

## Monitoring

---

## Copyright

The documentation and the software included with this product are copyrighted 2009 by Advantech Co., Ltd. All rights are reserved. Advantech Co., Ltd. reserves the right to make improvements in the products described in this manual at any time without notice. No part of this manual may be reproduced, copied, translated or transmitted in any form or by any means without the prior written permission of Advantech Co., Ltd. Information provided in this manual is intended to be accurate and reliable. However, Advantech Co., Ltd. assumes no responsibility for its use, nor for any infringements of the rights of third parties, which may result from its use.

# Contents

<b>Chapter 1</b>	<b>Introduction.....</b>	<b>1</b>
1.1	Introduction .....	2
1.2	Features .....	2
<b>Chapter 2</b>	<b>System Requirements .....</b>	<b>3</b>
2.1	Hardware.....	4
2.2	Software .....	4
<b>Chapter 3</b>	<b>Installation.....</b>	<b>5</b>
3.1	Installation .....	6
<b>Chapter 4</b>	<b>Programs .....</b>	<b>7</b>
4.1	Functions.....	8
4.2	System Information .....	8
4.3	Hardware Monitor (HWM) .....	9
4.4	WatchDog .....	10
4.5	Setting .....	11
4.6	Alarm.....	12
4.7	About.....	13



# Chapter 1

Introduction

---

## 1.1 Introduction

Monitoring is a utility that enables customers to monitor the system health, like voltage (+1.8 V, +1.5 V, +3.3 V, +5 V, +12 V, -5 V and -12 V for different devices such as CPU, Chipset, ISA Bus, PCI Bus, etc.), CPU, and system temperature and fan speed. These items are important to a device; if critical errors occur and are not resolved immediately, permanent damage may be caused.

## 1.2 Features

- Monitor the hardware: Monitor the voltage, fan, and temperature.
- Monitor the operation system: We also have the watchdog timer; it will monitor the operation system; if the operation system crashes, it will trigger the system to reboot.
- Easy user interfaces: The Monitoring has easy user interfaces for users to monitor the system health & do alarm settings for pre-defined critical thresholds.
- Runs in background: It will run in background as a service; when and if an error occurs, it will pop up a warning and record the error in the log file.

# Chapter 2

## System Requirements

---

## 2.1 Hardware

This utility only supports Advantech ePlatforms; please see the release notes to make sure your platform is supported before using it.

## 2.2 Software

- SUSI V3.0 driver and API are required
- dot NET Framework 2.0 required
- Windows XP Professional
- Windows XP Embedded
- Windows Embedded standard



# Chapter 3

## Installation

---

## 3.1 Installation

In Windows XP, you can install the program into the platform easily by using the installation tool, i.e. Advantech Monitoring Installer.

The following “Express Installation” section illustrates the entire process of installation.

**Note!** *The Advantech Monitoring Installer screens below are representative. The screens you see may vary somewhat according to version.*



### Express Installation

1. Double-click the "Setup.exe" file.
2. The installer searches for a previous installation of Advantech Monitoring Utility. If it locates one, a screen displays asking whether you want to repair or remove the software. Respond according and click Next to complete the installation.

# Chapter 4

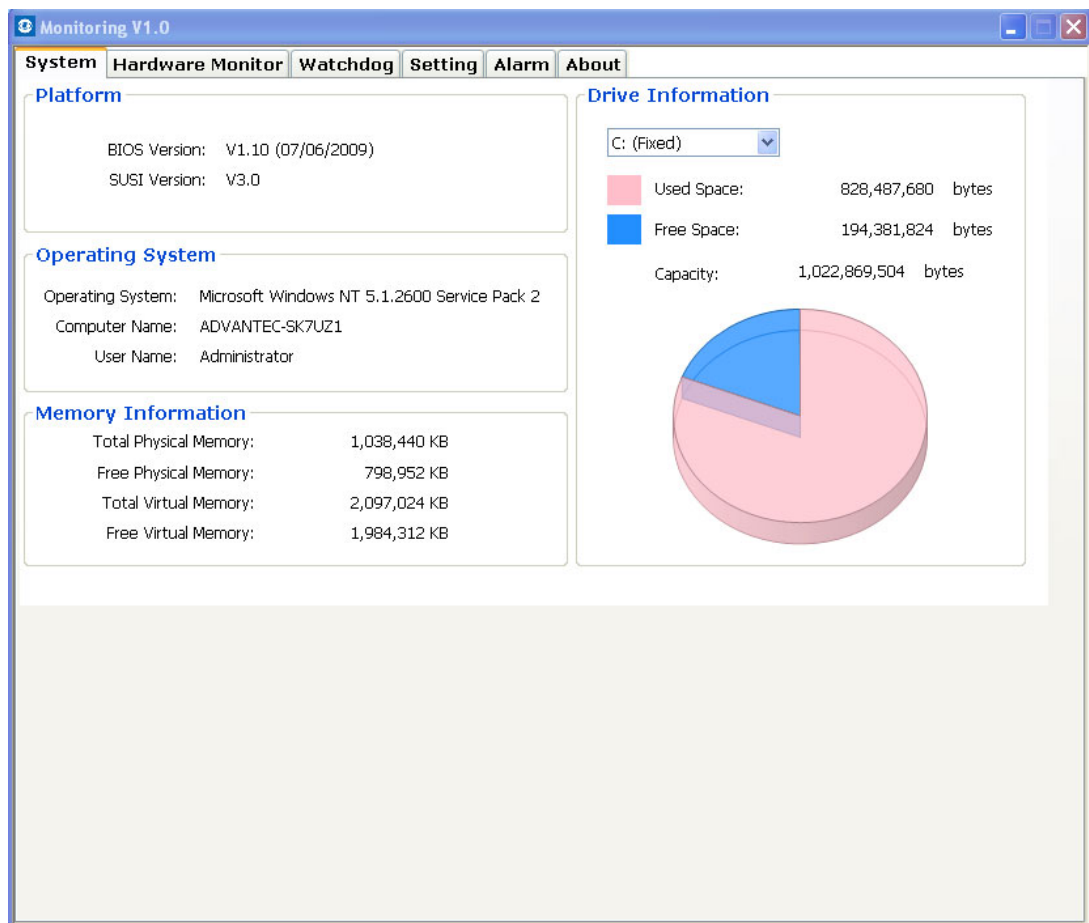
## Programs

## 4.1 Functions

1. System Information: Platform name, operation system, memory and HDD information
2. Hardware Monitor: Voltage, fan, temperature
3. WatchDog: WatchDog timer
4. Setting: Critical pre-defined thresholds
5. Alarm: Popup error message, keep the alarm log
6. About: Company logo

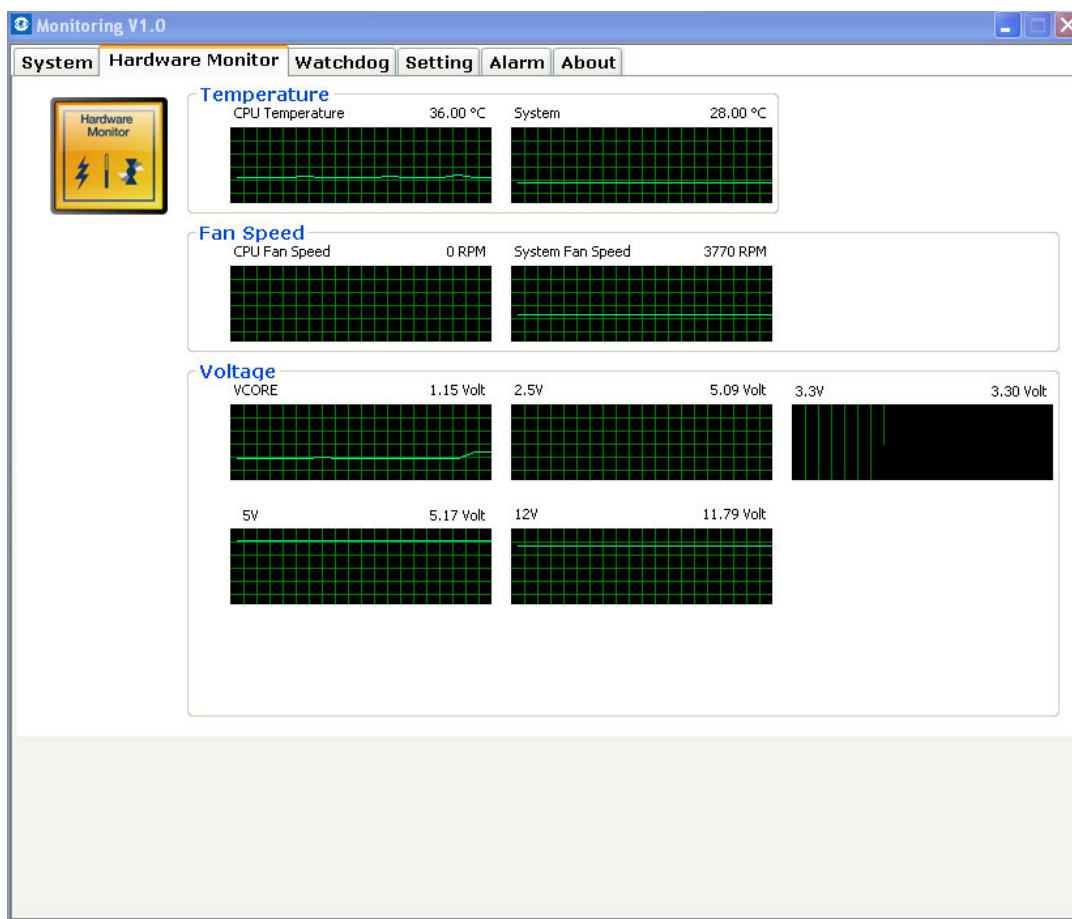
## 4.2 System Information

This page collects the information regarding platform, BIOS, SUSI, operation, memory and hard-disk.



## 4.3 Hardware Monitor (HWM)

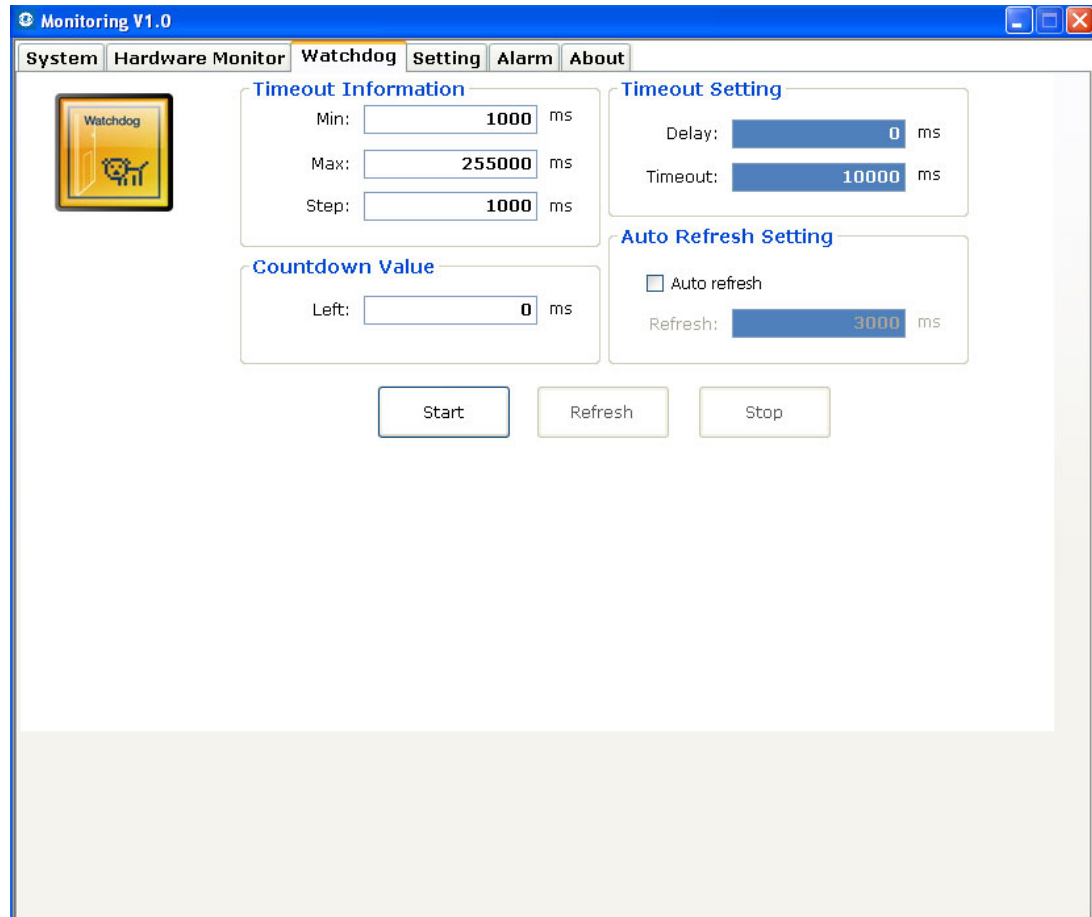
Hardware monitor contains three features: temperature (system and CPU), voltage (several, from power supply) and fan speed (system and CPU). These items are important to the operation of system and if errors happen, they may result in permanent damage to the PC; if any item goes out of its normal range, a warning message will pop up to alert the user to take appropriate action.



## 4.4 WatchDog

Watchdog timer (WDT) is a function that performs a specific operation after a certain period of time if something goes wrong with the system.

A watchdog timer can be programmed to restart the system after a certain time period when a program or computer fails to respond or hangs.



When MONITORING executes, it shows watchdog information in "Timeout Information" field - "Min", "Max", and "Step" of timeout in milliseconds. For example, a range 1~255 seconds, 1000 appears in the "Min" text box, 255000 appears in the "Max" text box, and 1000 appears in the "Step" text box.

Here is an example of how to use it:

- Type 10000 (10 sec.) in the "Timeout" text box and optionally type 1000 (1 sec.) in the "Delay" text box. Click the "Start" button. The "Countdown value" tab will show the approximate countdown value. (This is a software timer in the demo program, not the actual watchdog hardware timer so it is not totally accurate.)
- Before the timer counts down to zero, you may reset the timer by clicking the "Refresh" Button, or just hit "Stop."
- "Auto Refresh Setting" is used to monitor the operation system; if the OS crashes, it will not be able to refresh itself, so the OS will reboot.

## 4.5 Setting

The setting page is used to set the minimum and maximum on temperature, fan speeds and voltages; when the real value goes beyond a set limit, the error will be recorded on the Alarm page.

In "Setup", you can elect if you want to show a pop-up if an error occurs, and whether or not to launch the Monitoring utility when the system starts up.

**Monitoring V1.0**

System Hardware Monitor Watchdog **Setting** Alarm About

**Setup**

☐ Pop-up if errors

☒ Launch when start up

**Temperature**

☒ System Temperature

Minimum	Maximum
0.00	60.00

☒ CPU Temperature

Minimum	Maximum
0.70	60.00

**Fan Speed**

☒ CPU Fan Speed

Minimum	Maximum
4650	19950

☐ System Fan Speed

Minimum	Maximum
1000	20000

☐ Other Fan Speed

Minimum	Maximum
1000	20000

**Voltage**

☐ V CORE

Minimum	Maximum
1.00	1.50

☐ 2.5V

Minimum	Maximum
2.30	2.70

☐ 3.3V

Minimum	Maximum
3.10	3.50

☐ 5V

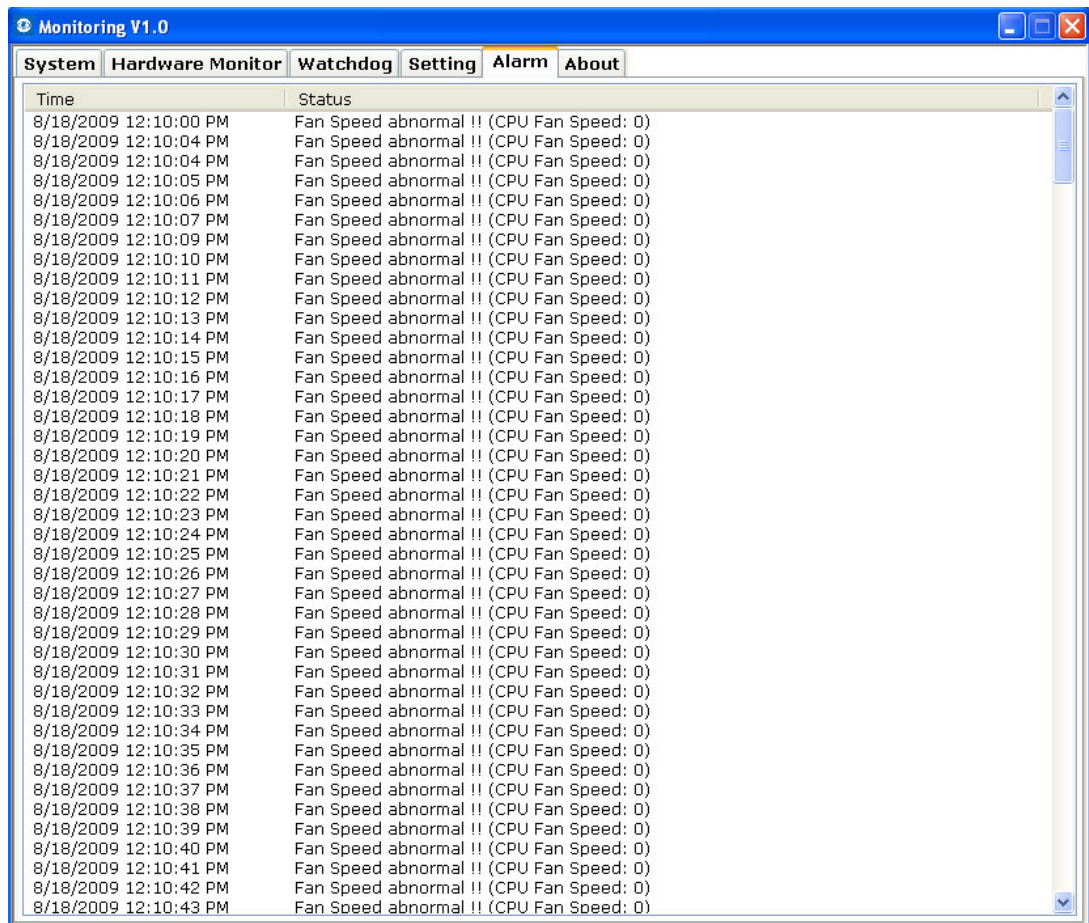
Minimum	Maximum
4.90	5.20

☐ 12V

Minimum	Maximum
11.50	12.50

## 4.6 Alarm

On the Alarm page, all errors will be recorded by time and status.

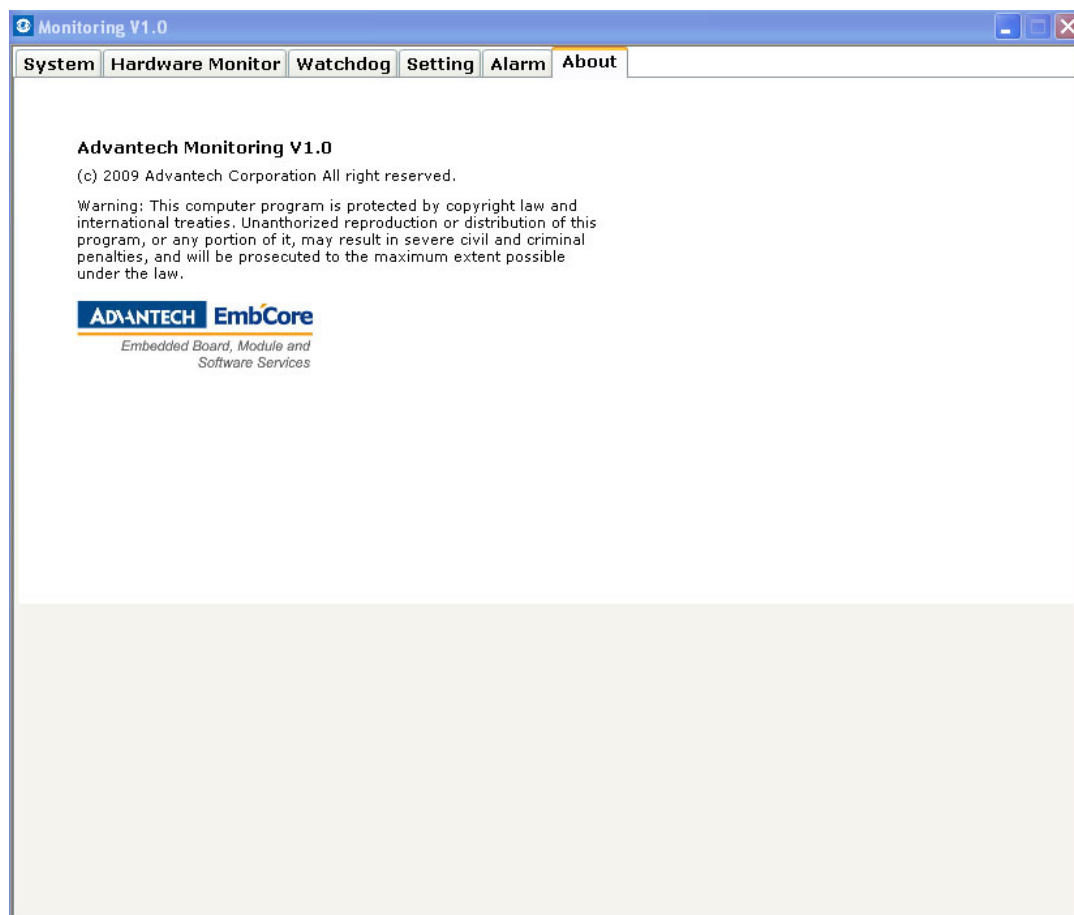


System	Hardware Monitor	Watchdog	Setting	Alarm	About
Time	Status				
8/18/2009 12:10:00 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:04 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:04 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:05 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:06 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:07 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:09 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:10 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:11 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:12 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:13 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:14 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:15 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:16 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:17 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:18 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:19 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:20 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:21 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:22 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:23 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:24 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:25 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:26 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:27 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:28 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:29 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:30 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:31 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:32 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:33 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:34 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:35 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:36 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:37 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:38 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:39 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:40 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:41 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:42 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				
8/18/2009 12:10:43 PM	Fan Speed abnormal !! (CPU Fan Speed: 0)				



## 4.7 About

Company or legal information. Advantech's Embedded Core Service (Emb'Core) is an open business model that provides integrated software and module solutions to speed up application development. The key proficiencies of Embedded Core Services are software, firmware, and hardware module integration capability that offer customized solutions. For further information please email: [EmbCore@advantech.com](mailto:EmbCore@advantech.com).



## **[www.advantech.com](http://www.advantech.com)**

Please verify specifications before quoting. This guide is intended for reference purposes only.

All product specifications are subject to change without notice.

No part of this publication may be reproduced in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission of the publisher.

All brand and product names are trademarks or registered trademarks of their respective companies.

© Advantech Co., Ltd. 2009