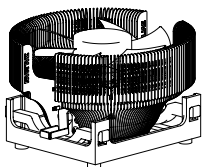


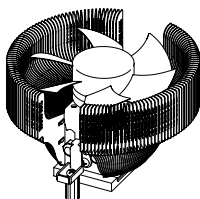
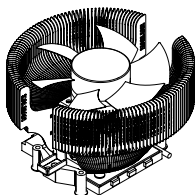
User's Manual

(English Edition)



Intel Pentium 4
Socket 478 CPU

AMD Duron/Athlon/Athlon XP
Socket 462 CPU



AMD Sempron/AMD64 (Athlon 64/Opteron)
Socket 754/939/940 CPU

CNPS7000B

*** Please read 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 and/or pure aluminum base materials ensure excellent heat dissipation.
- 3) Intel Pentium 4 (Socket 478), AMD Duron / Athlon / Athlon XP (Socket 462), and Sempron / AMD64 (Socket 754/939/940) compatible design for broad compatibility.
- 4) 92mm fan inside the FHS maximizes airflow and makes installation easier.
- 5) Adjustable fan speed controller (FAM MATE 2) enables control of noise and fan performance.
- 6) Fan should be set to Normal Mode if OVERCLOCKING.
- 7) Zalman Tech Co., Ltd. is not responsible for any damage resulting from CPU OVERCLOCKING.

2. Specifications

1) Flower Heatsink (FHS)

Spec. \ Model		CNPS7000B-AICu	CNPS7000B-Cu
Weight (g)		438 ⁽¹⁾	755 ⁽¹⁾
T.R. (°C/W)	Silent Mode	0.29	0.27
	Normal Mode	0.22	0.20
Dimensions (mm)		109 (L) X 109 (W) X 62 (H)	
Dissipation Area (cm ²)		3,154	

2) Fan

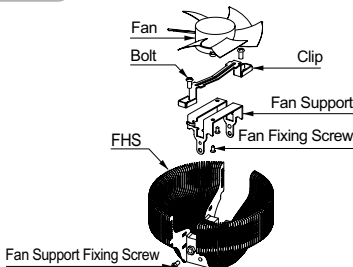
- Bearing Type : 2-Ball
- Rotation Speed : 1,350rpm \pm 10 % (Silent Mode)
2,400rpm \pm 10 % (Normal Mode)
- Noise Level : 20dB \pm 10% (Silent Mode) - measured at 1m distance from noise source
25dB \pm 10% (Normal Mode) - measured at 1m distance from noise source

3) FAN MATE 2

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

Note 1) The maximum weight for a cooler is specified as 450g for Intel Socket 478 and AMD Socket 754/939/940 and 300g for AMD Socket 462. Special care should be taken when moving a computer equipped with a cooler which exceeds the relevant weight limit. Zalman is not responsible for any damage that occurs when moving a computer.

3. Exploded View



4. Patents

- ❖ Korean Patent Application No. 00-54635
- ❖ Korean Design Applications Nos. 02-17470, 02-25208, 02-25209, etc.
- ❖ Patent Applications pending in over 20 nations around the world, including USA, EU, and Japan

Precautions

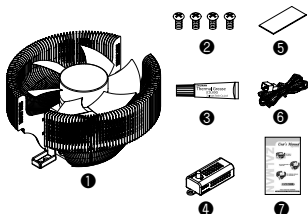
- 1) If excessive force is exerted on the fan, it may malfunction and result in damage to the product and/or the computer.
- 2) Do not put your finger in the fan while it is running.
- 3) Keep the product away from children.
- 4) Check the components list and condition of the product before installing. If there is any problem, contact the shop where you purchased it and get a replacement or refund.
- 5) The exposed core of a Socket 462 CPU can be cracked if proper care is not taken. Read the "Installation" section thoroughly before installing.

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

5. Components

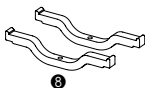
1) Common Components

- ① FHS Assembly (CNPS7000B-A/Cu/Cu)
- ② Four (4) Bolts (for installing the FHS)
- ③ Thermal Grease
- ④ Fan Speed Controller (FAN MATE 2)
- ⑤ Double - sided Tape (for installing FAN MATE 2)
- ⑥ Cable for FAN MATE 2
- ⑦ User's Manual (in English and Korean)



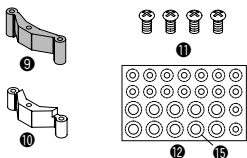
2) Components for Intel Pentium 4 (Socket 478)

- ⑧ Two (2) Clip Supports For Socket 478



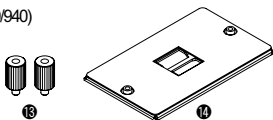
3) Components for AMD Duron / Athlon / Athlon XP (Socket 462)

- ⑨ One (1) A-Type (blue) Clip Support for Socket 462
- ⑩ One (1) B-Type (white) Clip Support for Socket 462
- ⑪ Four (4) Bolts (for fastening the Clip Supports)
- ⑫ One (1) set of Washers



4) Components for AMD Sempron / AMD64 (Socket 754/939/940)

- ⑬ Two (2) Nipples
- ⑭ One (1) Backplate
- ⑮ Big washers (from component ⑫)



6. Compatible CPUs

1) Intel Pentium 4 - Socket 478

All speeds of Pentium 4 Socket 478 CPUs up to 3.4GHz

When using 3.4GHz Northwood CPU or Prescott CPUs of 2.8A/E GHz or faster, please refer to the following table to set the fan speed accordingly for sufficient cooling.

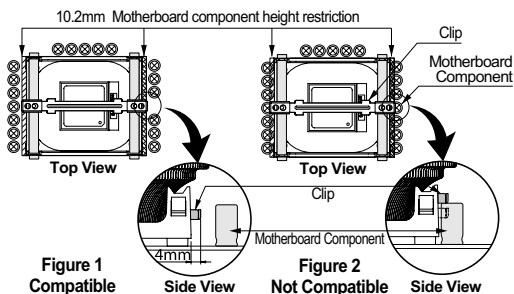
< CNPS7000B Fan Speed Table >

Cooler \ CPU	Northwood	Prescott
	3.4	2.8A/E, 3.0E, 3.2E, 3.4E
CNPS7000B-AICu	2,500 rpm or faster	
CNPS7000B-Cu	2,200 rpm or faster	

※ Fan speed of 2,500rpm can be obtained by directly connecting 3-pin fan connector to motherboard. (Without Fan Controller)

Cautions)

- ① As shown in Figure 2, a motherboard that is not compliant with the "10.2mm Motherboard component height restriction" standard, introduced by Intel, may create interference between components and the clip. Please do not install the CNPS7000B if this interference is observed.
- ② No components higher than 39mm (possible examples : PSU, graphics card, RAM, etc.) should be present within a 55mm radius from the center of the CPU to install this product.
- ③ For more information, please visit the Zalman website (<http://www.zalman.co.kr>) and click on "Compatibility between CNPS7000(A/B) and Socket 478 Pentium 4 Motherboards" link.

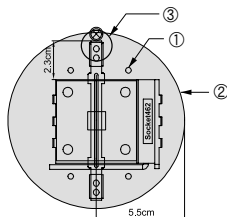


2) AMD Duron / Athlon / Athlon XP - Socket 462

All CPUs conforming to Socket 462 platform

Cautions)

- ① This product requires "Heatsink Attach Holes" around the CPU socket as shown on the right.
- ② No components higher than 39mm (possible examples : PSU, graphics card, RAM, etc.) should be present within a 55mm radius from the center of the CPU to install this product.
- ③ This product cannot be installed if any motherboard component (usually capacitor) taller than 15mm is located under the clip.
- ④ For more information, please visit the Zalman website (<http://www.zalman.co.kr>) and refer to "CNPS7000(A/B) Compatible Socket 462 Motherboards List" link.

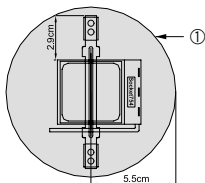


3) AMD Sempron / AMD64 - Socket 754/939/940

All CPUs conforming to Socket 754/939/940 platform

Cautions)

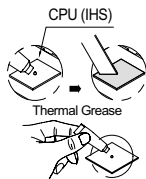
- ① No components higher than 39mm (possible examples: PSU, graphics card, RAM, etc.) should be present within a 55mm radius from the center of the CPU to install this product.
- ② For more information, please visit the Zalman website (<http://www.zalman.co.kr>) and refer to "CNPS7000(A/B) "Compatible Socket 754/939/940 Motherboards List" link.



7. Installation (Intel Pentium 4 - 478)

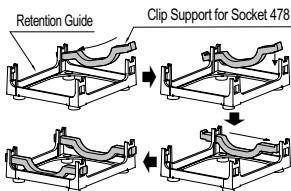
1) Apply Thermal Grease

Clean off particles and residue and then spread the included thermal grease thinly and evenly over the CPU that touches the FHS surface.



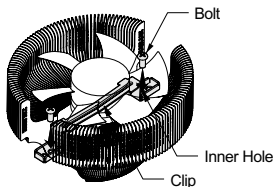
2) Install Clip Supports for Socket 478

Install the clip supports for socket 478 on both sides of the retention guide as shown on the right.



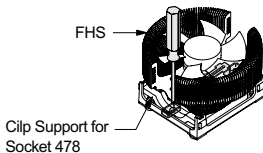
3) Insert Bolts

Insert the two bolts into the inner holes of the clip.



4) Place FHS

Set the FHS at the center of the CPU. Screw the bolts in slightly, and then tighten them in an alternating fashion until the clip supports are completely pressed against the clip.



5) Supply Power (Connect FAN MATE 2)

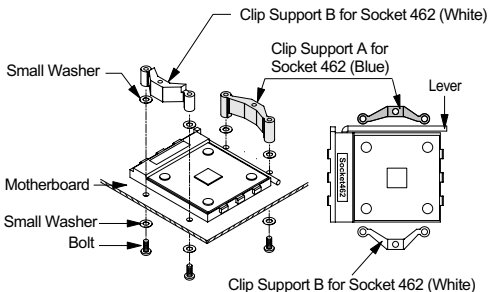
- ◆ Please refer to FAN MATE 2 Installation and Usage on page 7.

8. Installation (AMD Duron / Athlon / Athlon XP - 462)

1) Install Clip Supports for Socket 462

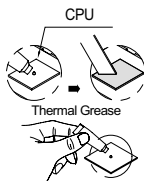
Install the clip supports for socket 462 on the motherboard. **Make sure to place A-type (blue : installed near the lever) and B-type (white) supports at the appropriate location.**

The installation should be done in the order of : bolts > small washers > motherboard > small washers > clip supports (see below).



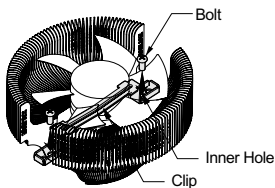
2) Apply Thermal Grease

Clean off particles and residue and then spread the included thermal grease thinly and evenly over the CPU core that touches the FHS surface.



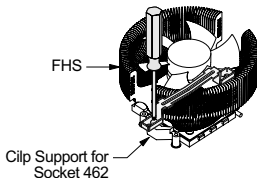
3) Insert Bolts

Insert the two bolts into the inner holes of the clip.



4) Place FHS

Set the FHS at the center of the CPU. Screw the bolts in slightly, and then tighten them in an alternating fashion until the clip supports are completely pressed against the clip.



5) Supply Power (Connect FAN MATE 2)

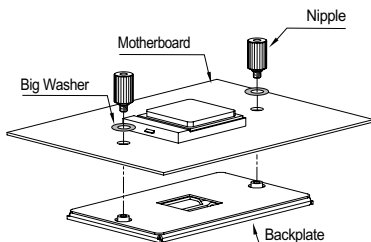
◆ Please refer to FAN MATE 2 Installation and Usage on page 7.

9. Installation (AMD Sempron / AMD64 - 754/939/940)

1) Fasten Nipples

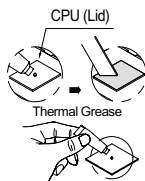
Place a big washer on the motherboard. Then, put a nipple over it and fasten the nipple until the motherboard is firmly stuck to the backplate.

* Retention Guide is not needed when installing CNPS7000B on Socket 754/939/940.



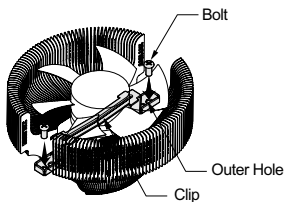
2) Apply Thermal Grease

Clean off particles and residue and then spread the included thermal grease thinly and evenly over the CPU that touches the FHS surface.



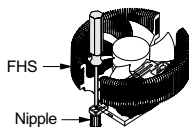
3) Insert Bolts

Insert the two bolts into the outer holes of the clip.



4) Place FHS

Set the FHS at the center of the CPU. Screw the bolts in slightly, and then tighten them in an alternating fashion until the nipples are completely pressed against the clip.

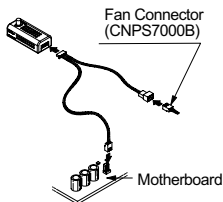


5) Supply Power (Connect FAN MATE 2)

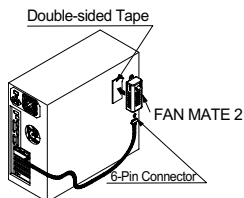
◆ Please refer to FAN MATE 2 Installation and Usage on page 7.

※ FAN MATE 2 Installation and Usage

- 1) Installing FAN MATE 2 on the Inside of the System
- 2) Installing FAN MATE 2 on the Outside of the System



Connect the appropriate 3-pin connector on the cable to the motherboard fan header and the CNPS7000B's fan 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.

- ◆ When the speed control knob on FAN MATE 2 is turned fully counter-clockwise, the fan operates in Silent Mode. Turned fully clockwise, it operates in Normal Mode. You can select the desired fan speed by turning the knob.

Note) FAN MATE 2 has been specifically designed for the fan of this product. Zalman Tech Co., Ltd. is not responsible for any damage to systems or CPUs caused by using it with other types of fans.

10. Notes on Usage

1) Checking CPU Compatibility

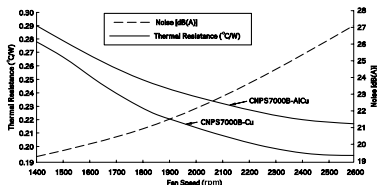
Please refer to "Compatible CPUs" on page 3 to confirm that your CPU is compatible before using the CPU cooler.

2) Cautions During Booting

When booting the computer, it may automatically power down after an alarm sound by a system monitoring program to indicate that the CPU fan is rotating slowly. If this happens, turn the speed control knob fully clockwise to increase the fan speed. Then set 'CPU Fan Detected' to 'Disabled' in the BIOS settings, or set the slowest rotational speed of the CPU fan in the system monitoring program to less than or equal to 1,300rpm.

Note) Some motherboards do not boot if the rotational speed of the CPU fan is below a certain rpm. If the BIOS settings are updated, Silent Mode can be used. For more information on updating your BIOS, please refer to your motherboard manufacturer's website. Disabling CPU fan speed detection in BIOS settings does not affect computer performance.

11. Thermal Resistance (°C/W) & Noise (dB) Curve



12. Zalman Noise Prevention System

When building a noiseless computer, use Zalman's Noiseless Power Supply, Noiseless Case Fan, Fanless Northbridge Cooler, Heatpipe HDD Cooler, Heatpipe VGA Cooler, and Fan Controller to achieve stable performance and maintain a noiseless environment.



Noiseless Power Supply



Fanless Northbridge Cooler



Heatpipe HDD Cooler



Noiseless Case Fan



Heatpipe VGA Cooler



Fan Controller