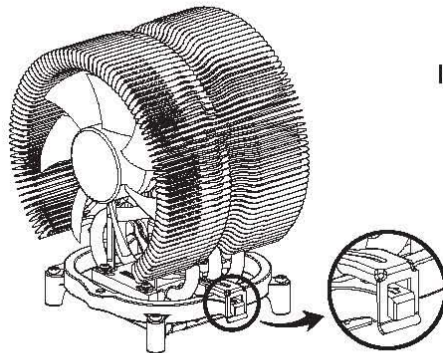# User's Manual

(English version)
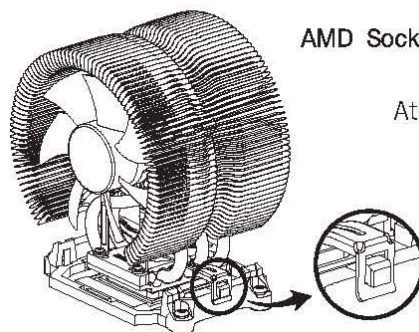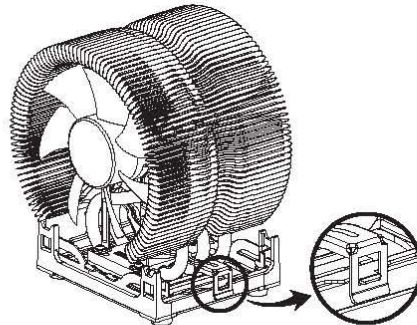
CNPS9500A

Intel Socket 775 CPU
Core 2 Duo
Pentium D
Pentium 4
Celeron D

Intel Socket 478 CPU
Pentium 4
Celeron D
Celeron

AMD Socket AM2/754/939/940 CPU
Athlon 64
Athlon 64 X2 Dual-Core
Athlon 64 FX
Opteron
Dual-Core Opteron
Sempron

* Please read this manual throughly before installation.

http://www.zalman.co.kr   http://www.zalmanusa.com

1. Features

1) Does not generate noise or vibration in Silent Mode.
2) Pure copper heatsink with component layout optimized for maximum cooling efficiency.
3) Innovative, patented, and curved heatpipe design for a heat transfer capacity of up to six heatpipes with the use of just three.
4) Ultra slim fins (0.2mm) for minimized weight and reduced airflow resistance.
5) Equipped with Zalman's low noise 92mm fan.
6) Supports all single and dual core CPUs of Intel's Socket 775/478 and all single and dual core CPUs of AMD's Socket AM2/754/939/940.
7) The adjustable fan speed controller (FAN MATE 2) enables control of noise and cooling performance.

2. Specifications

1) Cooler

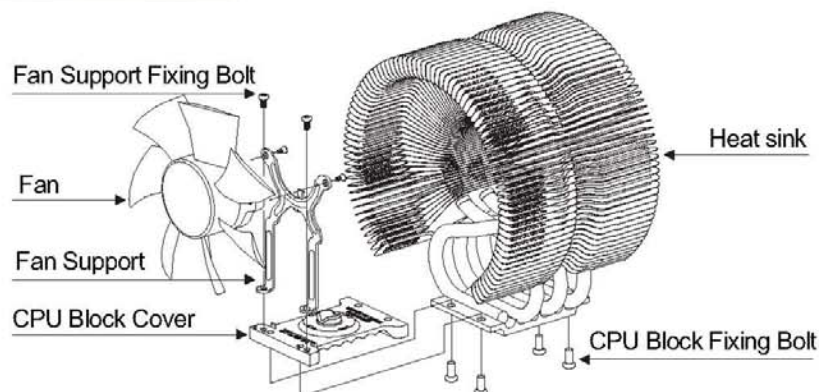| Spec. Model	CNPS9500A
Heatsink Material	Pure Copper
Weight (g)	530 [1]
Thermal Resistance (℃/W)	0.12 ~ 0.16
Dimensions (㎜)	85(L) x 112(W) x 125(H)
Bearing Type	2 Ball-Bearing
Rotational Speed	1,350rpm ±10% ~ 2,600rpm ±10%
Noise Level	18.0dB ±10% ~ 27.5dB ±10% [2]
Input Voltage	12V
Dissipation Area (㎝)	3,698

2) FAN MATE 2

- Output Voltage : 5V ~ 11V ±2%
- Allowable Power : 6W or lower

(Note 1) The maximum weight specified for a cooler is 450g for Intel Socket 775/478 and AMD Socket AM2/754/939/940. Special care and attention must be taken when moving a computer equipped with a cooler exceeding the specified weight limit. Zalman Tech Co., Ltd. is not responsible for any damage resulting from moving a computer.

(Note 2) Measured at 1m from noise source.

3. Exploded View

Fan Support Fixing Bolt
Fan
Fan Support
CPU Block Cover
Heat sink
CPU Block Fixing Bolt

4. Patents

❖ Korean Patent Application No.10-0600448
❖ Korean Design Application No. 30-0403411, 0403412
❖ Patent Applications pending in over 20 nations around the world including USA, EU, and Japan
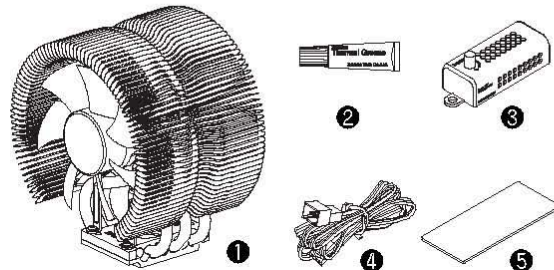
5. Precautions

1) Excessive force exerted on the fan may damage the fan, resulting in damage to the system.

2) Avoid inserting any objects into the fan while it is in operation.

3) Use and keep the product away from the reach of children and pets.

4) Check the components list and condition of the product before installation. If any problem is found, contact your place of purchase to obtain a replacement.

5) Do not ingest or make oral contact with the Thermal Grease. If ingested, get medical attention.

Disclaimer) Zalman Tech Co., Ltd. is not responsible for any damages due to external causes, including but not limited to, improper use, problems with electrical power, accident, neglect, alteration, repair, improper installation, or improper testing.
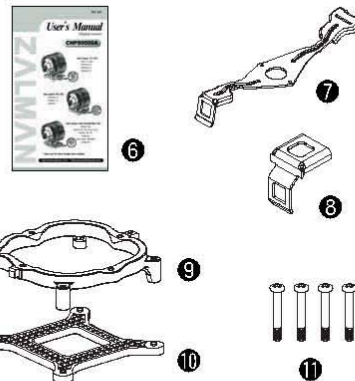
6. Components

1) General Components

① Cooler(CNPS9500A)
② Thermal Grease
③ Fan Speed Controller (Fan Mate 2)
④ Cable for Fan Mate 2
⑤ Double-sided Tape
   (for Fan Mate 2 attachment)
⑥ User's Manual (in English and Korean)
⑦ Clip

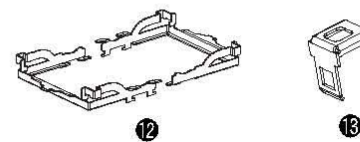### 2) Components for Intel Socket 775

⑧ Clip Lever A
⑨ Clip Support for Socket 775
⑩ Backplate for Socket 775
⑪ Four(4) Clip Support Fixing Bolts for Socket 775

3) Components for Intel Socket 478

⑫ One pair of Clip Supports for Socket 478
* Uses component ⑧ Clip Lever A

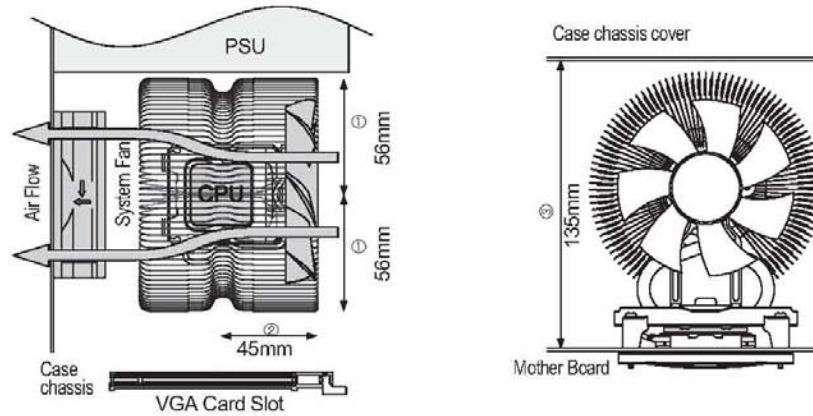### 4) Component for AMD Socket AM2/754/939/940

⑬ Clip Lever B

7. Compatible CPUs

1) All CPUs conforming to Intel Socket 775/478 platform.

2) All CPUs conforming to AMD Socket AM2/754/939/940 platform.

8. Installation Requirements

Cases equipped with an Air Guide must have their Air Guide Ducts removed before installation. Install only on systems meeting the following conditions;
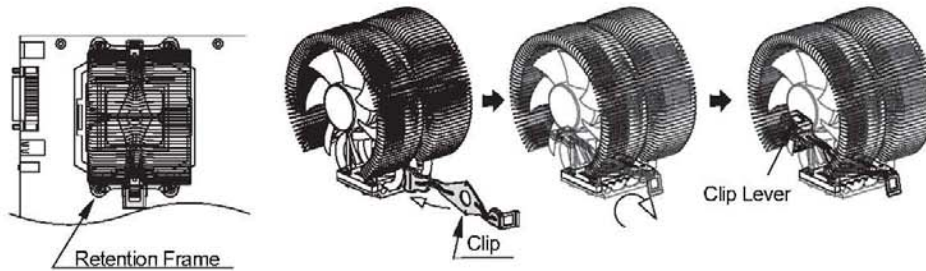
① There must be no interfering components (e.g. PSU, VGA card) within 56mm distance from the center of the PSU.
② There must be no interfering components (e.g. ODD) within 45mm distance from the center of the CPU.
③ Case chassis cover must be distanced at least 135mm away from the motherboard.
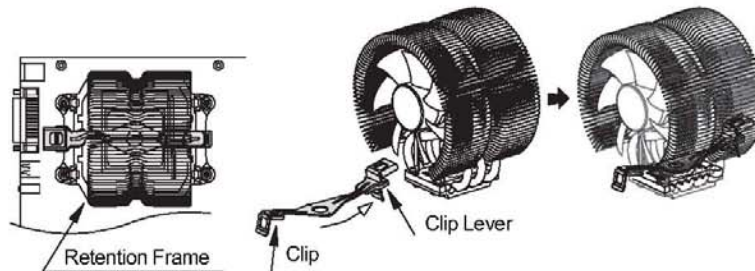

9. Installation

※ Clip Installation Depending on the Orientation of the Retention Frame

[Type-A. Vertically-oriented Retention Frame]

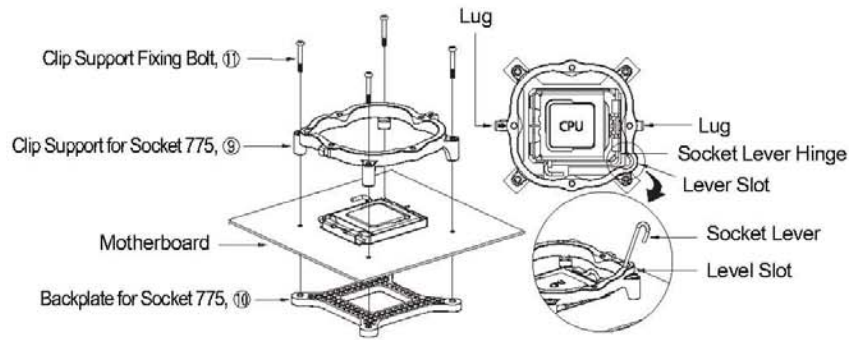[Type-B. Horizontally-oriented Retention Frame]

1) Intel Socket 775
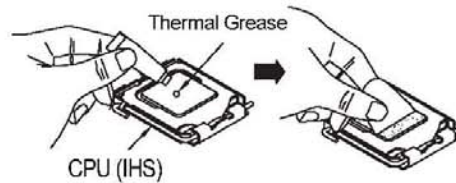
① Clip Support Installation

Align the Clip Support for Socket 775 (⑨) and the Backplate for Socket 775 (⑩) with the mounting holes on the motherboard and fasten them together using the Clip Support Fixing Bolts (⑪). The Lever Slot on the Clip Support for Socket 775 (⑨) must be properly oriented on the hinged side of the Socket Lever when installing.

※ If the Lug of the Clip Support for Socket 775 (⑨) interferes with any motherboard components, install the Clip Support for Socket 775 (⑨) with the Lug facing a different direction to avoid interference.

② Thermal Grease Application

Clear off particles and any residue from the top of the CPU then spread an adequate amount of the included Thermal Grease (②) on the CPU surface thoroughly.
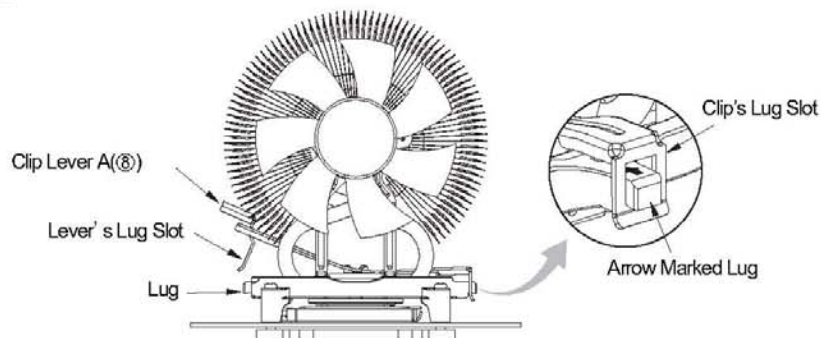

③ Clip Installation

Refer to **"Clip Installation Depending on the Orientation of the Retention Frame"** on page 3 to correctly install the Clip(⑦) according to the orientation of the Retention Frame.

④ Cooler Installation

Insert the Clip Lever A(⑧) into the Clip(⑦). Place the CNPS9500A on the center of the CPU. Connect the Clip' s Lug Slot with the Arrow marked Lug of the Clip Support for Socket 775(⑨). Press onto the Clip Lever A(⑧) when aligning and connecting the Lever' s Lug Slot and the other Lug.

⑤ Power Connection (Fan Mate 2 Connection)

- Please refer to Fan Mate 2 Installation and Usage on page 7.

2) Intel Socket 478

① Clip Support Installation

Assemble one pair of Clip Supports for Socket 478(⑫) as shown in the diagrams below, then insert the assembly into the Retention Fram of the motherboard. Make sure that the assembly remains firmly in place.

Clip Support for Socket 478, ⑫

Retention Frame

② Thermal Grease Application

Clear off particles and any residue from the top of the CPU then spread an adequate amount of the included Thermal Grease (②) on the CPU surface thoroughly.

Thermal Grease

CPU (IHS)

③ Clip Installation

Refer to "**Clip Installation Depending on the Orientation of the Retention Frame**" on page 3 to correctly install the Clip(⑦) according to the orientation of the Retention Frame.

④ Cooler Installation

Insert the Clip Lever A(⑧) into the Clip(⑦). Place the CNPS9500A on the center of the CPU. Connect the Clip's Lug Slot with a Lug of the Clip Support for Socket 478(⑫). Press onto the Clip Lever A(⑧) when aligning and connecting the Lever's Lug Slot and the other Lug.
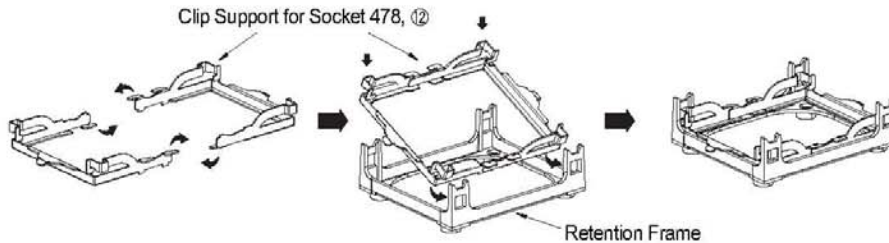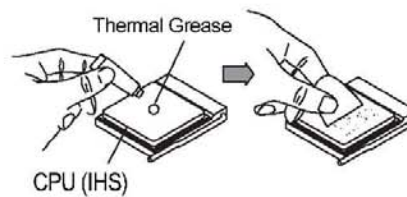

Clip Lever A(⑧)

Lever's Lug Slot

Clip's Lug Slot

Lug

⑤ Power Connection (Fan Mate 2 Connection)

- Please refer to Fan Mate 2 Installation and Usage on page 7.

3) AMD Socket AM2/754/939/940

① Thermal Grease Application

Clear off particles and any residue from the top of the CPU then spread an adequate amount of the included Thermal Grease (②) on the CPU surface thoroughly.
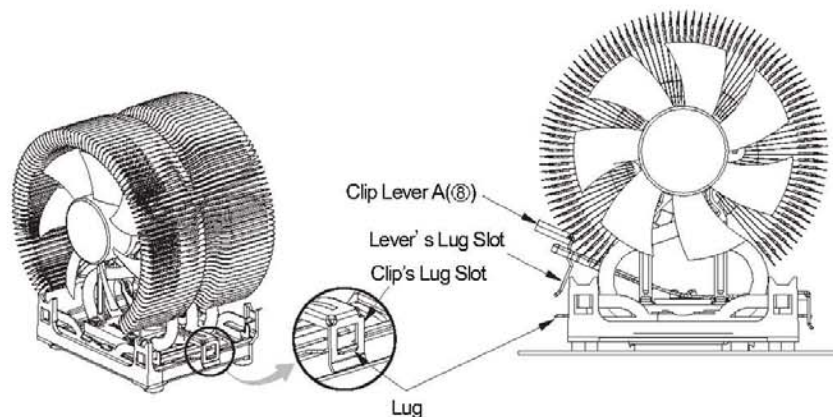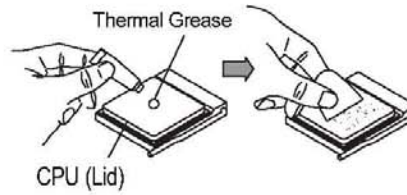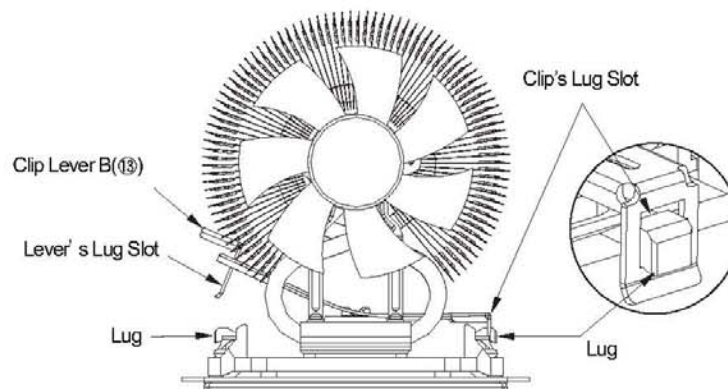

Thermal Grease

CPU (Lid)

② Clip Installation

Refer to **"Clip Installation Depending on the Orientation of the Retention Frame"** on page 3 to correctly install the Clip(⑦) according to the orientation of the Retention Frame.

③ Cooler Installation

Insert the Clip Lever B(⑬) into the Clip(⑦). Place the CNPS9500A on the center of the CPU. Connect the Clip's Lug Slot with a Lug of the motherboard's Retention Frame. Press onto the Clip Lever B(⑬) when aligning and connecting the Lever's Lug Slot and the other Lug.
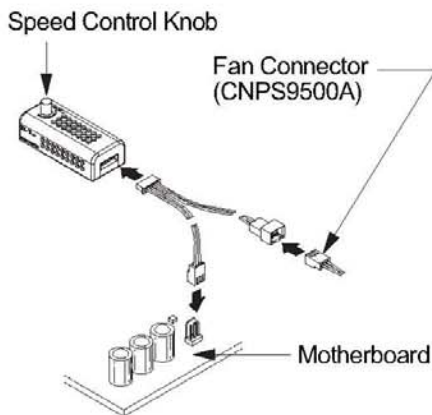

Clip's Lug Slot

Clip Lever B(⑬)

Lever's Lug Slot

Lug

Lug

④ Power Connection (Fan Mate 2 Connection)

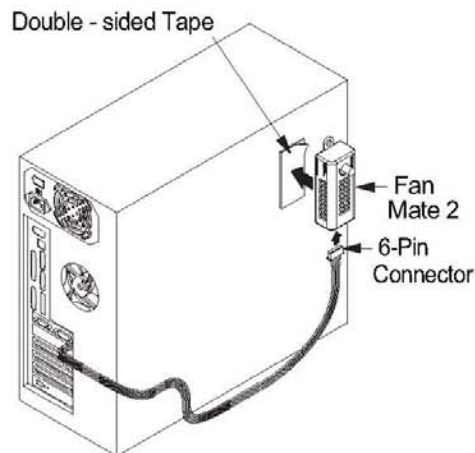- Please refer to Fan Mate 2 Installation and Usage on page 7.

10. Fan Mate 2 Installation and Usage

1) Fan Mate 2 Installation on the Inside of a System

Speed Control Knob

Fan Connector
(CNPS9500A)

Motherboard

Connect the two 3-pin connectors of the cable to the Motherboard and to the CNPS9500A's Fan Connector as shown in the diagram.

2) Fan Mate 2 Installation on the Outside of a System

Double - sided Tape

Fan Mate 2

6-Pin Connector

Pull the 6-Pin Connector out of the system through the back and connect it to Fan Mate 2, which should be installed on the case using the included Double-sided Tape.

◆ The fan operates in Silent Mode when the Speed Control Knob of Fan Mate 2 is fully turned in the counter-clockwise direction. The fan operates in Normal Mode when the Speed Control Knob of Fan Mate 2 is fully turned in the clock-wise direction. The fan speed can be controlled according to user preference by adjusting the Speed Control Knob.

Note) Fan Mate 2 has been specifically designed for the fan of this product. Zalman Tech Co., Ltd. is not responsible for any damages to the system or CPU resulting from its use with other types of fans.

11. Notes on Usage

1) Checking CPU Compatibility
Please refer to "Compatible CPUs" on page 3 to confirm that your CPU is compatible with the CNPS9500A before installing.

2) Caution During Booting
The computer system may automatically shut down when booting the computer after the system monitoring program outputs a warning stating that the CPU fan is rotating slowly. In such a case, fully turn the Speed Control Knob in the clockwise direction before rebooting to disable the 'CPU Fan Detected' option in BIOS, or set the CPU fan's rotational speed to 1,350rpm or lower in the system monitoring program.

Note) Some motherboards fail to boot if the rotational speed of the CPU fan is below a certain rpm. However, booting can be possible even at low fan rpm if the BIOS settings are updated. For more information on updating your BIOS, please refer to the website of the motherboard's manufacturer. There are motherboards which fail to detect the rpm while operating the cooler in Silent Mode, but this does not affect computing performance.

3) Overclocking
Zalman Tech Co., Ltd. is not responsible for any damages resulting from CPU Overclocking.

12. Zalman Computer Noise Prevention Systems

Zalman's Noiseless Power Supplies, Fanless Northbridge Coolers, Heatpipe HDD Cooler, Noiseless Case Fans, VGA Coolers, and Fan Controllers facilitate stable performance and a noiseless computing environment.

Noiseless Power Supply

Fanless Northbridge Cooler

Heatpipe HDD Cooler

Noiseless Case Fan

Ultra Quiet VGA Cooler

Fan Controller

13. TNN (Totally No Noise) Computer Enclosures

TNN 300

TNN 500AF

TNN Computer Enclosures are the world's first environment-friendly noiseless computer enclosures that operate without the use of a fan. TNN Computer Enclosures use the aluminum enclosure itself as a heatsink. They are ideal for environments that require silence, as well as for home theatre systems and multi-media systems.

14. Home Theatre PC Enclosures

HD160XT

The HD160XT is designed for ultra quiet home theatre
PC operation, utilizing optimized ventilation and anti-vibration reinforcements, making it ideal for environments that require silence such as living rooms, bedrooms, educational facilities, and offices.

For more information, please visit our website.

Disposal of Old Electrical & Electronic Equipment
(Applicable in the European Union and other European countries with separate collection systems)