AIMB-554 Socket 479 Intel Core™ 2 Duo/Core™ Duo/ Core™ Solo Processor-based 533/667 MHz FSB Micro ATX Motherboard with PCI-E, DDR2, and Dual GbE LAN

Packing List

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

- AIMB-554 Core™ 2 Duo/Core™ Duo/Core Solo processor based industrial motherboard

- 1 AIMB-554 startup manual

- 1 CD with driver utility and manual

- 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 12 V power converter cable   p/n:170304015K

- 1 COM port cable kit   p/n: 1701090401

- 1 I/O port bracket   p/n: 1962015680

- 1 jumper package   p/n: 9689000068

- 1 warranty card   p/n: 2190000902

- 1 Fan sink for Socket 479   p/n:1750000348

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

Note: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded at: www.adobe.com/Prodindex/acrobat/read-step.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/eplatform

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

http://www.advantech.com/support

This manual is for the AIMB-554 series Rev. A1

Specifications

Standard SBC Functions

- **CPU:** Socket 479 Intel® Core™ 2 Duo/Core™ Duo/ Core™ Solo up to 2.16GHz 533/667 MHz FSB
- **BIOS:** Award 4 Mb flash memory BIOS
- **Chipset:** Intel 945GM with ICH7M-DH
- **System Memory:** Up to 2 GB; two 240-pin DIMM sockets. Supports single channel DDR2 400/533/667 SDRAM.
- **SATA / IDE Interface:** Two onboard serial ATA connectors with a data transmission rate of up to 150 MB/s, and supports up to two devices with software Serial ATA RAID 0,1. One on-board IDE connector supporting up to two enhanced IDE devices. Supports PIO mode 4 (16.67 MB/s data transfer rate) and ATA 33/66/100 (33/ 66/100 MB/s data transfer rate) BIOS enabled/disabled.
- **FDD interface:** Supports one FDD
- **Serial ports:** Two serial ports, COM1 is of RS 232; COM2 is of RS 232/422/485.
- **Parallel port:** One parallel port, supports SPP/EPP/ ECP mode
- **Keyboard/mouse connector:** Supports one standard PS/2 keyboard and mouse
- **Watchdog timer:** 255 level timer intervals
- **USB 2.0:** Supports up to eight USB 2.0 ports, 4 external ports and 4 onboard pin headers

Graphic Interface

- **Controller:** Chipset integrated VGA controller
- **Display memory:** Dynamically shared system memory up to 224 MB.
- **CRT:** Up to 2048x1536 resolution, 400MHz RAMDAC
- **LVDS interface:** Support up to UXGA(1600X1200)
- **TV-Out:** NTSC/PAL
- **PCI-Express X16 slot**

The AIMB-554 can provide a LVDS display, and you can use the relative accessories to install LVDS display as below.

- 15" 1024X768 Panel   p/n: 1330000018

- Inverter   p/n: 1250000007

- LCD cable   p/n: P-CBIV105204202

- Power cable   p/n: P-CBLC320140501

Ethernet Interface

- **Single** 10/100/1000Base-T: Intel® 82573
- **Dual** 10/100/1000Base-T: Intel® 82573 x 2

Mechanical and Environmental

- **Dimensions (L x W):** 244 x 244 mm
- **Power supply voltage:** +5 V, ± 12 V

- **Power requirements:** Maximum: +5 V at 2.4A, +3.3V at 3A, +12V at 1.3A Intel Core Duo 2GHz (667 MHz FSB), 2 x 1GB DDR2 667 SDRAM)
- **Operating temperature:** 0 ~ 60° C (depending on CPU)
- **W**eight: 0.5 kg (weight of board)

Connectors and Jumpers

The board has a number of connectors and jumpers that help to configurethe system to suit your application requirements. The tables below lists the function of each of the connectors and jumpers.

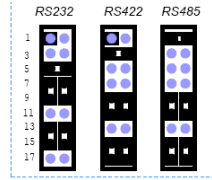| Connectors	
Label	Function
CN1	Primary IDE connector
CN3	Floppy drive connector
CN4	Parallel port, Parallel port x 1, supports SPP/EPP/ECP mode
CN6	USB 4,5 (to Front Panel)
CN7	VGA connector
CN9	Serial port: COM1; RS-232 (D-sub 9-pin connector)
CN10	Serial port: COM2; RS-232 (9-pin connector)
CN11	PS/2 keyboard / mouse connectors
CN12	External PS/2 keyboard / mouse connectors
CN13	Infrared connector
CN14	CPU FAN connector
CN15	System FAN connector
CN16	Power LED / keyboard lock connector
CN17	External speaker connector
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
CN29	SNMP-1000 SM Bus connector
CN31	LAN1; USB ports 0, 1
CN32	LAN2; USB ports 2, 3
CN37	System FAN connector 2
CN55	Line Out, Mic IN connector
CN56	CD IN (Audio input from CD-ROM)
CN57	AUX-IN connector
CN59	Front Panel audio connector
CN62	Alarm board connector
CN63	USB ports 6, 7 (to Front Panel)
CN64	Caseopen Pin Header
CN65	Front LAN LED connector
SMBUS2	SMBus Extend connector
SA0	Serial ATA1
SA1	Serial ATA2
VCN1	TV-OUT connector
VCN2	LVDS connector
VP1	LCD Inverter Power connector
ATX1	ATX 12 V auxiliary power connector (for CPU)
ATX2	24-pin ATX power connector

J1: Clear CMOS

Pins	Result
1 - 2	Keep CMOS data*
2 - 3	Clear CMOS data

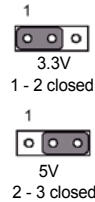Keep CMOS data   Clear CMOS

J13: COM2 RS 232/422/485 Mode Selector

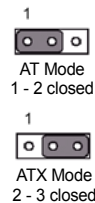Users can use JP1 to select among RS 232/422/485 modes for COM2 (CN10). The default setting is RS 232.
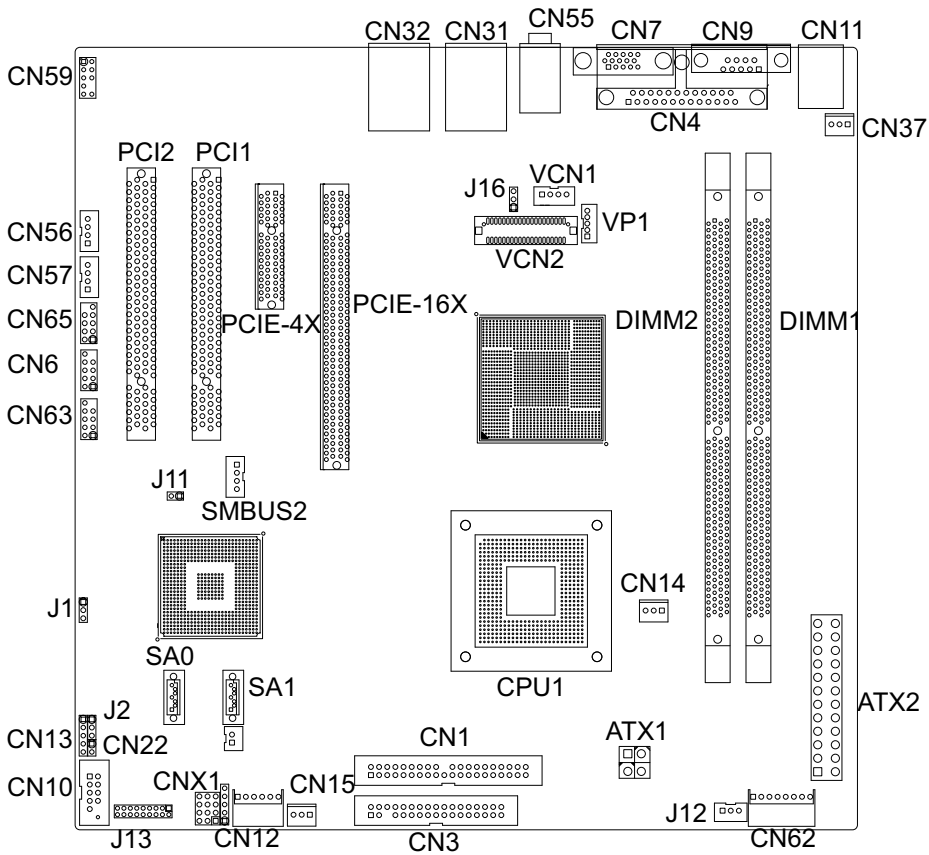

J16: LCD Power 3.3V/5V Selector

Closed pins	Result
1 - 2	3.3V
2 - 3	5V

3.3V
1 - 2 closed

5V
2 - 3 closed

J12: ATX, AT mode selector

Closed Pins	Result
1 - 2	AT Mode
2 - 3	ATX Mode

AT Mode
1 - 2 closed

ATX Mode
2 - 3 closed

Board Layout: Jumper and Connector Locations

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 supplied 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.

Specifications

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

1. This device may not cause harmful interference

2. This device must accept any interference received, including interference that may cause undesired operation