SUPERO®

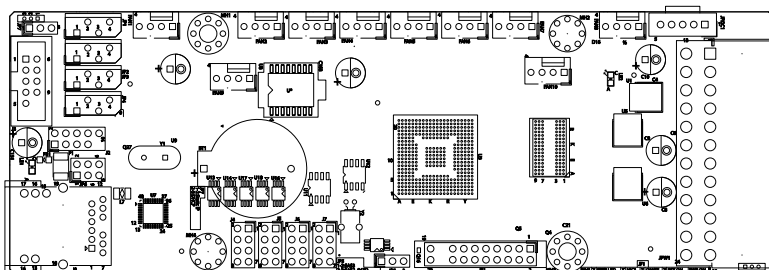## CSE-PTJBOD-CB3

JBOD POWER BOARD
USER'S GUIDE

REVISION 1.0

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WARNING: Handling of lead solder materials used in this product may expose you to lead, a chemical known to the State of California to cause birth defects and other reproductive harm.

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Table of Contents

Returning Merchandise for Service

A receipt or copy of your invoice marked with the date of purchase is required before any warranty service will be rendered. You can obtain service by calling your vendor for a Returned Merchandise Authorization (RMA) number. When returning to the manufacturer, the RMA number should be prominently displayed on the outside of the shipping carton, and mailed prepaid or hand-carried. Shipping and handling charges will be applied for all orders that must be mailed when service is complete.

For faster service, RMA authorizations may be requested online (http://www.supermicro.com/support/rma/).

Whenever possible, repack the backplane in the original Supermicro box, using the original packaging materials. If these are no longer available, be sure to pack the backplane in an anti-static bag and inside the box. Make sure that there is enough packaging material surrounding the backplane so that it does not become damaged during shipping.

This warranty only covers normal consumer use and does not cover damages incurred in shipping or from failure due to the alteration, misuse, abuse or improper maintenance of products.

During the warranty period, contact your distributor first for any product problems.

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Notes

Chapter 1

Safety Guidelines

To avoid personal injury and property damage, carefully follow all the safety steps listed below when accessing your system or handling the components.

1-1   ESD Safety Guidelines

Electrostatic Discharge (ESD) can damage electronic components. To prevent damage to your system, it is important to handle the backplane very carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.

- Touch a grounded metal object before removing a component from the antistatic bag.

- Handle the power board the edges only; do not touch the components, peripheral chips, memory modules or gold contacts.

- When handling chips or modules, avoid touching their pins.

- Put the power board and peripherals back into their antistatic bags when not in use.

1-2   General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the backplane.

- Disconnect the power cable before installing or removing any cables from the backplane.

- Make sure that the backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

1-3   An Important Note to Users

All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

1-4   Introduction to the CSE-PTJBOD-CB3 Power Board

The CSE-PTJBOD-CB3 model power board has been designed to utilize the most up-to-date technology available, providing your system with reliable, high-quality performance.

The CSE-PTJBOD-CB3 allows the user to remotely control their jobs via IPMI, such as powering on/off the server, controlling fan speeds and reading temperature data from the backplane.

This manual reflects the CSE-PTJBOD-CB3 Revision 1.02 power board, the most current release available at the time of publication. Always refer to the Supermicro web site at www.supermicro.com for the latest updates, compatible parts and supported configurations.

Chapter 2

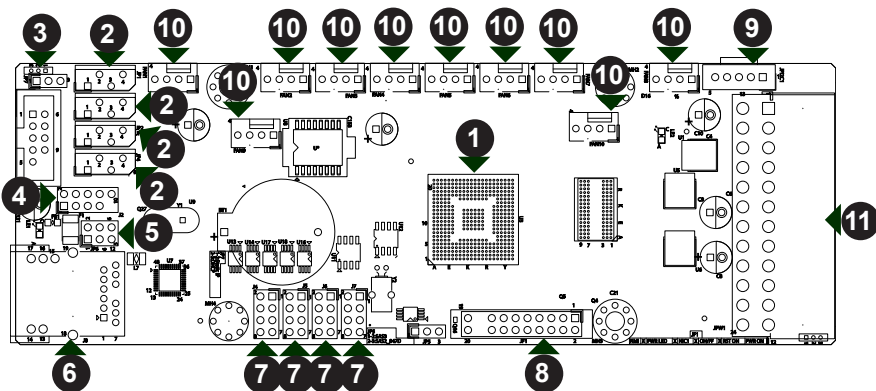# Components, Connectors, Jumpers and LEDs

2-1   Components and Connectors

Figure 2-1: Components and Connectors on the CSE-PTJBOD-CB3

Components and Connectors

1. BMC Chip

2. SAS2/SAS3 I^{2}C Connectors JP1-JP4

3. Manufacturing Test Connector: J3

4. Manufacturer's USB Test Connector: FB1

5. IPMI LAN LED Header: JP6

6. IPMI LAN Connector: J8

7. SC847D SAS2 I^{2}C Connectors: J4 - J7

8. Control Panel Connector: JF1

9. PMBus Connector: JPI^{2}C1

10. Fan Connectors: FAN1 - FAN10

11. ATX Power Connector: JPW1

2-2   Component and Connector Definitions

1. BMC Chip

The Baseboard Management Controller (BMC) chip monitors the physical state of a system and provides communication with the system administrator through an independent connection.

2. SAS2/SAS3 I²C Connectors

These connectors are designated JP1-JP4 and allow the power board to be connected to up to four SAS2/SAS3 backplanes.

3. Manufacturing Test Connector

This connector is designated J3 and is for Supermicro manufacturing use only.

4. Manufacturer's USB Test Connector

This connector is designated FB1 and is for Supermicro manufacturing use only.

5. IPMI LAN LED Header

This connector is designated JP6 and is used to connect to the LED indicators on the chassis using cable CBL-NTWK-0584 or CBL-NTWK-0587.

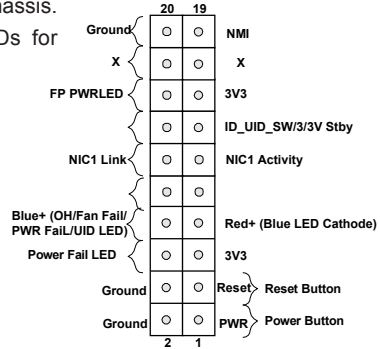| Ground	○	○	UID
Link	○	○	Ground
Act	○	○	Ground
	2	1	
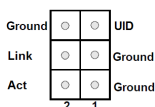
6. IPMI LAN Connector

The Intelligent Platform Management Interface (IPMI) LAN connector is designated J8 and supports connectivity with a local network using cable CBL-NTWK-0584 or CBL-NTWK-0587.

7. SC847D SAS2 I2C Connectors

The backplane connectors are designated J4-J7 and allow the power board to be connected to up to four SC847D expanders.

8. Control Panel Connector

This connector is designated JF1 and connects to the control panel on the chassis. See Section 4-3 Control Panel LEDs for additional information

	20	19	
Ground	○	○	NMI
X	○	○	X
FP PWRLED	○	○	3V3
	○	○	ID_UID_SW/3/3V Stby
NIC1 Link	○	○	NIC1 Activity
	○	○	
Blue+ (OH/Fan Fail/ PWR FaiL/UID LED)	○	○	Red+ (Blue LED Cathode)
Power Fail LED	○	○	3V3
Ground	○	○	Reset — Reset Button
Ground	○	○	PWR — Power Button
	2	1	

9. PMBus Connector

This connector is designated JPI2C1 and connects the power distributor to the Power Management Bus (PMBus).

10. Fan Connectors

The fan connectors supply power to the fans and are designated FAN1-FAN10.

11. ATX Power Connector

The ATX power connector is designated JPW1.
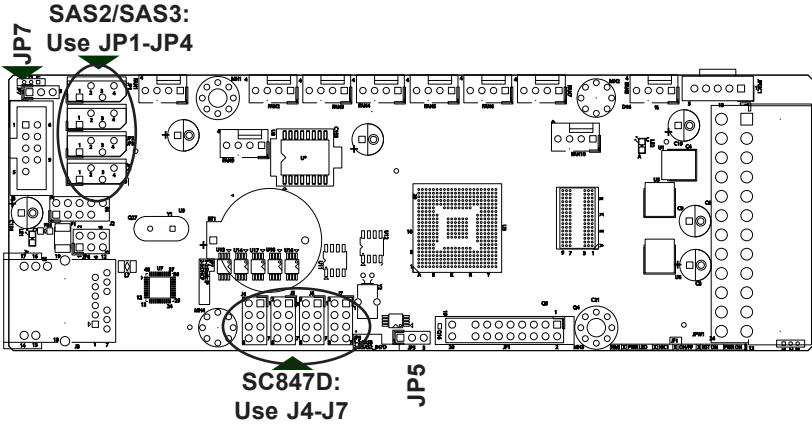
2-3 Connectors Jumpers and LED Indicators

Figure 2-2: CSE-PTJBOD-CB3 Connectors and Jumpers

Front SAS2/SAS3 and SC847D Jumpers	
Jumper	**Description**
JP7	Pins 1-2: IPMI factory mode, IP 192.168.1.99 Pins 2-3: User mode (static/DHCP)
JP5	Pins 1-2: SAS3 enabled Pins 2-3: SAS2 enabled and SC847D

When enabling SAS2/SAS3 functionality, use connectors JP1-JP4, and set the JP5 jumper to pins 1-2 (SAS3) or pins 3-4 (SAS2).

When an SC847D chassis is being used, use connectors J4-J7 and set the JP5 jumper to pins 2-3.
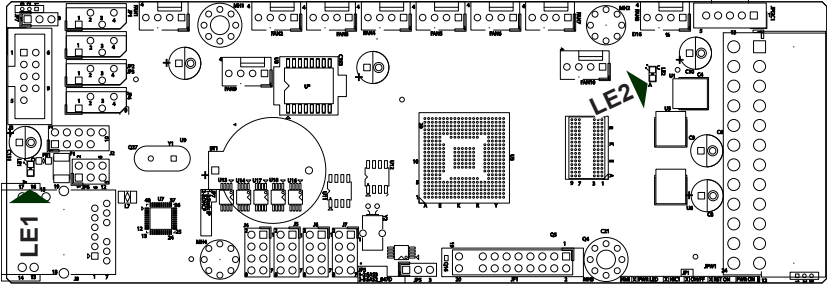
Figure 2-3: CSE-PTJBOD-CB3 LED Indicators

LED Indicators	
LED	**Description**
LE1	Heartbeat LED: A blinking LED indicates BMC activity
LE2	Power LED: DC power indicator

Notes

Chapter 3

Connecting to the Front and Rear Backplanes

3-1   SC847D JBOD Cabling

E16 I²C Cabling

Use the following diagram to connect the CSE-PTJBOD-CB3 to the front and rear backplanes in SC847D JBOD E16 model chassis.

Jumper Settings	
Jumper	**Setting**
JP5	Pins 1-2: SAS3 enabled Pins 2-3: SAS2 enabled and SC847

When enabling SAS2/SAS3 functionality, use connectors JP1-JP4, (see Page 2-4) and set the JP5 jumper to pins 1-2 (SAS3) or pins 3-4 (SAS2).

When an SC847D chassis is being used, use connectors J4-J7 (see Page 2-4) and set the JP5 jumper to pins 2-3.
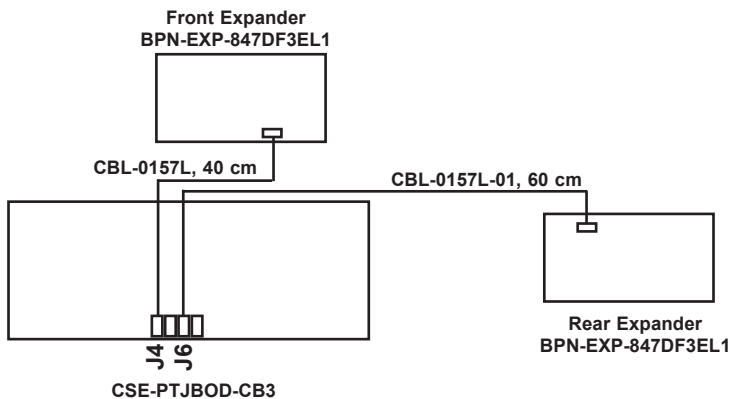

Figure 3-1: E16 I²C Cabling

E26 I²C Cabling

Use the following diagram to connect the CSE-PTJBOD-CB3 to the front and rear backplanes in SC847D-JBOD-E26 model chassis.
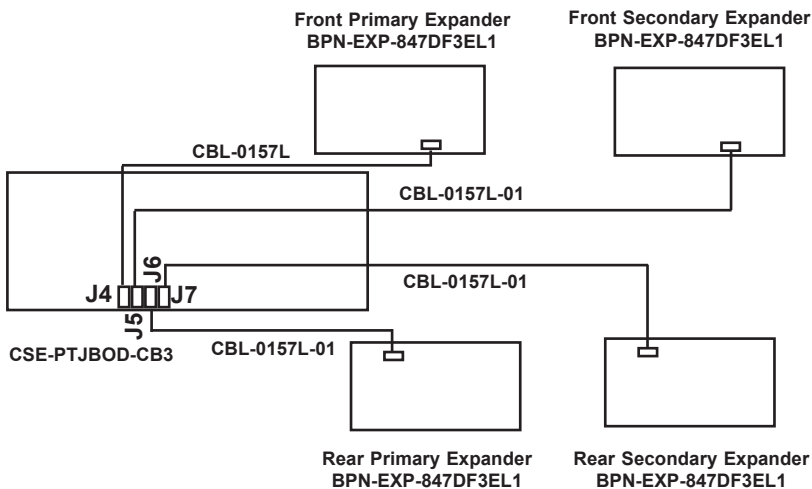
Figure 3-2: E26 I²C Cabling

3-2   SC847 JBOD Cabling

SAS3 I²C Cabling in the SC847 JBOD Chassis

Use the diagram below to connect the CSE-PTJBOD-CB3 to the front and rear backplanes in the SC847 JBOD chassis.

Jumper Settings	
Jumper	**Setting**
JP5	Pins 1-2: SAS3 enabled Pins 2-3: SAS2 enabled and SC847D

When enabling SAS2/SAS3 functionality, use connectors JP1-JP4, (see Page 2-4) and set the JP5 jumper to pins 1-2 (SAS3) or pins 3-4 (SAS2).

When an SC847D chassis is being used, use connectors J4-J7 (see Page 2-4) and set the JP5 jumper to pins 2-3.
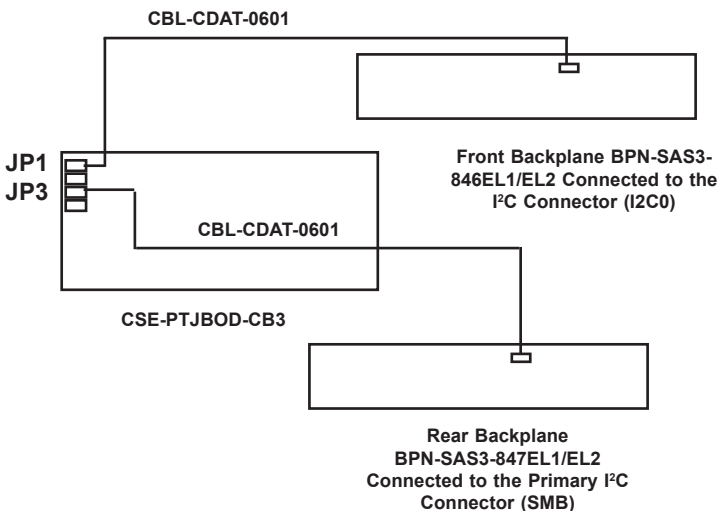

CBL-CDAT-0601

JP1
JP3

Front Backplane BPN-SAS3-846EL1/EL2 Connected to the I²C Connector (I2C0)

CBL-CDAT-0601

CSE-PTJBOD-CB3

Rear Backplane BPN-SAS3-847EL1/EL2 Connected to the Primary I²C Connector (SMB)

Figure 3-3: SAS3 I²C Cabling in the SC847 JBOD Chassis

3-3   SC847 Cabling

SAS3 I²C Cabling in the SC847B Chassis

Use the diagram below to connect the I²C cabling. Ensure that the JP5 jumper on the CSE-PTJBOD-CB3 is cabled correctly according to the table below.

Jumper Settings	
Jumper	**Setting**
JP5	Pins 1-2: SAS3 setting (Default) Pins 2-3: SAS2 and SC847D setting

When enabling SAS2/SAS3 functionality, use the connectors on the upper left of the CSE-PTJBOD-CB3 power board (See Page 2-4) and set the JP5 jumper as shown in the chart above.

When an SC847D chassis is being used, use the connectors along the bottom edge fo the power board (See Page 2-4) and set the JP5 jumper as shown in the chart above.
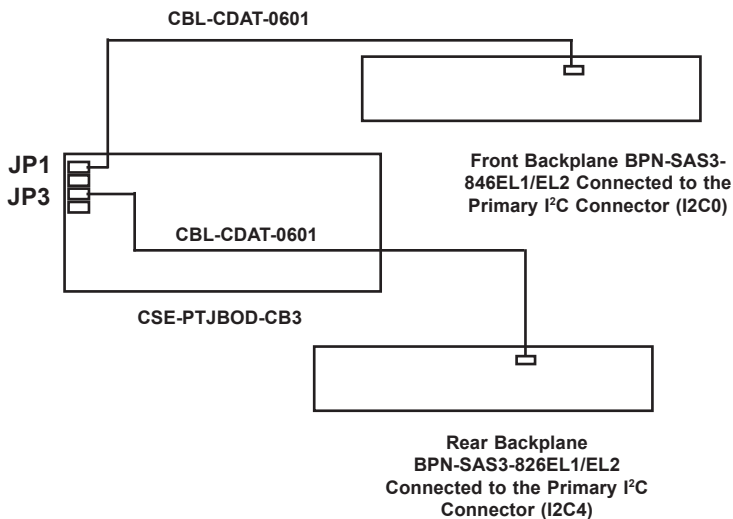
CBL-CDAT-0601

JP1
JP3

CBL-CDAT-0601

Front Backplane BPN-SAS3-846EL1/EL2 Connected to the Primary I²C Connector (I2C0)

CSE-PTJBOD-CB3

Rear Backplane BPN-SAS3-826EL1/EL2 Connected to the Primary I²C Connector (I2C4)

Figure 3-4: SAS3 I²C Cabling in the SC847B Chassis

3-4   SC417B Cabling

SAS3 I²C Cabling in the SC417B Chassis

Use the diagram below to connect the I²C cabling. Ensure that the JP5 jumper on the CSE-PTJBOD-CB3 is cabled correctly according to the table below.

Jumper Settings	
Jumper	**Setting**
JP5	Pins 1-2: SAS3 setting (Default) Pins 2-3: SAS2 and SC847D setting

When enabling SAS2/SAS3 functionality, use the connectors on the upper left of the CSE-PTJBOD-CB3 power board (See Page 2-4) and set the JP5 jumper as shown in the chart above.

When an SC847D chassis is being used, use the connectors along the bottom edge fo the power board (See Page 2-4) and set the JP5 jumper as shown in the chart above.
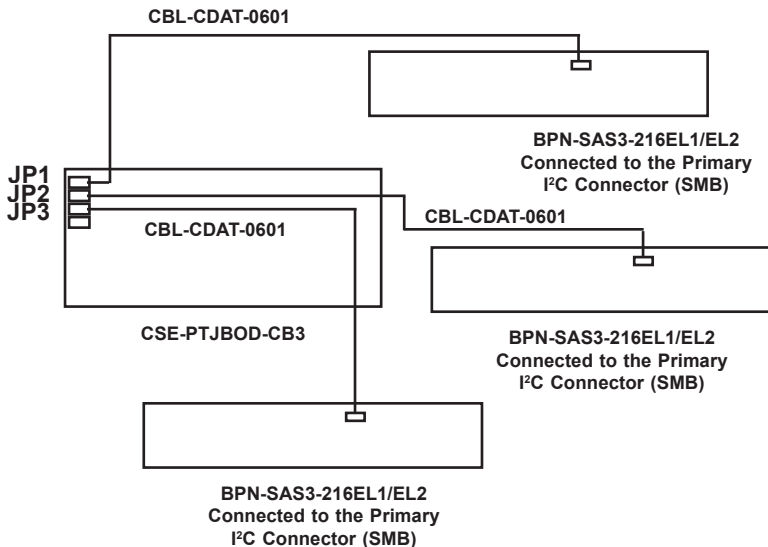

Figure 3-5: SAS3 I²C Cabling in the SC417B Chassis

Notes

Chapter 4

System Details

4-1   Chapter Overview

This chapter provides information on system components which are directly affected by the CSE-PTJBOD-CB3 power board. Topics covered are the control panel, power up and power down sequences and IPMI.
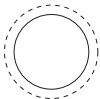
4-2   Control Panel

Control Panel Buttons

There are two push-buttons located on the left handle of the chassis. These are (in order from top to bottom) a power on/off button and a UID/IP combination reset button.

Power: The main power button is used to apply or remove power from the power supply to the server system. Turning off system power with this button removes the main power but keeps standby power supplied to the system. Therefore, you must unplug system before servicing.

UID: Press to toggle the UID function on and off. IPMI IP factory default: Press and hold for ten seconds.

4-3 Control Panel LEDs

The control panel is located on the left handle of the SC847DJ chassis and has five LEDs. These LEDs provide you with critical information related to different parts of the system. This section explains what each LED indicates when illuminated and any corrective action you may need to take.

Power: Indicates power is being supplied to the system's power supply units. This LED should normally be illuminated when the system is operating.

NIC1: Indicates network activity on GLAN1 when flashing.

Information LED:

<table>
<tr><th colspan="2">Informational LED</th></tr>
<tr><th>Status</th><th>Description</th></tr>
<tr><td>Solid red</td><td>An overheat condition has occured.
(This may be caused by cable congestion).</td></tr>
<tr><td>Blinking red (1Hz)</td><td>Fan failure, check for an inoperative fan.</td></tr>
<tr><td>Blinking red (0.25Hz)</td><td>Power failure, check for a non-operational power supply.</td></tr>
<tr><td>Solid blue</td><td>Local UID has been activated. Use this function to locate the server in a rack mount environment.</td></tr>
<tr><td>Blinking blue (300 msec)</td><td>Remote UID is on. Use this function to identify the server from a remote location.</td></tr>
<tr><td>Blinking blue (500 msec)</td><td>System is ready to power up. See Section 4-4 of this manual.</td></tr>
</table>

Power Failure: When this LED flashes, it indicates a failure in the redundant power supply.

4-4   JBOD Power Up/Power Down Sequences

Power Up Sequences

First Use or Power Cord Plug-In

1. Plug the power cords into the rear of the power supplies

2. Wait until blue Information LED starts to blink

3. Press the power button once*

4. The CSE-PTJBOD-CB3 will initiate the power up sequence in three seconds

* If the CSE-PTJBOD-CB3 already has power, the user may power up the chassis without waiting for the Blue UID LED

After Normal Shutdown by IPMI or Power Button

1. Press the power button once

2. The CSE-PTJBOD-CB3 will initiate the power up sequence in three seconds

After a Power Loss

The system will power up automatically approximately fifteen seconds after the power returns

Power Down Sequence

1. Hold down the power button. The blue UID LED will begin blinking. Continue to hold the power button

2. Release power button after blue LED stops blinking and goes dark

3. The shutdown sequence will begin and shut down the system within ten seconds

4-5   CSE-PTJBOD-CB3 IPMI Static IP to DHCP Setting

IP Address to DHCP Setting

1. Download the utility from the Supermicro website or technical support

2. Extract the file to a known folder.

3. By default, the CSE-PTJBOD-CB3 will be configured in static IP 192.168.1.99

4. Change the host to static IP as 192.168.1.10

5. Go to the IPMI website and select the *Configuration* tab and then select the *Network* page

6. Change the setting from *Static* to *DHCP* mode
    If default website is not responding, press the reset button for more than ten seconds to reset to default. You will observe that the fan speed will slow and then return to normal. Continue to change to DHCP mode when the fan reaches normal speed

7. Save the new setting

8. Change the host IP back to DHCP mode

9. Determine the DHCP IP address of the host, for example 10.1.1.50

10. Run the command prompt with administrative privileges

11. Go to the utility folder and type in:
    findit 00-25-90-xx-xx-xx yy.zz.255.255
    Where: xx-xx-xx is, enter the CSE-PTJBOD-CB3 MAC ID. yy.zz represents the first two octets of your host IP.
    Example: findit 00-25-90-xx-xx-xx 10.1.255.255

12. The utility will return the IP address of the CSE-PTJBOD-CB3. Enter the IP in browser and access the IPMI web GUI

Notes