

# AIMB-744 Socket 478 Intel®Pentium®4/Celeron®D/ Celeron Industrial ATX Motherboard with PCI-X/DDR/ AGP/Dual GbE/800 MHz FSB

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with PCI-X/DDR/AGP/Dual GbE/800 MHz FSB

## Packing List

Before you begin installing your card, please make sure that the following materials have been shipped:

- AIMB-744 Pentium® 4/Celeron® processor-based industrial motherboard
- 1 AIMB-744 Startup Manual p/n: 2002074412
- 1 CD with driver utility p/n: 2066000E05
- 1 FDD cable p/n: 1700340640
- 2 Ultra ATA 66/100 HDD cables p/n: 1701400452
- 2 Serial ATA HDD data cable p/n: 1700071000
- 2 Serial ATA HDD power cable p/n: 1703150102
- 1 ATX 12V power converter cable p/n: 170304015K
- 1 Dual COM port cable kit p/n: 1701092300
- 1 I/O port bracket p/n: 1962015680
- Warranty certificate p/n: 2190000902

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Note 1: For detailed contents of the AIMB-744, please refer to the enclosed CD-ROM (in PDF format).

Note 2: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: [www.adobe.com/Prodindex/acrobat/readstep.html](http://www.adobe.com/Prodindex/acrobat/readstep.html) (Acrobat is a trademark of Adobe).

For more information on this and other Advantech products, please visit our website at:

<http://www.advantech.com>

<http://www.advantech.com/nc>

For technical support and service, please visit our support website at:

<http://service.advantech.com.tw/eservice/>

This manual is for the AIMB-744 series Rev. A1.

Part No. 2002074412  
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## Specifications

### Standard Motherboard Functions

- **CPU:** Intel® socket 478 Pentium® 4 up to 3.4 GHz, Celeron® D up to 3.06 GHz, Celeron® up to 2.8 GHz and above, FSB 400/533/800 MHz; supports Intel Hyper-Threading technology. Does not support CPU with 1.75V core voltage (Willamete)
- **L2 Cache:** CPU built-in 128/256/512/1024 KB full-speed L2 cache
- **BIOS:** Award 4 Mb Flash memory BIOS
- **Chipset:** Intel 875P with 6300ESB
- **System Memory:** Dual Channel; Four 184-pin DIMM sockets accepts up to 4 GB DDR 266/333/400 SDRAM (PC 2100/2700/3200), ECC supported
- **SATA/IDE interface:** Supports up to two independent Serial ATA hard drives (up to 150MB/s), software SATA RAID1/0, and two IDE hard disk drives or four enhanced IDE devices. BIOS enabled/disabled
- **FDD interface:** Supports up to two FDDs
- **Serial ports:** Four serial RS-232 ports, two DB-9 connectors and two onboard connectors
- **Parallel port:** One parallel port
- **Keyboard/mouse connector:** Supports one standard PS/2 keyboard and mouse
- **Watchdog timer:** 255 level timer intervals
- **USB (2.0):** 4 Universal Serial Bus ports. By setting S1 and S2, the user has two options:

1. Default setting: two front panel USB ports (USB4 and USB5, via CN6), and two rear I/O USB ports (USB0 and USB1, on CN31)

2. Optional setting: four rear I/O USB ports (USB2 and USB3 on CN32 are enabled; USB4 and USB5 on CN6 are disabled)

For details of setting S1 and S2, please refer to Page 2, S1 & S2: Rear/Front USB port switches.

### AGP Interface

**AGP port:** One 8x/4x slot, 0.8V and 1.5V

### Ethernet Interface

• **Chipset:** LAN 1: Intel 82547GI (CSA)

LAN 2: 82541GI (PCI)

• **Connector:** RJ-45 connector x 2

### Mechanical and Environmental

• **Dimensions (L x W):** 304.8 x 243.8 mm (12" x 9.6")

• **Power supply voltage:** +3.3 V, +5 V, +12 V

• **Power requirements:** Typical: +3.3V : 8.13A, +5V : 0.57A, +12V: 5.29A (Intel Pentium 4 3.2GHz, 4GB DDR 400)

• **Operating temperature:** 0 ~ 60 C (depending on CPU)

• **Weight:** 0.7 kg (weight of board)

# Jumpers and Connectors

The board has a number of jumpers that allow you to configure your system to suit your application.

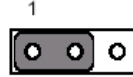
The table below lists the function of each of the jumpers and connectors.

Label	Function
J1	CMOS clear
J2	Watchdog timer output selection
J5	PCI-X 33/66MHz selection 1
J6	PCI-X 33/66MHz selection 2
J7	VGA controller temperature sensor
J8	PCI-X slots 3.3V / 5V selection

Label	Function
CN1	Primary IDE connector
CN2	Secondary IDE connector
CN3	Floppy drive connector
CN4	Parallel port
CN6	USB port 4, 5 (shared with CN32)
CN9	Serial port: COM1
CN10	Serial port connector: COM3
CN11	PS/2 keyboard and mouse connector
CN12	External keyboard connector
CN14	CPU FAN connector
CN15	System FAN connector 1
CN16	Power LED and Keyboard Lock
CN17	External speaker
CN18	Reset connector
CN19	HDD LED connector
CN21	ATX soft power switch (PS_ON)
CN22	HW Monitor Alarm Close: Enable OBS Alarm Open: Disable OBS Alarm
CN23	Serial port connector: COM4
CN29	SM BUS Connector PIN1: SMB_DATA PIN2: SMB_CLOCK
CN31	USB port 0, 1 & LAN1
CN32	USB port 2, 3 & LAN2
CN37	System FAN connector 2
CN38	Serial port: COM2
CN55	Line Out, MIC IN connector
CN56	CD IN (Audio input from CD-ROM)
CN57	AUX IN connector
CN59	FP AUDIO connector
CN62	8-pin Alarm Board Connector
CN64	Case Open
SA0	SerialATA 0
SA1	SerialATA 1
S1	Rear/Front USB port switch 1
S2	Rear/Front USB port switch 2
ATX1	ATX 12V Auxiliary power conn
ATX2	ATX power connector

### J1: CMOS clear function

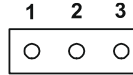
Pins	Result
1-2 (closed)	Keep CMOS data*
2-3 (closed)	Clear CMOS data



\*default setting

### J2: Watchdog timer output option

Closed pins	Result
1-2	IRQ11
2-3	System reset *



### J5&J6: PCI-X 33/66MHz selection

Closed Pins	Result
J5 J6	PCI 33MHz *
J5 J6	PCI 66MHz
J5 J6	PCI-X 66MHz

\* default setting

### J8: PCI-X slots 3.3V / 5V selection

Closed Pins	Result
1	3.3 V *
1	5.0 V

\* default setting

### Rear/Front USB port switches

Switches		
S1	S2	Result
		Front panel USB 2.0. Enable ports 4, 5 on CN6, disable ports 2,3 on CN32. (Default setting)
		Rear USB 2.0. Enable ports 2, 3 on CN32, disable ports 4,5 on CN6. Remove the sticker on CN32.

## Software Installation

The CD disc contains a driver installer program that will lead you through the installation of various device drivers needed to take full advantage of your motherboard.

## Caution

The computer is provided with a battery-powered Real-time Clock circuit. There is a danger of explosion if battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to manufacturer's instructions.

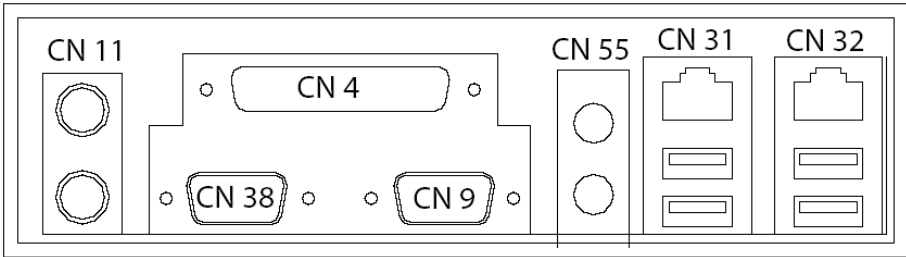
## Caution

Danger of explosion if battery is incorrectly replaced. The battery doesn't need to be charged. Replace only with Advantech-specified batteries.

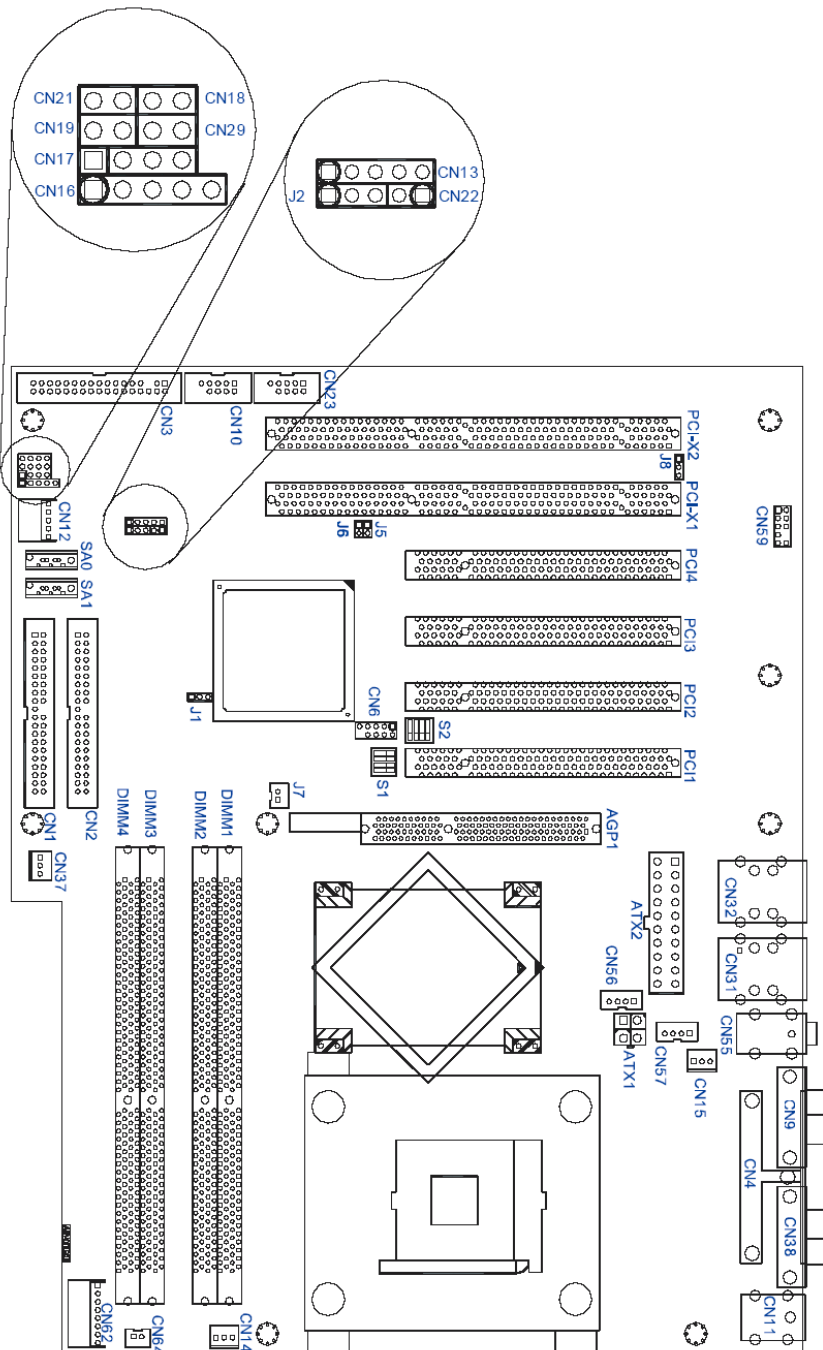
## FCC

This device complies with the requirements in part 15 of the FCC rule. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.



*I/O Connectors*



**Board Layout: Jumper and Connector Locations**