ADVANTECH

AIMB-252 (Intel® 910GMLE µFC-BGA 479 or 915GME µFC-PGA 478) Pentium® M / Celeron® M Mini ITX Main Board with with Dual LVDS, 5 COM, and Dual LAN Startup Manual

Packing List

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

1. AIMB-252 Pentium® M / Celeron® M Mini ITX Main Board
2. IDE HDD cable (40 pin) x 1
3. SATA HDD cable x 2
4. SATA Power cable x 2
5. Serial port cable 1-to-2 x 2
6. CPU cooler x 1
7. I/O port bracket x 1
8. Startup manual x 1
9. Driver CD x 1

If any of these items are missing or damaged, please 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/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/eplatform

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

http://www.advantech.com/support

This manual is for the AIMB-252 series Rev. A1

Specifications

Standard SBC functions

- **CPU:** Supports socket 478 Pentium M FSB 533/400 Mhz, or socket 479 BGA Celeron M processor
- **BIOS:** Award 4 Mbit flash memory BIOS
- **Chipset:** Intel 910GMLE/915GME with ICH6M
- **System Memory:** Up to 2 GB; two 240-pin DIMM sockets. Supports dual channel DDR2 400/533 SDRAM
- **SATA / IDE Interface:** Two onboard serial ATA connectors with a data transmission rate of up to 150 MB/s.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 (33/66/100MB/s data transfer rate) BIOS enabled/disabled
- **CF interface:** Supports compact flash Type II
- **Serial ports:** Five serial ports: Four of RS-232; One of RS-232/422/485
- **Parallel port:** One parallel port, supports SPP/EPP/ECP mode (with pin header)
- **LVDS port:** Supports dual LVDS connectors. LVDS1: single channel 18-bit/dual channel 36-bit, LVDS2: single channel 24-bit/dual channel 48-bit. LVDS2 is only available in AIMB-252G2-M0A1E sku
- **Keyboard/mouse connector:** Supports one standard PS/2 keyboard, one standard PS/2 mouse
- **Watchdog timer:** 255 level timer intervals
- **USB 2.0:** Supports up to eight USB 2.0 ports, four external ports and four onboard pin headers

Graphic Interface

- **Controller:** Chipset integrated VGA controller
- **Display memory:** Dynamically shared system memory up to 128 MB
- **CRT:** Up to 2048x1536 resolution, 400MHz RAMDAC
- **LVDS interface:** Supports up to UXGA (1600X1200)

Ethernet Interface

- **Single** 10/100/1000Base-T GbE LAN1 Realtek RTL8111C
- **Dual** 10/100/1000Base-T GbE LAN2 Realtek RTL8111C

Mechanical and Environmental

- **Dimensions (L x W):** 170 x 170 mm
- **Power supply voltage:** +5 V, +12 V, +3,3 V, +5 V_{SB}
- **Power requirements:**
– Intel 915GME and Pentium M 760 2.0 GHz FSB 533 MHz, 2 GB DDR2
– +5 V @2.61 A, +3.3 V @ 0.71 A, +12 V @ 1.93 A, 5 V_{SB} @ 0.59 A
- **Operating temperature:** 0 ~ 60° C (depending on CPU)
- **Weight:** 0.365 kg (weight of board)

Jumpers and Connectors

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

Label	Function
JFP1+JFP2	External speaker connector
	Reset connector
	HDD LED connector
	ATX soft power switch (PS_ON)
	SM Bus connector
CMOS1	CMOS clear
JPSON1	AT/ATX mode selector
LPT1	Parallel port
USB56/USB78	USB port 5, 6 /7, 8 (on board)
VGA1	VGA connector
COM1	Serial port: COM1 (rear panel port)
JSETCOM1	Serial port configuration: RS232/RS422/RS485
KBMS1	PS/2 keyboard and Mouse connector
CPUFAN1	CPU fan connector
SYSFAN1	System fan connector
SYSFAN2	System fan connector
COM23	Serial port connector
COM45	Serial port connector
JFP3	Power LED (and Keyboard Lock)
LAN1_USB12	LAN1 / USB port 1,2
LAN2_USB34	LAN2 / USB port 3,4
CF1	CF Socket
AUDIO1	Line IN, Line Out, Mic IN (Motherboard) connector
FPAUD1	Front headphone connector,
GPIO1	GPIO pin header (SMD pitch=2.0mm)
IDE1	Primary IDE connector
EATXPWR1	ATX power connector
INV1	LCD1 Inverter connector
INV2	LCD2 Inverter connector
LVDS1	LVDS1 connector
LVDS2	LVDS2 connector
SMBUS1	SM bus connector

PCI1	PCI slot
SATA1	Serial ATA0 connectors
SATA2	Serial ATA1 connectors

CMOS1: Clear CMOS

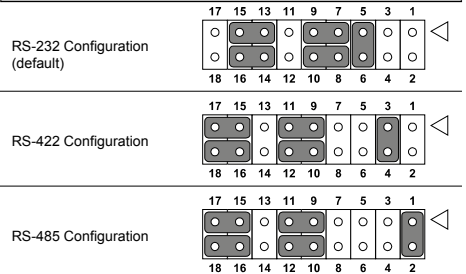| Pins	Result
1-2*	Keep CMOS data*
2-3	Clear CMOS data

* Default
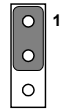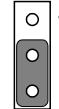
Keep CMOS data   Clear CMOS

JSETCOM1: COM1 RS232/422/485 Mode Selector

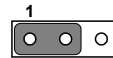Users can use JSETCOM1 to select among RS 232/422/485 modes for COM1. The default setting is RS 232.

RS-232 Configuration (default)

RS-422 Configuration

RS-485 Configuration

JLV1/JLV2: LCD Power 3.3 V/5.5 V Selector

Closed Pins	Result
1-2*	3.3 V*
2-3	5 V

* Default

3.3 V   5 V
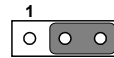
1-2 locsed   2-3 closed

JPSON1: ATX, AT Mode Slector

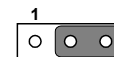| Closed Pins	Result
1-2	AT Mode
2-3*	ATX Mode*

* Default

AT Mode   ATX Mode

1-2 locsed   2-3 closed

FCC

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

1. This device may not cause harmful interference;

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

Software Installation

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

Software Installation

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

LCD Support List

LVDS Panel	LVDS Cable	Matching Advantech CPU Card
ES-1106N_LVAE-		
ES-1108R-LSAE-		
ES-1108N-LSAE-		
ES-1110R-LSAE-		
ES-1110N-LSAE-		AIMB-221, AIMB-240
ES-1112N-LXME-	-03	AIMB-552, AIMB-252
ES-1112N-LSAE-		AIMB-554, AIMB-556
ES-1112N-LSME-		AIMB-750
ES-1115N-LXAE-		
ES-1117N-LEAE-		
ES-1119N-LEAE-		

Board Diagram