

PPC-MB-8260AE (Intel® Core™ i7/i5/i3/Pentium/ Celeron LGA 1151 Mini-ITX with DP/VGA, 5 COM, 6 USB, Dual LAN, PCIe x4, Mini PCIe, DDR4)

Startup Manual

Packing List

Before card installation, ensure that the following items have been included in your shipment:

- 1 x PPC-MB-8260AE Intel® Core™ i7/i5/i3/Pentium/
Celeron LGA1151 mini-ITX motherboard
- 4 x COM cable (2 x 5 pin)
- 1 x SATA cable
- 1 x Startup manual
- 1 x Warranty card
- 1 x Thermal grease
- 14 x Screws for COM port
- 1 x Packet screws for mini PCIe

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

Note 1: For the detailed contents of PPC-MB-8260AE, please refer to the latest product information provided on the Advantech website (PPC-6151C model).

Note 2: Acrobat Reader is required to view any PDF file. Acrobat Reader can be downloaded from www.adobe.com/Products/acrobat/readstep2.html (Acrobat is a trademark of Adobe)

For more information about this or other Advantech products, please visit our website at

<http://www.advantech.com>

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

<http://support.advantech.com>

This manual is for PPC-MB-8260AE, Rev. A1.

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Printed in China

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Specifications

Selected M/B	PPC-MB-8260AE				
CPU	i7-6700TE	i5-6500TE	i3-6100TE	Pentium G4400TE	Celeron G3900TE
	Quad Core	Quad Core	Dual Core	Dual Core	Dual Core
	3.4GHz	3.3GHz	2.7GHz	2.4GHz	2.3GHz
	8MB	6MB	4MB	3MB	2MB
	35W	35W	35W	35W	35W
Chipset	H110				
Memory	1 x 260-pin SODIMM DDR4, 2133 MHz, up to 16 GB				
Network (LAN)	2 x 10/100/1000 Mbps Ethernet, Intel 211 x 2				
I/O Port	1 x RS232/422/485, 1 x RS232 1 x DP 1 x VGA 4 x USB (3.0) 1 x Line-Out, 1 x Mic-In				
Internal Connector	3 x RS232 1 x GPIO (8 channels) 1 x Speaker connector 1 x LED connector 2 x USB 2.0 1 x LVDS connector 1 x Touch connector 2 x SATA connector				
Watchdog Timer	255 Timer levels, configurable using software				
Expansion	1 x Full-size mSATA or mini PCIe, 1 x PCIe x4 slot				
Dimensions	170 x 170 mm (6.69 x 6.69")				
OS Support	Microsoft® Windows 7 (32/64 bit)/ Windows 8.1 (64 bit)/Windows 10 (64 bit)				

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.

Connectors and Headers

Connectors and Headers List	
Label	Function
CN2	Mic-In/Line-Out Connector
LAN2_USB1	RJ45+USB 3.0 Stack Connector
LAN1_USB1	RJ45+USB 3.0 Stack Connector
VGA1	VGA Display Connector
DP1	Display Port Connector
CN1	COM 1/COM 2 Connector
DCIN1	Power Input Connector
ATX12v1	ATX 12V Power Supply Connector
ATX_5Vsb1	ATX 5VSB Power Supply Connector
CN5	Power Button Connector
CN6 ~ 8	COM 5/4/3 Connector
CN11	General Purpose I/O Pin Header
BAT1	Battery Connector
SPI1	SPI BIOS Flash Socket
CN16	Touch Connector
CN17	LVDS Panel Connector
CN20	LVDS Backlight Inverter Power Connector
Sysfan1 ~ 2	System Fan Power Connector
CPUFAN1	CPU Fan Power Connector
CN18 ~ 19	SATA Power Connector
SATA1 ~ 2	SATA Signal Connector
CN4	Power LED Connector
CN9/CN12	2 x USB 2.0 Pin Header
PClex4_1	PCIe x4 Slot Connector
AMP1	Audio Amplifier Output Connector
DIMMA1	DDR4 SODIMM Socket
CPU1	CPU Socket
Mini-PCIe1	MSATA and Mini PCIe Socket

Jumpers and Connectors (Cont.)

ATX_5Vsb1: ATX 5VSB Power Supply Connector

Pin	Definition
1	+V5SB
2	GND
3	PSON

CN1: COM 2 Connector

Pin	Definition (RS232)	Definition (RS422)	Definition (RS485)
1	DCD	TX-	TX-
2	RXD	TX+	TX+
3	TXD	RX+	
4	DTR	RX-	
5	GND		
6	DSR		
7	RTS		
8	CTS		
9	RI		

CN6 ~ 8: COM 5/4/3 Connector

Pin	Definition
1	DCD
2	RXD
3	TXD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI
10	NA

CN11: General Purpose I/O Pin Header

Pin	Definition
1	GND
2	GPIO4
3	GPIO0

Jumpers and Connectors (Cont.)

4	GPIO5
5	GPIO1
6	GPIO6
7	GPIO2
8	GPIO7
9	GPIO3
10	+V5

CN16: Touch Connector

Pin	Definition
1	Y+
2	X+
3	SENSE
4	Y-
5	X-

Sysfan 1 ~ 2: System Fan Power Connector

Pin	Definition
1	GND
2	POWER
3	SPEED
4	PWM

CPUFAN1: CPU Fan Power Connector

Pin	Definition
1	GND
2	POWER
3	SPEED
4	PWM

CN18 ~ 19: SATA Power Connector

Pin	Definition
1	+V3.3
2	GND
3	+V5
4	GND
5	+V12

Jumpers and Connectors (Cont.)

CN4: Power LED Connector

Pin	Definition
1	+V5_DUAL
2	+V5
3	GND
4	GND

AMP1: Audio Amplifier Output Connector

Pin	Definition
1	SPK L-
2	SPK L+
3	SPK R+
4	SPK R-

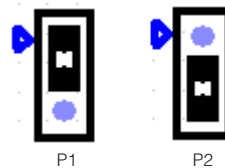
Jumper Settings

Jumpers List

Jumper	Function
JP1	ATX/AT Select
JCMOS1	RTC Select
JP2	Touch Power Select
JP3	LCD Power Select
JP4	Enable Power Select
JP5	LVDS PWM Power Select
JP6	COM Pin 9 Power Select (COM 1 & 2)
JP7	LVDS Resolution Select

ATX/AT Select (JP1)

(1-2) P1	AT
(2-3) P2	ATX (default)



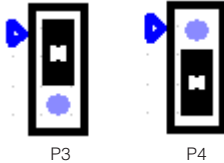
P1

P2

Jumpers and Connectors (Cont.)

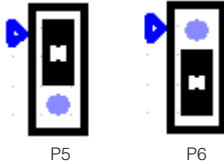
RTC Select (Jcmos1)

(1-2) P3	Normal (default)
(2-3) P4	Clear CMOS



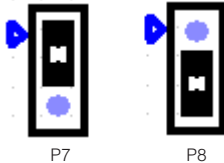
Touch Power Select (JP2)

(1-2) P5	+V3.3_DUAL (default)
(2-3) P6	+V3.3



LCD Power Select (JP3)

(1-2) P7	+V5
(2-3) P8	+V3.3 (default)



Enable Power Select (JP4)

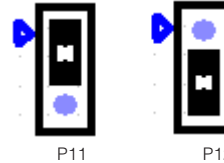
(1-2) P9	+V5
(2-3) P10	+V3.3 (default)



Jumpers and Connectors (Cont.)

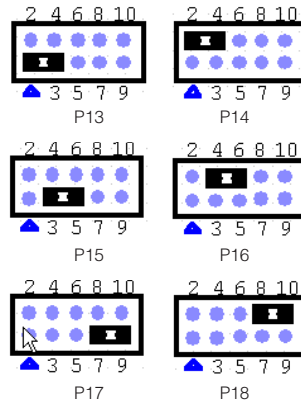
LVDS PWM Power Select (JP5)

(1-2) P11	+V5
(2-3) P12	+V3.3 (default)



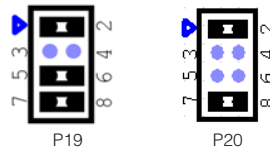
COM Ring Select (JP6)

(1-3)/(2-4) P13/P14	COM 2/1 Ring (default)
(3-5)/(4-6) P15/P16	COM 2/1 5V
(7-9)/(8-10) P17/P18	COM 2/1 12V

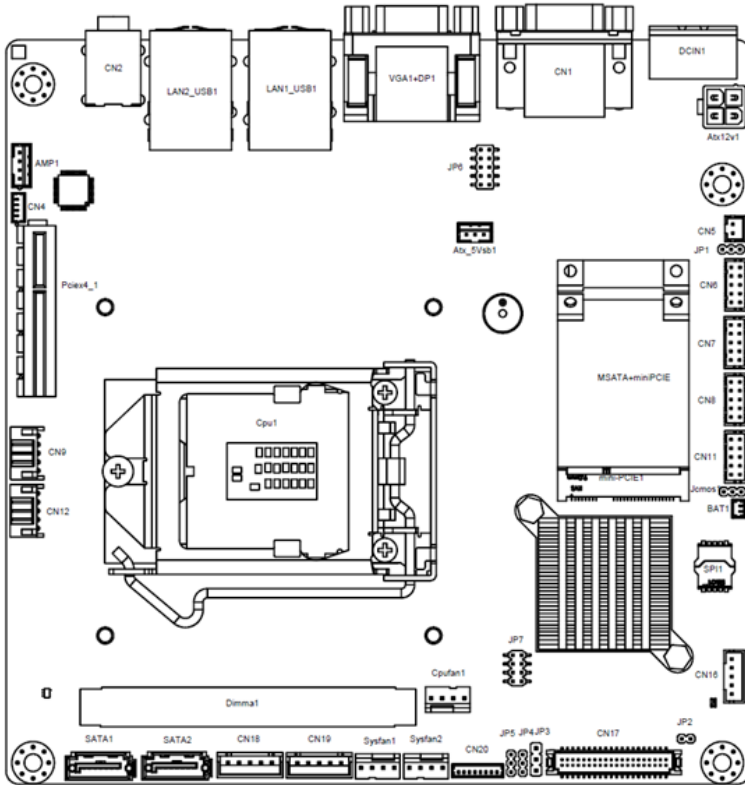


LVDS Resolution Select (JP7)

(1-2)/(5-6)/ (7-8) P19	1024*768 (24 bit)
(1-2)/(7-8) P20	1280*1024 (24 bit)

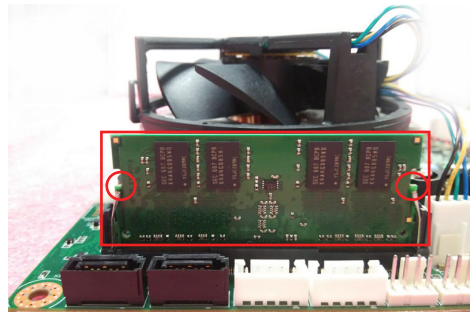


Board Layout: Jumper and Connector Locations



Installation Guide

1. Insert the memory module into the memory slot at a 45 degree angle, as shown below. Ensure that the gold fingers of the module are fully inserted into the slot.
2. Once inserted, gently press the memory module into the slot until the tabs snap into place, securing the module in position.



BIOS Setup Program

1.1 Entering BIOS Setup

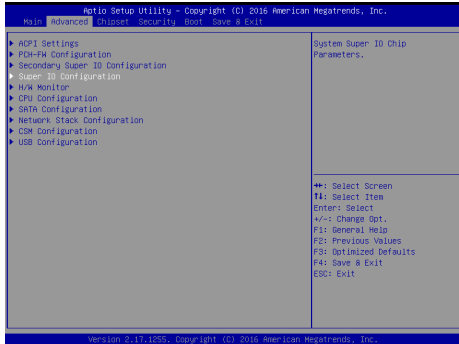
When the power is turned on, press the button to enter the BIOS setup screen.

After a setting is configured, press <F4> to save and exit; otherwise, the configuration will not be saved in the BIOS.

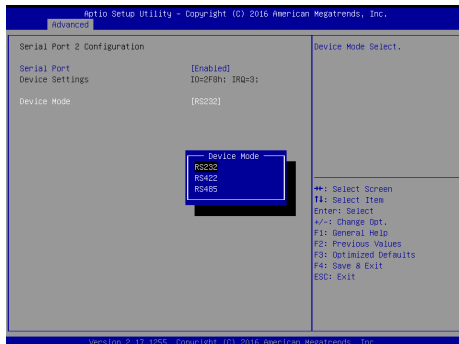


1.2 COM 2 Mode Selection (RS232/422/RS485)

1. Access the "Super IO Configuration" item from the "Advanced" tab.

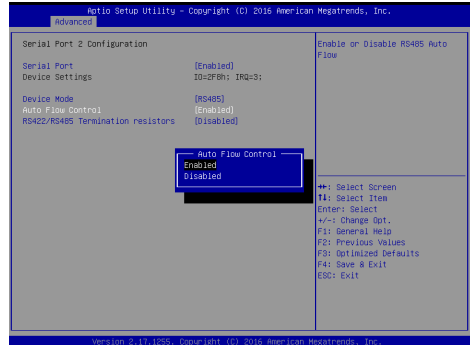


2. Select "Serial Port 2 Configuration". The COM 2 mode can be configured via the "Device Mode" item.



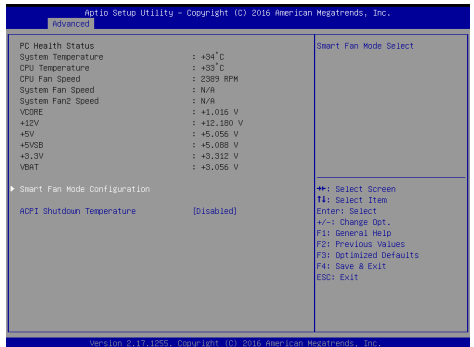
BIOS Setup Program (Cont.)

3. Select the "RS485" option. Autoflow and termination resistors can be enabled or disabled.



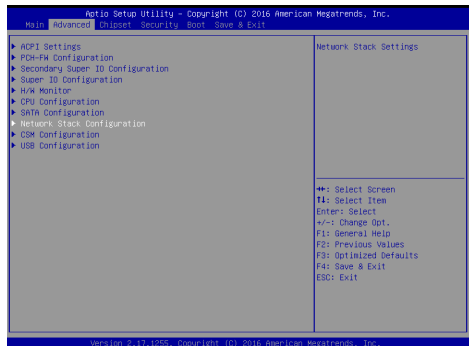
1.3 H/W Monitor and Smart Fan Mode Configuration

1. Access the "H/W Monitor" item from the "Advanced" tab to check the voltage temperature and fan speed.



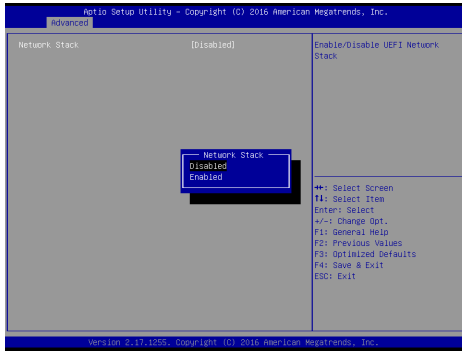
1.4 LAN PXE Mode Selection

1. Access the "Network Stack Configuration" item from the "Advanced" tab.



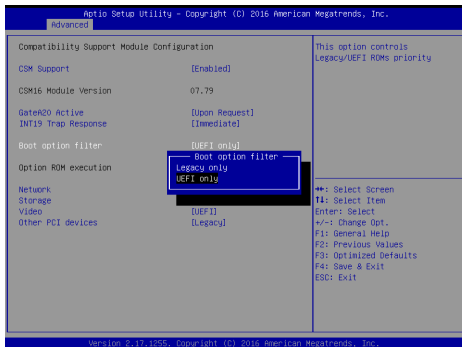
BIOS Setup Program (Cont.)

2. Select the "Enabled" option for the "Network Stack" item.

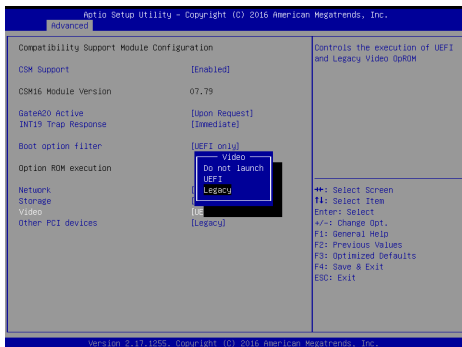


1.5 Boot Option Filter

1. Access the "CSM Configuration" items from the "Advanced" tab. Users can select "UEFI only" or "Legacy only" for "Boot Option Filter" configuration.



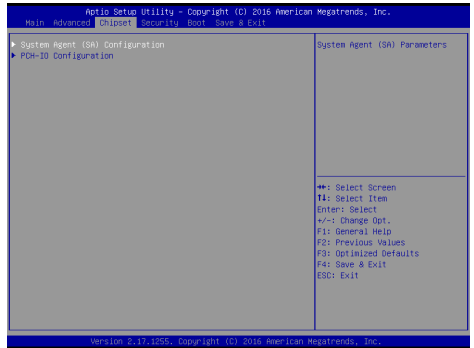
2. Configure the Video and Storage item settings to match with the Boot Option Filter configuration.



BIOS Setup Program (Cont.)

1.6 Graphics Configuration

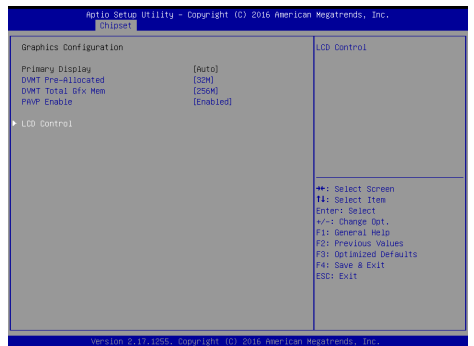
1. Access the "System Agent (SA) Configuration" item from the "Chipset" tab.



2. Click on the "Graphics Configuration" item.

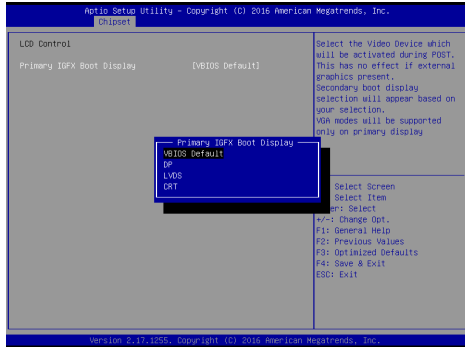


3. Select the "LCD Control" item.

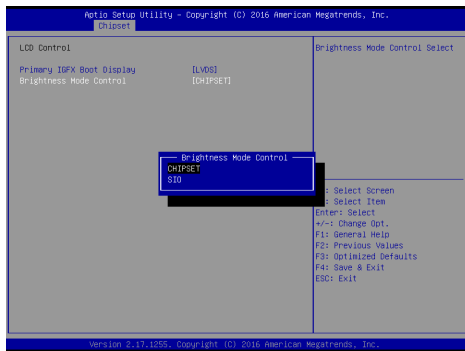


BIOS Setup Program (Cont.)

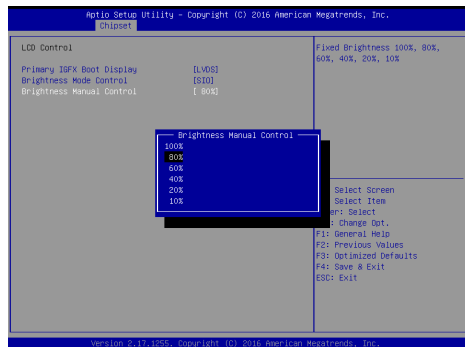
- The Primary IGFX Boot Display item can be configured as "VBIOs Default", "DP", "LVDS", or "CRT".



- The Brightness Mode Control item configuration is set to "Chipset" by default. This means users can adjust the system brightness via the OS brightness dimmer.



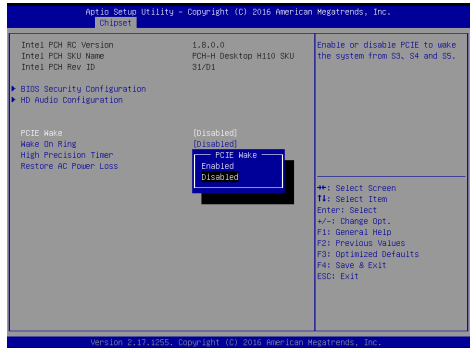
- Access the "Brightness Manual Control" item to select from six brightness level options.



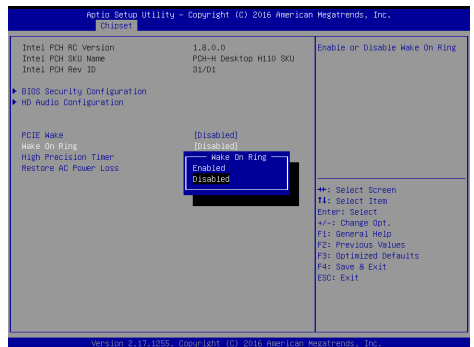
BIOS Setup Program (Cont.)

1.7 Wake On LAN and Ring

- In the "Chipset" tab click the "PCH-IO Configuration" item to access "PCIE Wake" configuration. Select the "Enabled" option to allow wake-on-LAN function.



- In the "Chipset" tab click the "PCH-IO Configuration" item to access "Wake on Ring" configuration. Select the "Enabled" option to allow wake-on-ring function.



1.8 AT and ATX Setting

In the "Chipset" tab click the "PCH-IO Configuration" item to access the "Restore AC Power Loss" item. Set the item configuration to "Power On", "Power Off", or "Last State".

