USER'S MANUAL

[English] Please read this USER'S MANUAL carefully before installation

Applicable Models

- **ZEROtherm BTF80(100% Aluminum Fin)**
- **ZEROtherm BTF90(100% Copper Fin)**

Specifications

Models		BTF80	BTF90
Dimension (L x W x H)		108 x 81 x 128 mm (5.04 x 3.19 x 4.25 inch)	
Material	Fin	Aluminum	Copper
	Base	Copper	
	Heat Pipe	Copper(Sintered type)	
Heat dissipation area		4,404cm² (682.6inch²)	
Cooling capacity		Over 140W	Over 150W
Fan size		92 x 25mm (3.62 x 0.98 inch)	
Fan speed		750 ~ 2,500rpm±10%	
Acoustical noise		Under 27.0dB±10%	
Connector		4-pin(PWM)	
Operating voltage		12 VDC	
Consuming power		Max. 1.54W	
Airflow		Max. 42.8CFM	
Weight (W/O Optional Components)		458g	678g

Features

Silence Innovations
• Ultra maglev forms oil protection bearing technology adapted
• PWM fan speed control (750~2,500rpm)
• Optimized airflow design

Killer Performance
• Efficient 8-line heat pipe effects
• Polished copper base for better thermal conductivity
• High performance thermal grease adapted(TC-5022)

Creative & Cool Design
• Unique butterfly motif fins
• Super bright LEDs

Compatibility
• Intel socket 775 up to Core™2 Duo
• AMD socket 754, 939, 940 and AM2

Patents

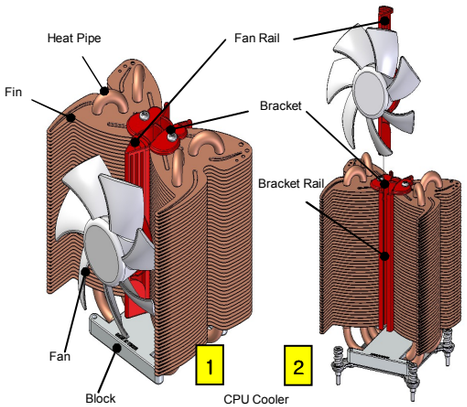
- Republic of Korea patent application No. : 40-0564565-0000
- Republic of Korea design application No. : 30-2006-21470
- Patent applications pending around the world including USA, EU, and Japan

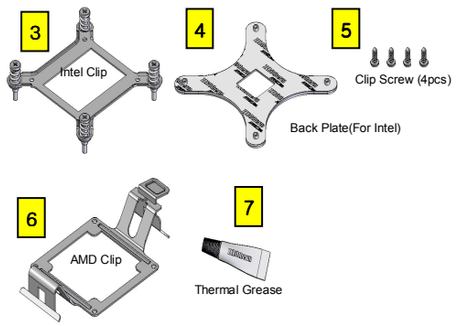
Precaution

- CPU and motherboard are subject to damage if the product is incorrectly installed. Familiarize yourself with this "USER'S MANUAL" before installing the product.
- Excessive force may result in malfunction or damage to the fan, the product or the computer. Avoid inserting any objects into the fan while operating.
- The product is not compatible with a slim body type case. Please check the compatibility at www.zerotherm.co.kr (or www.apack.net)
- APACK Inc is not responsible for any damage to the product, and/or the computer including CPU resulted from:
  1). Incorrect installation
  2). CPU overclocking.

Components

① CPU Cooler (front view)
② CPU Cooler (Separated Fan)
③ Intel Clip
④ Back Plate (for Intel)
⑤ Clip Screws (4 pcs, for Intel)
⑥ AMD Clip
⑦ Thermal Grease
⑧ User's Manual





Installation(Intel–Socket 775)

- **Install Back Plate**

1) Remove the thin paper film from the back plate to expose the insulating tape. [Picture 4]
2) Attach the back plate to the back side of the main board with the socket RM (Retention Mechanism) holes lined up.

- **Spread Thermal Grease**

1) Clean off particles or dust from the top of the CPU.
2) Spread thermal grease thinly and evenly on top of the CPU

- **Install Intel Clip**

1) Install Intel clip using a screw driver on the bottom of the cooler
[Caution] Excessive force may damage the heat pipes. It is easy to install the clip after laying the product down sideways like [Picture 8].

- **Separate Fan Component**

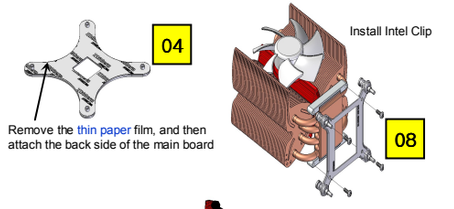
1) In order to install the product on Intel CPU, the fan should be separated from the unit.
2) Gently grasp the fan rail (Red Bar) and pull it up and out of the unit.
3) If you use a bar or a driver like [Picture 9], you can easily pull the fan up and out of the unit.
[Caution] Be careful not to damage the fins when you pull the fan up with a bar or a driver.

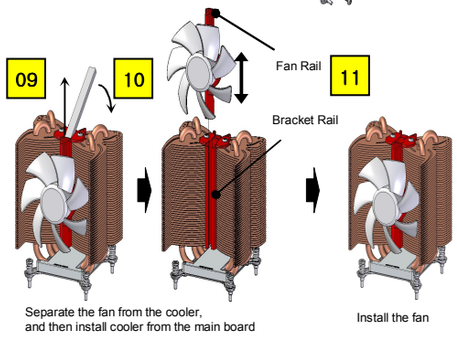
- **Install Cooler**

1) Fasten the screws with a driver and install the cooler on the CPU.
[Caution] Make sure that there are no interfering components before installing the cooler.

- **Install Fan Component**

1) Push the fan down on the bracket rail like [Picture 10 and 11]





Installation(AMD–Socket 754/939/940/AM2)

- **Spread Thermal Grease**

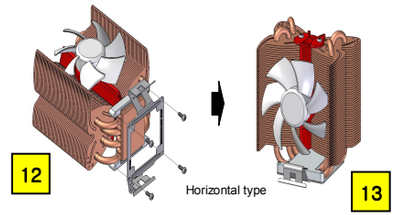
1) Clean off particles or dust from the top of the CPU.
2) Spread thermal grease thinly and evenly on top of the CPU

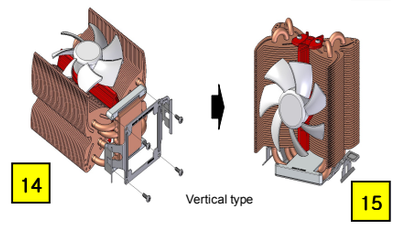
- **Install AMD Clip**

1) Install AMD clip using a driver on the bottom of the cooler
2) The AMD clip can be installed horizontally or vertically in accordance with your motherboard's RM (Retention Mechanism).
[Caution] Excessive force may damage the heat pipes. It is easy to install the clip after laying the product down sideways like [Picturer 12~ 15]

- **Install Cooler**

1) Fasten the screws with a driver and install the cooler on the CPU.
[Caution] Make sure that there are no interfering components before installing the cooler





Waranty & Disclaimer

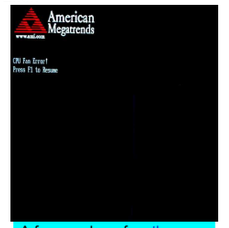
- Warranty : 2 Years from the purchase date
- APACK INC. is not responsible for any damage due to external causes, including but not limited to, improper use, problems with electrical power, accident, neglect, alteration, repair, improper installation, or improper testing.
  - www.zerotherm.co.kr // www.apack.net
  - sales@apack.net

BIOS SETUP

Since ZEROtherm CPU coolers feature extreme low fan speed (RPM) while achieving optimal results, it is possible that you may experience an initial booting error prompting "CPU Fan Error!" This seldom happens since only a few number of mother board brands (including ASUS) report this problem. This "CPU Fan Error!" message has nothing to do with a real system error and can be easily fixed.

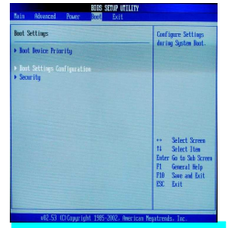
When "CPU Fan Error!" prompts, set up the BIOS as followings:

① Booting Error – CPU Fan Error!



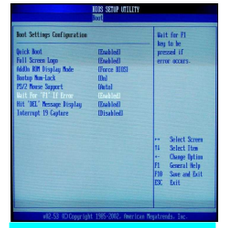
A few number of mother board brands (including ASUS) may prompt "CPU Fan Error!"

② BIOS Setup – Boot tap



Press the "DEL" button on the keyboard to set up the BIOS. Select "Boot" tap and "Boot Settings Configuration"

③ Boot Settings Configuration

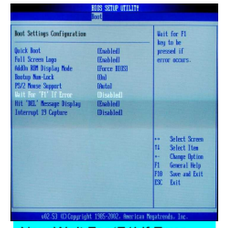


Select 'Wait For 'F1' If Error'

④ "Wait For 'F1' If Error" Options

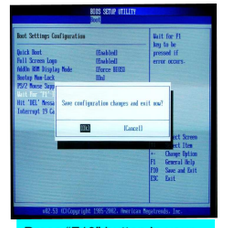
Press the "Enter" button on the keyboard. Change its options into "Disabled".

⑤ Wait For 'F1' If Error – Disabled



Now Wait For 'F1' If Error options are Disabled.

⑥ Save configuration changes and exit



Press "F10" button in your keyboard. Select "OK", when the prompt ask if you want to save configuration changes and exit now.