

**ZALMAN**<sup>®</sup>  
Zalman Tech Co., Ltd.

# *User's Manual*

**CNPS6000-AI**  
**CNPS6000-AICu**  
**CNPS6000-Cu**

Zalman's CNPS6000-AI / 6000-AICu / 6000-Cu coolers include a new fan assembly (FB123) with an adjustable bracket and a bigger fan for better cooling performance. The new fan assembly can be positioned to provide optimal cooling in almost any motherboard/standard case configuration and allows an additional fan to be installed for cooling a NP VGA Card.

## 1. Features

- 1) Zalman's CPU Coolers do not generate noise and vibration in Silent Mode.
- 2) The heat dissipating material of the Flower HeatSink (FHS) is Pure Aluminum or Copper.
- 3) Separation of the FHS from the CPU fan prevents transfer of the fan's vibration to the CPU.
- 4) **By utilizing a 92mm fan, both the CPU and the motherboard chipset are cooled.**
- 5) **The cooling fan can be mounted at any desired location, making it compatible with virtually all computer cases and motherboards** (Note: computer cases that have the power supply covering the CPU cannot be used).
- 6) **With the included adjustable fan speed connector, the user can freely adjust the CPU fan's RPM.**
- 7) CPU can be cooled to a temperature sufficiently below the temperature required by the CPU manufacturer in Silent Mode.
- 8) Zalman's CPU Coolers enable very stable operation of a CPU in an OVERCLOCKED environment.
  - \* If you try OVERCLOCKING, please make sure that the fan is in Normal Mode.
  - \* Zalman Tech. Co., Ltd. is not responsible for any damage to a system or a CPU caused by CPU OVERCLOCKING.

## 2. Components

- 1) FHS : ZM6558BC-XXXX
- 2) NP FAN & Bracket : FB123
- 3) Thermal Grease
- 4) Screw bolts (Inch-sized/mm-sized bolts)
- 5) Clip
- 6) One Adjustable Fan Speed Connector (FAN MATE 1)
- 7) Heatsink Installation Tool (Clip Mate)

## 3. Specifications

### 1) FHS

Model		CNPS6000-AI	CNPS6000-AICu	CNPS6000-Cu
Spec.	Part No.	ZM6558BC-AI	ZM6558BC-AICu	ZM6558BC-Cu
<b>Dimensions (mm)</b>		105~110(L) × 63(W) × 65(H)		
<b>Dissipating Area (cm<sup>2</sup>)</b>		2600		
<b>Base Material</b>		Pure Aluminum	Pure Aluminum + Pure Copper	Pure Copper
<b>Weight (g)<sup>(1)</sup></b>		170	270	462
Thermal Resistance (C/W)	Silent Mode	0.37	0.33	0.31
	Normal Mode	0.29	0.25	0.23

Note 1) The maximum weight for a heatsink is specified as 180 g by Intel(Pentium III) and as 300 g by AMD.

Should a heatsink which exceeds the relevant weight limit be installed in a computer , special care should be taken when the computer is moved. Zalman Tech. Co., Ltd. is not responsible for any damage to a system or a CPU occurring when moving a computer with an overweight heatsink.

\* The specifications of any product may change without prior notice to improve the performance thereof.

## 2) Fan

- ① Dimensions : 92(L) X 92(H) X 25(W)mm
- ② Weight : 85g
- ③ Speed : Silent mode : 1300 RPM  $\pm$  10%
- ④ Noise : Silent mode : 20.0dB  $\pm$  10%
- Normal mode : 2500 RPM  $\pm$  10%
- Normal mode : 32.0dB  $\pm$  10%
- ⑤ Bearing Type : 2-Ball

## 2) FAN MATE 1

- ① Dimensions : 200(L) X 23(W) X 21(H) mm
- ② Weight : 20 g
- ③ Speed : Output Voltage : 5V  $\sim$  11 V  $\pm$  2%
- ④ Allowable Wattage : 6W or lower

## 4. Compatibility of CPU : Socket 462 - AMD Duron, AMD Athlon, AMD Athlon XP Socket 370 - INTEL Pentium III, VIA C3

CPU Type Model		INTEL, VIA	AMD				
		PentiumIII,C3	Duron	Athlon	Athlon XP (1600+)	Athlon XP (T-Bird) (2000+)	
CNPS6000-AI	Silent mode	Supports all current CPU Clock speeds	Supports all current CPU Clock speeds	1.46Gltz	Up to 1.33Gltz	Up to 1.46Gltz (1600+)	Up to 1.67Gltz (2000+)
	Normal mode				Over 2.13Gltz(2600+)		
CNPS6000-AICu	Silent mode				Up to 1.67Gltz (2000+)	Up to 2.13Gltz (2600+)	
	Normal mode				Over 2.13Gltz(2600+)		
CNPS6000-Cu	Silent mode				Over 2.13Gltz(2600+)		
	Normal mode				Over 2.13Gltz(2600+)		

## 5. Please keep the following in mind for a noiseless computer

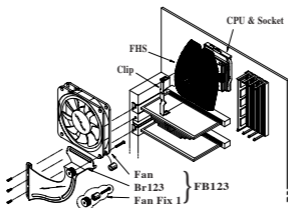
- 1) For a noiseless computer, a Noise Prevention (NP) Power Supply, a NP HDD, a NP CD-ROM and a NP VGA Card should be used together with this cooler.
- 2) Zalman affixes a Computer Noise Prevention System (CNPS) Mark to each of its parts and components used for noiseless computers.
- 3) For a high-performance NP VGA Card, it is preferable to use a VGA FHS.
- 4) When buying a new VGA Card, it is recommended to buy a VGA Card without a fan.

## 6. Patent Applications

- ◇ Korean Patent Application No. 01-11056
- ◇ Patent Applications Pending in over 20 nations around the world, including the U.S., EU, and Japan

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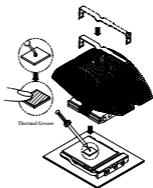
## Exploded drawing of the product



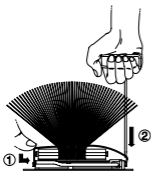
< Figure 1 >

## Installation of FHS

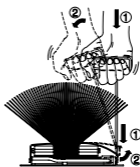
1. Spread the thermal grease thinly onto the CPU core's surface that comes in contact with the FHS as shown in Figure 2.
2. Install the clip across the FHS as shown in Figure 2
3. Hook the short leg of the clip onto the socket first, then hook the long leg on by pushing the hole in the leg with the heatsink installation tool or an ordinary screw driver as shown in Figure 3.
4. If you need to reinstall the FHS, remove the clip by inserting the heatsink installation tool into the clip's hole and pushing outward, as shown in Figure 4.



< Figure 2 >



< Figure 3 >

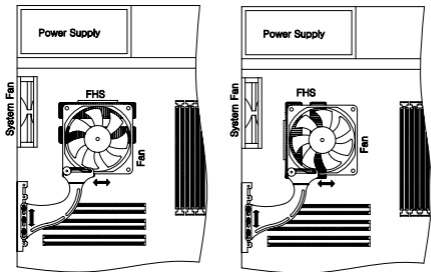


< Figure 4 >

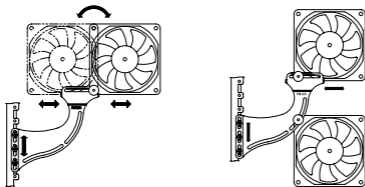
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## Installation of fan bracket

1. As shown in Figure 6, you can freely place the fan and the bracket in any desired location with the FB123. Therefore, place the fan in an ideal location as shown in Figure 5. You can also place an additional fan on the FB123 to maximize the cooling of the VGA Card as shown in Figure 7.
2. Screw on the FB123 firmly at the VGA Card slot hole and the expansion slot hole next to it with the included bolts. (Caution! The included bolts are of two types: inch-sized and mm-sized. Use the appropriate type for the slot holes.)



< Figure 5 >



< Figure 6 >

< Figure 7 >

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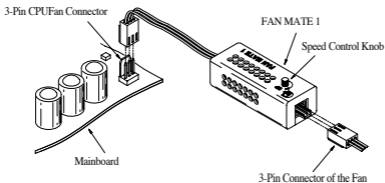
## Adjusting Fan Speed

1. Connect FAN MATE 1 (adjustable fan speed connector) to the 3-pin connector of a fan as shown in Figure 8.
2. Connect FAN MATE 1 to the 3-pin CPU fan connector of the mainboard.
3. Turn on the computer after assembly is finished.
4. When booting a computer in which FAN MATE 1 is used, an alarm sound may be generated by a system monitoring program to indicate that the rotation of the CPU fan is slow. If this happens, you may turn the speed control knob fully clockwise to increase the fan speed, set "CPU Fan Detected" to "Disabled" in the BIOS settings, or set the slowest rotation of the CPU fan in the system monitoring program to less than or equal to 1500RPM.

**Note 1) Some mainboards do not boot if the rotation of the CPU fan is below a certain number of RPM. If the BIOS settings are updated, Silent Mode can be used. For more information on updating BIOS, please refer to your mainboard manufacturer's web site.**

5. First check what CPU you are using, then check the CPU compatibility list on page 2. When the speed control knob is turned fully counter-clockwise, the fan speed is minimum and the fan operates in silent mode. You can select the desired fan speed by turning the knob.

**Note 2) FAN MATE 1 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.**



< Figure 8 >

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❖ For more information on this product, visit our homepage at [www.zalman.co.kr](http://www.zalman.co.kr). ❖