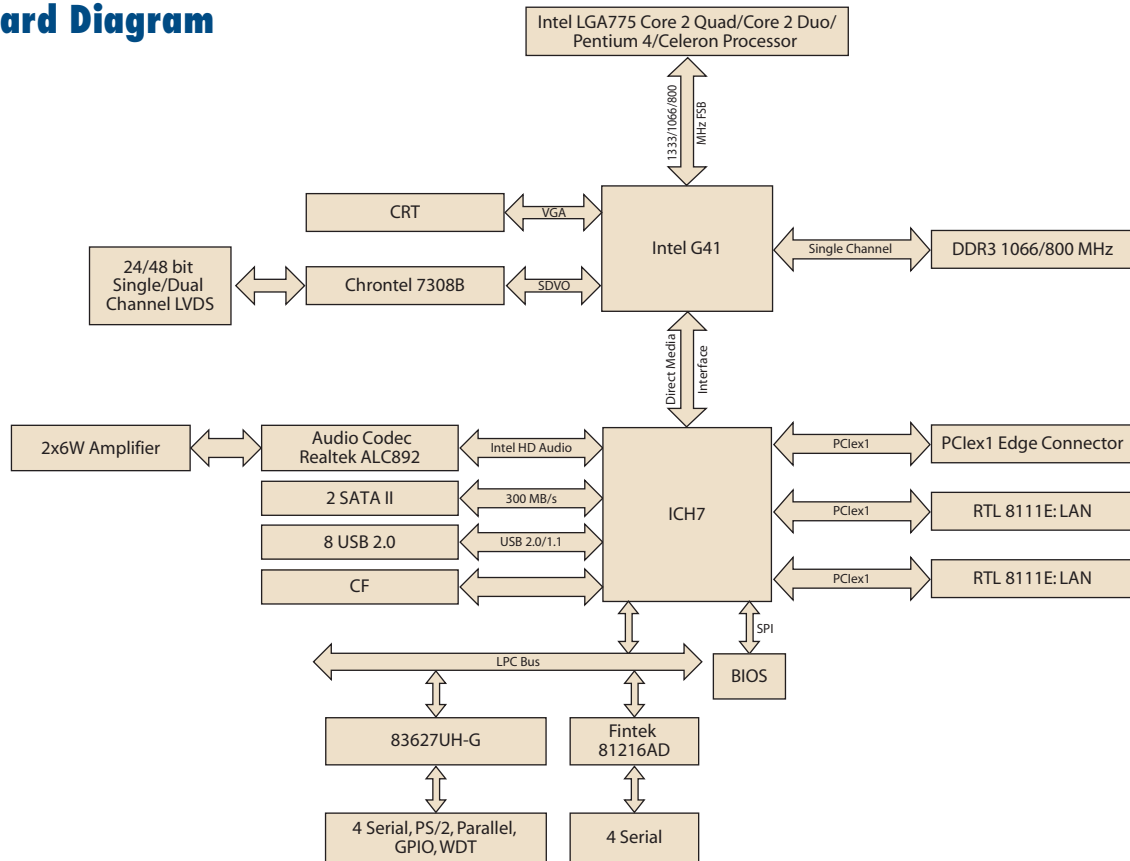
Software APIs: SMBus   H/W Monitor   Watchdog   GPIO

Utilities: BIOS flash   Monitoring

Specifications

Processor System	CPU (45nm/65nm)	Intel Core 2 Quad	Intel Core 2 Duo	Intel Pentium 4	Intel Celeron
	Max. Speed	Q9400 2.66 GHz	E3400 2.60 GHz	E6500 2.93 GHz	E3400 2.60 GHz
	L2 Cache	6M	6M	2M	1M
	Chipset	Intel G41+ICH7			
	BIOS	AMI 16Mbit, SPI			
	Front Side Bus	1333/1066/800 MHz			
Expansion Slot	PCIe x16	-			
	PCIe x1	250 GB per direction, 1			
	PCI	-			
Memory	Technology	Single Channel DDR3 1066/800 MHz			
	Max. Capacity	2 GB			
	Socket	1 x 240-pin DIMM			
Graphics	Embedded	Intel GMA X4500 sharing 352M system memory			
	LVDS	Supports single channel 24-bit/dual channel 48-bit LVDS, via Chrontel 7308B SDVO transmitter			
	2nd VGA	Supports 1 CRT			
	Dual Display	CRT + LVDS			
Ethernet	Interface	10/100/1000 Mbps			
	Controller	GbE LAN Realtek 8111E			
	Connector	RJ-45 x 2			
SATA II	Max. Data Transfer Rate	300 MB/s			
	Channel	2			
EIDE	Mode	-			
	Channel	-			
I/O Interface	VGA	1			
	USB	8			
	Audio	3 (Mic-in, Line-in, Line-out)			
	Serial	8 (7 of RS-232, 1 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	8-bit GPIO			
Watchdog Timer	Output	System reset			
	Interval	Programmable 1 ~ 255 sec/min			
Power Requirements	Power On	Intel Core 2 Quad Q9400 2.66GHz FSB 1333 MHz, 2GB DDR3 1066 SDRAM			
		3.3 V	5 V	12 V	5 Vsb	-12 V
		0.35 A	1.91 A	1.29 A	0.18 A	0.06 A

Environment		Operating	Non-Operating
	Temperature	-10 ~ 60° C (32 ~ 140° F), depending on CPU speed and cooler solution	-40 ~ 85° C (-40 ~ 185° F)
Physical Characteristics	Dimensions (W x D)	170 x 170 mm (6.69" x 6.69")	

ADVANTECH | **Industrial Motherboards**

All product specifications are subject to change without notice.   Last updated : 27-Sep-2011

Board Diagram

```
                              Intel LGA775 Core 2 Quad/Core 2 Duo/
                              Pentium 4/Celeron Processor
                                        ↑↓
                                   1333/1066/800
                                     MHz FSB

   CRT  ←VGA→                    Intel G41  ←Single Channel→  DDR3 1066/800 MHz

24/48 bit
Single/Dual  ←→  Chrontel 7308B  ←SDVO→
Channel LVDS
                                        ↑↓
                                   Direct Media
                                     Interface

2x6W Amplifier ←→ Audio Codec   ←Intel HD Audio→              ←PCIex1→  PCIex1 Edge Connector
                  Realtek ALC892
                  2 SATA II      ←300 MB/s→        ICH7       ←PCIex1→  RTL 8111E: LAN
                  8 USB 2.0      ←USB 2.0/1.1→                ←PCIex1→  RTL 8111E: LAN
                  CF
                                                        SPI↑↓
                     ←───────── LPC Bus ──────────→     BIOS

                  83627UH-G            Fintek
                                       81216AD

            4 Serial, PS/2, Parallel,   4 Serial
               GPIO, WDT
```

Ordering Information

Part Number	Chipset	Display	COM	GbE LAN
AIMB-267G2-KSA1E	G41	1 VGA, 1 LVDS	8	2

*We strongly suggest using only Advantech's certified LGA775 CPU cooler's to ensure board reliability under harsh conditions.

I/O View

AIMB-267G2-KSA1E

Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700018785	Serial ATA HDD power cable	x2
1700000447	COM port cable with four ports	x1
1960022933T100	I/O port bracket	x1
	Startup Manual	x1
	Utility CD	x1

Optional Accessories

Part Number	Description
1750000334	LGA775 CPU cooler (95W)
1700260250	Printer port cable, 25 cm
1700002314	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
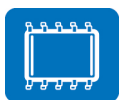
BIOS Flash

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.