SUPER®

SMM1

SYSTEM MANAGEMENT MODULE

User's Guide

Revision 1.0

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Table of Contents

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iii

1   INTRODUCTION

System Management Module (SMM1) is a 16-bit ISA bus interface from SUPERMICRO. When used with a system management utility such as Intel's LANDesk® Client Manager or SUPERMICRO's SUPER PC Doctor, it can monitor your PC system and alert you when hardware resources become unstable. It is a good investment for protecting your system from problems before they even occur.

SMM1 will work on any SUPERMICRO motherboard which is equipped with a proprietary SMM socket or a system management port. The proprietary SMM bus on the SMM1 card is located on J8, at the end of the ISA bus. It is inserted into a 60-pin SMM socket on the motherboard. For motherboards with no SMM socket, you can attach a 10-pin dual-in-line female serial cable from the first 10 pins of J7 of SMM1 to the 10-pin system management port on the motherboard. Please refer to your motherboard documentation for the location of this port.

1-1 FEATURES

The following is a summary of SMM1 key features:

- Voltage monitoring

- System overheat temperature control

- Chassis intrusion detection

- I^2C/Intel SM serial bus interface

- LANDesk Client Manager compatible

- SUPER PC Doctor compatible

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1-2 FUNCTIONAL DESCRIPTION

VOLTAGE MONITORING

There are seven on-board voltage monitors for the VCORE1, VCORE2,+3.3 V, ±5 V and ±12 V. The voltage monitors scan the seven monitored voltages every second. Once a voltage becomes unstable, it will report a warning or an error message on the screen. It can also alert the users with a beeping alarm. Users can adjust the threshold of the monitored voltage to determine the sensitivity of the voltage monitor.

SYSTEM OVERHEAT TEMPERATURE CONTROL

The on-board thermal control sensor monitors the real-time system temperature. The thermal control circuitry will turn on the back-up fan and alert the user whenever the overall system temperature goes over the user-defined threshold.

CHASSIS INTRUSION DETECTION

The chassis intrusion circuitry can detect unauthorized intrusion to the system. The on-board photo-sensitive transistor can detect the light when the chassis is opened. It will then alert the user with a warning message when the system is turned on. The circuitry uses the on-board battery to power up. The detection can still work properly even if the whole system is powered off.

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I²C SERIAL BUS INTERFACE

You can use I^2C bus interface instead of the ISA bus to communicate with the LM78 chip on the SMM1. The I^2C bus was developed by Philips to maximize hardware efficiency and circuit simplicity. The I^2C has a bi-directional 2-wire design composing of a serial data line (SDL) and a serial clock line (SCL).

LANDESK CLIENT MANAGER COMPATIBLE

Client Manager enables both administrators and clients to:

- Review system inventory

- View DMI-compliant component information

- Back-up and restore system configuration files

- Troubleshoot

- Receive notification for system events

- Transfer files to and from client workstations

- Remotely reboot client workstations
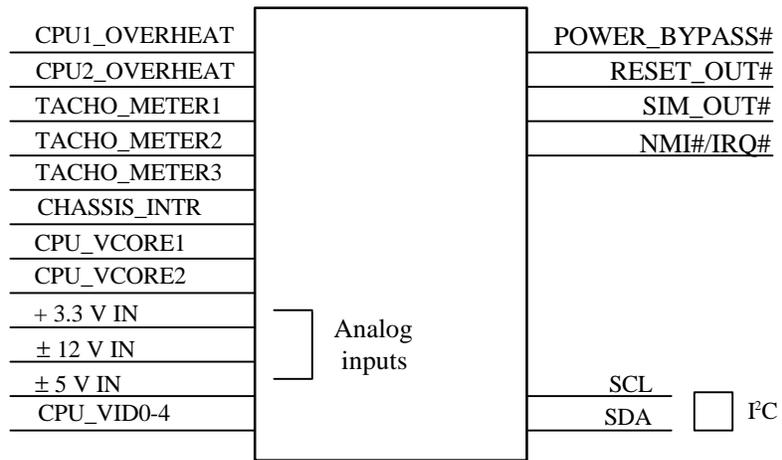
SUPER PC DOCTOR COMPATIBLE

SUPER PC Doctor is a software utility from SUPERMICRO that comes with the SMM1. When used with the SMM1, it can monitor the PC voltage, CPU temperature, chassis temperature, and fan RPM.

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1-3 BLOCK DIAGRAM

The simplified block diagram of SMM1 is as follows:

CPU1_OVERHEAT		POWER_BYPASS#
CPU2_OVERHEAT		RESET_OUT#
TACHO_METER1		SIM_OUT#
TACHO_METER2		NMI#/IRQ#
TACHO_METER3		
CHASSIS_INTR		
CPU_VCORE1		
CPU_VCORE2		
+ 3.3 V IN	Analog	
± 12 V IN	inputs	
± 5 V IN		SCL
CPU_VID0-4		SDA I²C

Figure 1. Block Diagram of System Management Module

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2   Using SMM1

2-1 SAFETY RECOMMENDATIONS

Static-sensitive electric discharge can damage electronic components. To prevent damage to your SMM1 board, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from static discharge.

PREVENT ELECTROSTATIC DAMAGE

- Use a grounded wrist strap designed for static discharge.
- Touch a grounded metal object before you remove the board from the anti-static bag.
- Handle the board by its edges only; do not touch its components, peripheral chips or gold contacts.
- Avoid touching the pins of the chips.
- Put the system board and peripherals back into their anti-static bags when not in use.
- Be sure your computer system's chassis allows excellent conductive contacts between its power supply, case, mounting fasteners, and the system board for grounding purposes.

UNPACKING

SMM1 is shipped in anti-static packaging to avoid static damage. When unpacking the board, be sure the person handling the board is static-protected.

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2-2 PHYSICAL LAYOUT

Figure 2 shows the board layout of SMM1, with pointers to the jumper locations. To verify proper operation, compare the jumper setting descriptions on the succeeding pages with the board.
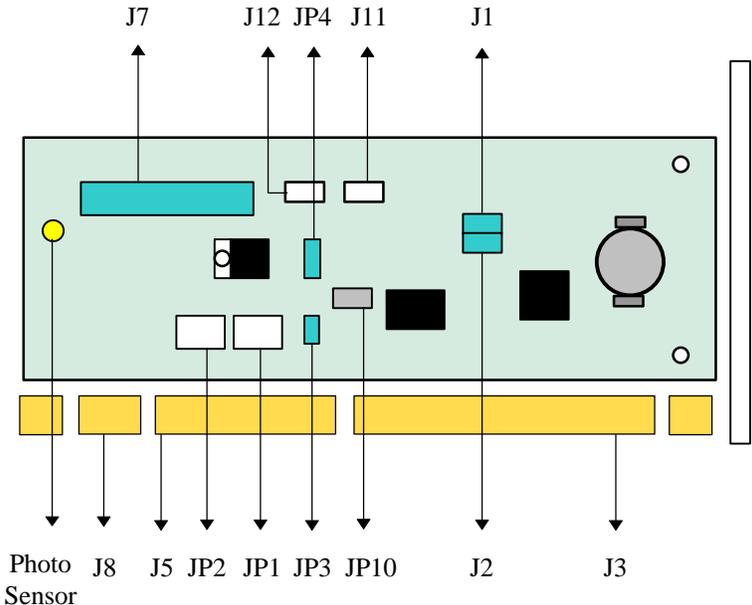
Figure 2. Board Layout of SMM1

2-3 CONNECTORS

OVERHEAT FAN (JP1)

Pin Number	Definition
1	+ 12 V
2	GND

OVERHEAT ALARM (JP2)

Pin Number	Definition
1	+ 12 V
2	GND

OVERHEAT LED (JP3)

Pin Number	Definition
1	+ 12 V
2	GND

TACHOMETER FAN 2 (J11)

Pin Number	Definition
1	GND
2	+ 12 V
3	Tachometer Output 2

TACHOMETER FAN 1/3 (J12)

Pin Number	Definition
1	GND
2	+ 12 V
3	Tachometer Output 1

40-PIN EXTERNAL CONNECTOR (J7)

Note: This connector is used only when the motherboard does not have a proprietary SMM socket but has a 10-pin header System Management Port. Attach a 10-pin (female) dual-in-line serial cable from the first 10 pins of J7 to the 10-pin System Management Port on the motherboard.

Pin Number	Definition	Pin Number	Definition
1	CPU1 VCORE	2	CPU Overheat
3	CPU2 VCORE	4	+ 3.3 V In
5	Reset Out #	6	SMI Out #
7	Power Bypass #	8	NMI_IRQ Out #
9	Tachometer 1 In	10	NC
11	NC	12	NC
13	Tachometer 1 In	14	Ground
15	Tachometer 2 In	16	I^2C Clock In
17	Tachometer 3 In	18	I^2C Data
19	NC	20	NC
21	NC	22	NC
23	CPU VID0	24	Ground

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2-4 JUMPER SETTINGS

The default manufacturer settings are shaded in gray.

OVERHEAT TEMPERATURE SETTING (JP4)

Pin Number	Definition
1-2	60 °C
2-3	50 °C

LM78 External Decode Address Select (JP10)

Pin Number	Definition
1-2	Port 295h for LDCM
2-3	Port 80h for POST RAM

NMI IRQ Select (J1)

Pin Number	Definition
1-2	IRQ 9
2-3	IRQ 3

SMI IRQ Select (J2)

Pin Number	Definition
1-2	IRQ 5
2-3	IRQ 7

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2-5 LANDESK CLIENT MANAGER INSTALLATION

Run the setup program from the directory LDCM/Win95/local. If you are using NT 3.51 or NT 4.0, choose WinNT/local. LANDesk Client Manager will be automatically installed into your hard drive.

Select Generic 430TX. This configuration is suitable for all Pentium® motherboard with ISA slots. After the installation is completed, restart your computer.

You should see LANDesk Client Manager automatically running after the system reboots. Click on Tools/PC Health menu. You can view the current PC voltages, chassis temperature and chassis intrusion status.

If your BIOS supports DMI, you can access the DMI Control Panel from the Client Manager. Click on Tools/DMI Control Panel. The DMI Control Panel enables you to view attribute values for each DMI-compliant component. For more detailed instructions, please refer to the LDCM manual (**ldcm30.pdf**) in the LDCM directory.