MÖDT

Cool Stuff is Hot Stuff, MoDT is the Right Stuff

AOpen
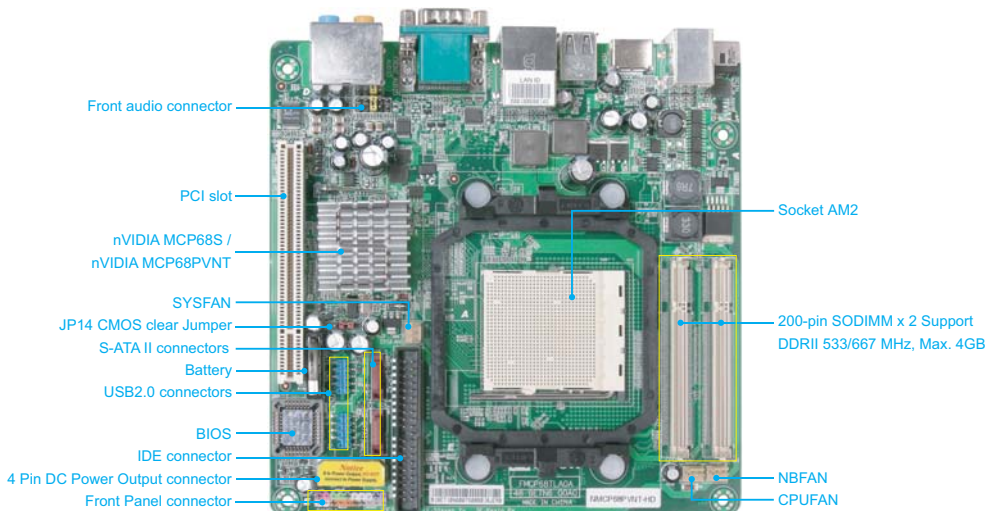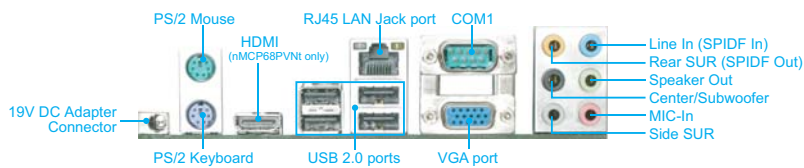
MoDT nMCP68St nMCP68PVNt

Enable the Power of mini ITX Form Factor

Energy Saving   Silent   AV   Thermal

Easy Installation Guide

The *first AM2*
mini ITX motherboard in the world

- PS/2 Mouse
- HDMI (nMCP68PVNt only)
- RJ45 LAN Jack port
- COM1
- Line In (SPIDF In)
- Rear SUR (SPIDF Out)
- Speaker Out
- Center/Subwoofer
- MIC-In
- Side SUR
- 19V DC Adapter Connector
- PS/2 Keyboard
- USB 2.0 ports
- VGA port

- Front audio connector
- PCI slot
- nVIDIA MCP68S / nVIDIA MCP68PVNT
- SYSFAN
- JP14 CMOS clear Jumper
- S-ATA II connectors
- Battery
- USB2.0 connectors
- BIOS
- IDE connector
- 4 Pin DC Power Output connector
- Front Panel connector
- Socket AM2
- 200-pin SODIMM x 2 Support DDRII 533/667 MHz, Max. 4GB
- NBFAN
- CPUFAN

AOpen reserves the right to revise all the specifications and information contained in this document, which are subject to change without notice.

AOpen

Accessories List

135W DC Adaptor	IO Bracket	IDE Cable
S-ATA Cable	AOpen Bonus CD	Power Cord
Power Cable (1 to 3ML)	nMCP68St nMCP68PVNt EIG	CPU Cooler
SPIDF Connector		

Installing By Yourself

1. Installing CPU
2. Installing CPU Fan & System Fan
3. Installing Memory Module
4. Installing HD, CD-ROM and SATA Disk, etc
5. Connecting Front Panel Cable
6. Installing PCI Card
7. Installing Other Devices (USB, Front Audio, etc)
8. Connecting Power Adapter
9. Connecting Back
10. Loading Default BIOS
11. Installing Operating System (such as, Windows Vista)
12. Installing Drivers & Utilities

Supports AMD Socket AM2   DDRII Dual Channel   Analog Audio   USB 2.0   LAN Gigabit   SATA II 2.0   133 PATA

1. Installing CPU

1. Erect CPU socket lever up and gently put CPU onto Socket.

2. Press lever back to CPU socket, and then it's done.

Lever

Golden arrow
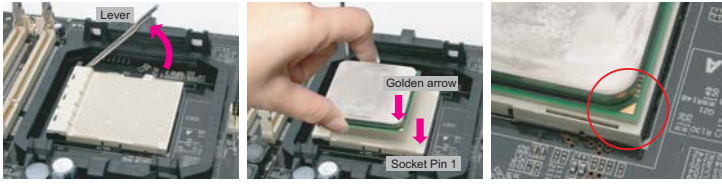
Socket Pin 1

Note:
1. If you do not match the CPU socket Pin 1 and CPU golden arrow well, you may damage the CPU.
2. AMD CPU power consumption can not over 65W !

CPU Frequency Table

Spec.	Model	ID / L2 / FSB / Ratio / Freq.	Vender
(DO)45W	Athlon 64 X2 BE-2400	FB2 / 2*512M / 1000MHz / 11.5 / 2.30GHz	AMD
(DO)45W	Athlon 64 X2 BE-2350	FB2 / 2*512M / 1000MHz / 10.5 / 2.10GHz	AMD
(DO)45W	Athlon 64 X2 BE-2300	FB2 / 2*512M / 1000MHz / 9.5 / 1.90GHz	AMD
(DE)45W	Sempron LE-1200	FF1 / 512M / 800Hz / 10.5 / 2.10GHz	AMD
(DD)65w	Athlon 64 X2 4800+	FB1 / 512K*2 / 1000MHz / 12.5 / 2.50GHz	AMD
(DD)65w	Athlon 64 X2 4400+	FB1 / 512K*2 / 1000MHz / 11.5 / 2.30GHz	AMD
(DD)65w	Athlon 64 X2 4000+	FB1 / 512K*2 / 1000MHz / 10.5 / 2.10GHz	AMD
(DD)65w	Athlon 64 X2 3600+	FB1 / 512K*2 / 1000MHz / 9.5 / 1.90GHz	AMD
(DE)45w	Athlon 64 3200+	FF1 / 512K / 1000MHz / 10 / 2.00GHz	AMD
(CZ)65w	Athlon 64 X2 5200+	F33 / 1M*2 / 1000MHz 13.0 / 2.60GHz	AMD
(CZ)65w	Athlon 64 X2 4600+	F33 / 512K*2 / 1000MHz / 12 / 2.40GHz	AMD
(CS)65w	Athlon 64 X2 4600+	F32 / 512K*2 / 1000MHz / 12 / 2.40GHz	AMD
(CZ)65w	Athlon 64 X2 3800+	F33 / 512K*2 / 1000MHz / 10 / 2.00GHz	AMD

Above table is AMD® AM2 Athlon 64 x 2 / 64, Sempron CPU numbers and simple specification for your reference only.

4. Installing IDE Cable

The motherboard provides one IDE connector which allow you to connect two ATA 33/66/100 IDE devices like HDD.

IDE cable to connect IDE devices

Primary Master (1st)

Primary Slave (2nd)

Pin 1

ATA 33/66/100 IDE Connector

DC power to connect IDE devices

5. Installing SATA Cable

The mother provides two SATA connectors.
Connect SATA cable to the on board SATA connector. You can find SATA cable in our package. (this is SATA signal cable) And please also connect 5V power connector with SATA power cable.

SATA Signal Cable To Connect SATA Device

DC Power to Connect SATA Power Cable

SATA Power Cable To Connect SATA Device

2. Installing CPU Cooler

1. Before installing the CPU cooler, please first add an even layer of heat paste on the surface of the CPU. Install all the CPU cooler components (Please refer to the cooler manual for detailed installation instructions).
2. Please connect the CPU cooler power connector to the CPU_FAN connector located on the motherboard so that the CPU cooler can properly function to prevent CPU overheating.

Note:
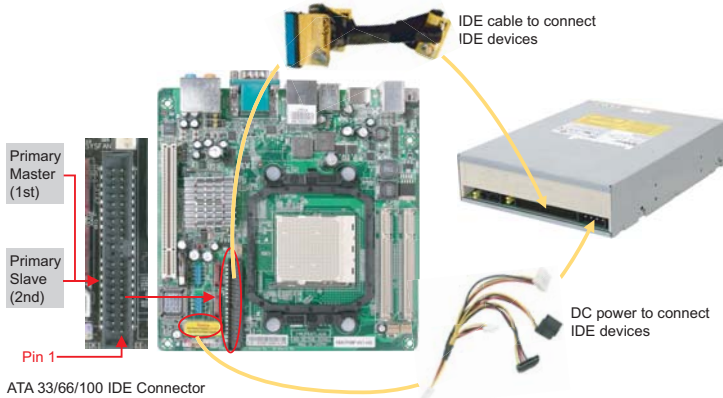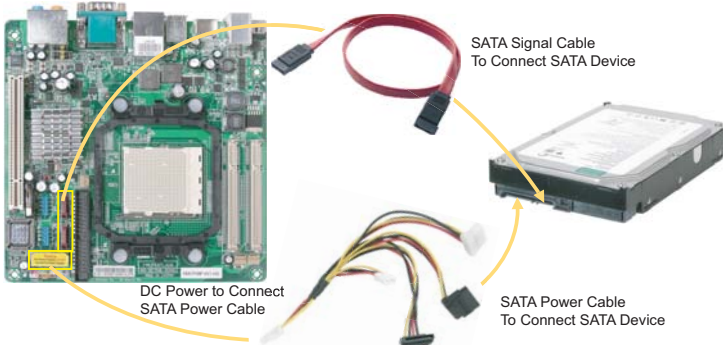The CPU cooler is option, you could buy cooler you like in retail or contact AOpen.

3. Installing Memory Module

The motherboard provide SODIMM type memory support. There're two SODIMM memory slots which motherboard provided. The installation of memory module as below.

1. Put the memory module with correct direction. Notice there's one stick to make sure direction is correct.
2. Plug in memory module into SODIMM slot with angle 20~30º. Make sure memory moule plug into slot completely.
3. There're tabs which located in the side of SODIMM holder. Use finger to push memory module vertically until the tabs lock memory module tightly.
4. Now, the memory modules have been plugged properly with horizontal flat.

Stick

6. PCI Installation

The motherboard provides one PCI slot for users to upgrade his PC functions. for expansion. The PCI cards have SATA II and Firewire and USB cards … etc.
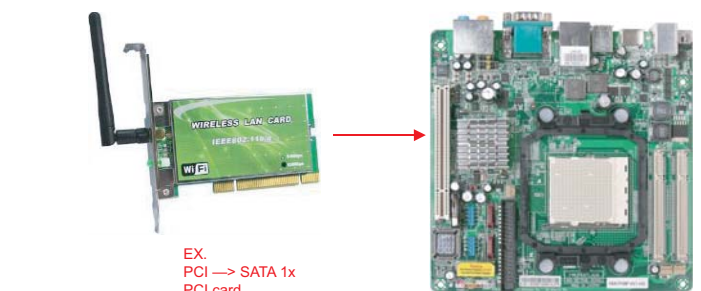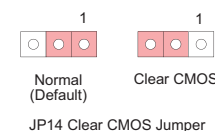

EX.
PCI —> SATA 1x
PCI card

7. JP14

You can clear CMOS to restore system default settings.
To clear the CMOS, follow the procedure below.
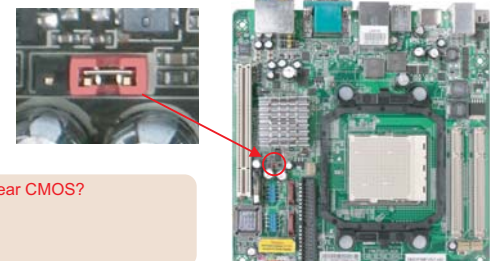
1. Turn off the system and unplug the DC Adaptor from Connector.
2. Locate JP14 and short pins 2-3 for a few seconds.
3. Return JP14 to its normal setting by connecting it to Pin 1-2 again.
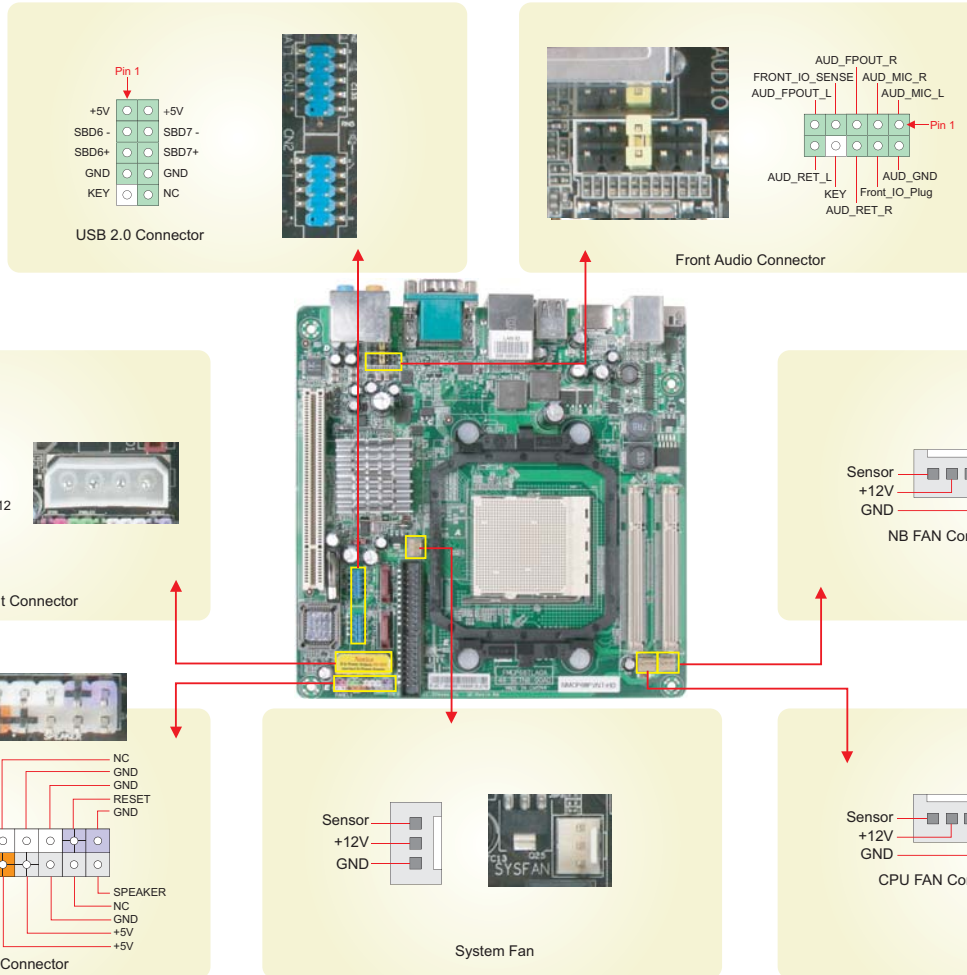4. Connect DC Adaptorn back to connector.

Normal (Default)

Clear CMOS

JP14 Clear CMOS Jumper

Tip: When should I clear CMOS?
1. Boot fail .....
2. Forget password .....
3. Trouble shooting .....

USB 2.0 Connector

Pin 1

+5V		+5V
SBD6 -		SBD7 -
SBD6+		SBD7+
GND		GND
KEY		NC

USB 2.0 Connector

Front Audio Connector

AUD_FPOUT_R
FRONT_IO_SENSE   AUD_MIC_R
AUD_FPOUT_L   AUD_MIC_L

Pin 1

AUD_RET_L   AUD_GND
KEY   Front_IO_Plug
AUD_RET_R

Front Audio Connector

DC Power Output Connector

VCC5   VCC12
GND   GND

DC Power Output Connector

NB FAN Connector

Sensor
+12V
GND

NB FAN Connector

Front Panel Connector

POWER LED+		NC
GND		GND
POWER LED -		GND
GND		RESET
POWER SWITCH		GND

Pin 1

NC		SPEAKER
NC		NC
+5V		GND
HDD LED		+5V
HDD LED		+5V

Front Panel Connector

System Fan

Sensor
+12V
GND

SYSFAN

System Fan

CPU FAN Connector

Sensor
+12V
GND

CPU FAN Connector

PC graphic resolution table

Resolution	Color depth
1680 x 1050	256/ 16bit/ 32bit
1600 x 1200	256/ 16bit/ 32bit
1440 x 900	256/ 16bit/ 32bit
1280 x 1024	256/ 16bit/ 32bit
1280 x 720	256/ 16bit/ 32bit
1024 x 768	256/ 16bit/ 32bit
640 x 480	256/ 16bit/ 32bit

TV resolution support table

SD Format	480p
	480i
HD Format	720p
	1080i

Internet

LAN which can link to internet

PC 5+1 Speakers

PC Earphone

PC Microphone

PS2 Keyboard and Mouse

USB Devices Like Card reader

PC Monitor

Power - on and Loading BIOS Setup

After finish the setting of jumpers and connect correct cables. Power on and enter the BIOS Setup, then press <Del> during POST (Power On Self Test). Choose "Load Optimized Defaults" for recommended optimal performance.

```
Phoenix - AwardBIOS CMOS Setup Utility

▶ Standard CMOS Features        ▶ PC Health Status
▶ Advanced BIOS Features         Load Optimized Defaults
▶ Advanced Chipset Features      Set Password
▶ Integrated Peripherals         Save & Exit Setup
▶ Power Management Setup         Exit Without Saving

Esc : Quit                       ↑ ↓ → ← : Select Item
F10 : Save & Exit Setup

              Time, Date, Hard Disk Type...
```

> ⚠ **Warning:**
> Please avoid of using "Load Optimized Defaults", unless you are certain your system components (CPU, SDRAM, HDD, etc.) have been proven acceptable for use.

Aopen EzInstall and Bonus Pack CD

You can use the autorun menu of Bonus CD disc. Choose the utility and driver from the icons at left side, and then click on the "GO" button to complete installation automatically.

- Install Driver
- Install Utility
- Browse CD Contents
- Readme
- Exit CD

Welcome

Install Driver
- Intel Chipset Software Installation Utility
- Intel Pro Network Connections Driver
- Intel Graphics Media Accelerator Driver
- Intel Matrix Storage Manager Driver
- Realtek High Definition Audio Driver

GO

Ez Install

Trouble Shooting

If you encounter any trouble to boot you system, follow the procedures accordingly to resolve the problem.

Start

↓

Turn off the power and unplug the DC power adapter, then remove all of the add-on cards and cables including VGA, IDE, FDD, COM1, COM2, printer and other external devices,

↓

Clear CMOS and then plug the DC power adapter.

↓ Yes / No →

Turn on the power button. → Perhaps your memory is not compatible with the system, or either your VGA card*2 or monitor is out of order.

↓ Yes / No →

Check if there is display → The problem maybe caused by power supply / motherboard failure. Please contact your reseller or your distributor for repairing.

↓

Press Del to enter BIOS setup, and choose "Load Setup Default". (For AMD user, please make sure you set the right CPU frequency in BIOS) Save the changes you make in BIOS and reboot the system.

↓ Yes / No →

Turn on the system again and re-connect the IDE cable. Check if the system can reboot successfully. → The problem maybe caused by the IDE cables or HDD itself.

↓

Reinstall operating system such as Windows 2000 or Windows XP.

↓

End

Model name and BIOS Version

Model name and BIOS version can be found on upper left corner of first boot screen (POST screen). For example:

```
Phoenix - AwardBIOS v6.00PG, An Energy Star Ally
Copyright (C) 2004, Phoenix Technologies, LTD.

nMCP68St-LA R1.00 Sep. 02. 2007 AOpen Inc.
```

nMCP68St-LA is model name of motherboard; R1.00 is BIOS version.
This BIOS name maybe different depends on the motherboard you buy.

Register Your Motherboard

You can find this bar code label on the outside packing or on component side of PCB. For example:

```
9188110201091949378KN73
```

Part No.   Serial No.

P/N: 91.88110.2010 is part number,
S/N: 91949378KN73 is serial number.

Phoenix-Award BIOS Error Message	
Beep Sound	Message
1 short (Beep)	System booting is normally.
1 long - 1 short (Beep)	DRAM error
1 long - 2 short (Beep)	Display Card connected error Monitor Connected error
1 long - 3 short (Beep)	Keyboard error
Long (Beep) continuous	DRAM hasn't insert correctly.
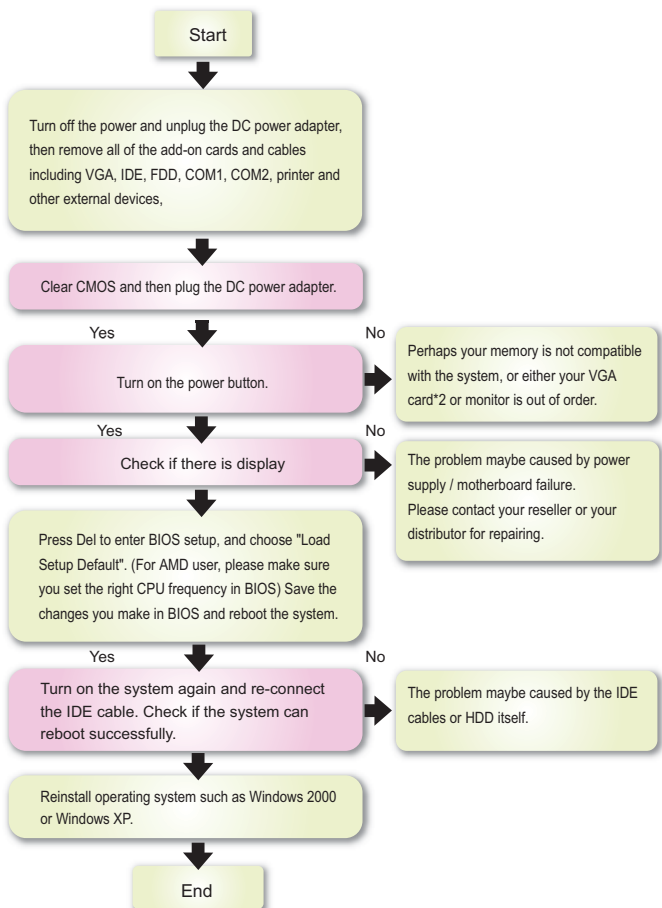
Technical Support

Dear Customer,

Thanks for choosing AOpen products. In order to maintain the best service to every customer of us, we recommend you to follow the procedures below and seek help from our branches according to the region you buy the product. With your help, we can then continue to provide efficient and the best quality service to every customer. Thanks very much for your understanding!

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Germany	http://www.aopen.de
America	http://usa.aopen.com
Japan	http://aopen.jp

Online Manual: To download manual, please log on and then select your preferred language. Under "Type" directory, choose "Manuals" to go to our manual database. You can also find the manual and EIG in AOpen Bonus Pack.
http://www.aopen.com > Chose Territory > Download

RCL: We recommend you to choose board/card/device from the compatibility recommand component list for assembling your PC. It may prevent incompatibility problems.
http://www.aopen.com > Chose Territory > RCL

FAQ: Here we list problems that users often encounter and FAQ (Frequently Asked Questions). You may select your preferred language after log on, and may be able to find a solution to your problem.
http://www.aopen.com > Chose Territory > Tech.FAQ

Download Software: After log on and having language selected, you may get the latest updated BIOS/utility and drivers you need under "Type" directory. In most case, newer versions of drivers and BIOS have solved earlier bugs or compatibility problems.
http://www.aopen.com > Chose Territory > Download