



The SC818 Chassis Series

User Guide

Rev. 1.0

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Chapter 1- Introduction

A. Safety Guidelines

A-1 Electricity Safety



General Electrical Safety Guidelines

- Use the exact type of power cords as required.
- Be sure to use power cord(s) that came with safety certifications.
- The power cord(s) must be compliant with the AC voltage requirements in your region.
- Plug the Power cord(s) into a socket that is properly grounded before turning on the power.
- Take extra precautionary measures when working with high voltage components. It is not recommended to work alone.
- Before removing or installing chassis components, be sure to disconnect the power first. Turn off the system before you disconnect the power supply.

A-2. ESD Safety Guidelines



<u>Electric Static Discharge (ESD) can damage electronic components.</u> To prevent damage to your system board, it is important to handle it very carefully. The following measures are generally sufficient to protect your equipment from ESD.

- Use a grounded wrist strap designed to prevent static discharge.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- Touch a grounded metal object before removing chassis components or the motherboard from the antistatic bag.
- Do not let components or PCBs come into contact with your clothing, which may retain a charge even if you are wearing a wrist strap.
- Handle a motherboard by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- When handling processors, chips or modules, avoid touching their pins.
- Put the motherboard or components back into their antistatic bags when not in use.
- For the grounding purpose, make sure that your chassis provides excellent conductivity between the power supply, the case, the mounting fasteners and the motherboard.

A-3. General Safety Guidelines



Warning!! Follow the guidelines below to avoid possible damage to the system or injury to yourself:

- To avoid injuries to your back, be sure to use your leg muscles, keep your back straight, and bend your knees, when lifting the system.
- After removing the components or chassis covers from the system, place them on a table for safeguard.
- Avoid wearing loose clothing to preventing it from coming into contact with electrical circuits or being pulled into a cooling fan.
- The handles are for sliding the chassis in and out of the racks only. Do not carry the chassis by the handles.

A-4. Operation Safety Guidelines



Warning: For proper cooling, make sure to install all chassis covers before turning on the system. If this rule is not strictly followed, warranty may become void. Do not open the casing of a power supply. Power supplies can only be accessed and serviced by a qualified technician of the manufacturer. Be sure to follow the steps below to install the chassis covers:

- 1. Make sure that all components and devices are securely fastened on the chassis and there are no loose parts/screws inside the chassis.
- 2. Make sure that all cables are properly connected to the connectors and ports.
- 3. Use the original screws or fasteners to install the covers to the chassis.
- 4. Be sure to lock to the chassis or the system to prevent unauthorized access.
- 5. Please follow the procedures listed in Chapter 2 to install or remove components to or from the SC818.

A-5. An Important Note to the User:

All images and graphics shown in this manual were based upon the latest chassis Revision available at the time of publishing. The chassis you've received may or may not look exactly the same as the graphics shown in this manual.

B. Packing Lists

B-1. The SC818+-1000 Chassis Packaging List:

The SC818+-1000 Chassis Packing List					
Item Name	Part Number	Q'ty	Notes		
Chassis body	CSE-818TS+-1000	1			
*Power supply	PWS-1K01-1R	1	1000W		
*Cooling fan (Chassis fan)	FAN-0086	6	40x56 (Nidec) Dual blade 3 pin		
*CPU Air Shroud	CSE-PT-0128	1			
Power Distributor	CSE-PT818-PD284	1			
Power Distributor Cover	CSE-PT126	1			
Chipset Air Shroud	CSE-PT0115	1	With two Fan-0089		
Slim DVD-ROM	DVM-PNSC-824(B)	1			
Slim DVD -ROM adapter	SCD812	1			
Slim Floppy device	FPD-Teac-S (B)	0	Optional Item		
Slim floppy adapter	SFBP812	0	Optional Item		
CD & floppy PWR converter					
cable	07-01-813904-XX1	2			
*Dummy CD-ROM Cover		0			
*Dummy FDD Cover		1			
*Hard drive carriers	CSE-PT39(B)	4			
*Front panel LED board		1			
*Front panel control round					
cable	CBL-0049	1	Flat cable 54cm (cable)		
DVD-ROM cable	CBL-0139	1			
Floppy cable	CBL-0078	1	Optional Item		
Backplane					
Hard Drive Backplane	CSE-SAS-818S	1	SuperMicro install item		

Notes:

- Items marked with " * " are included in the chassis packaging.
 DVD-ROM & FDD are optional items.
- 3. Slide Rails have no Teflon Tapes.

B-2. The SC-818+-1000 Chassis Accessory Kit:

The SC818+-1000 Chassis					
Item Name	Part Number	Q'ty	Note		
*Power cord		1			
*Rail accessories	CSE-PT51	1	1U Rail w/Teflon Tape		
*Screw and tie wrap kits	(A) B0-01-814O01-XXA	1			
*Riser card bracket		1			
*Accessory Box		1			

Note: Items marked with "*" are included in the chassis packaging.

The SC818 1000 Chassis Packing List					
Item Name	Part Number	Q'ty	Notes		
Chassis body	CSE-818 1000	1			
*Power supply	PWS-1K01-1R	1	1000W		
*Cooling fan (Chassis fan)	FAN-0086	6	40x56 (Nidec) Dual blade 3 pin		
*CPU Air Shroud	CSE-PT-0128	1			
Power Distributor	CSE-PT818-PD284	1			
Power Distributor Cover	CSE-PT126	1			
Slim DVD-ROM	DVM-PNSC-824(B)	1			
Slim DVD -ROM adapter	SCD812	1			
Slim Floppy device	FPD-Teac-S (B)	0	Optional Item		
Slim floppy adapter	SFBP812	0	Optional Item		
CD & floppy PWR converter					
cable	07-01-813904-XX1	2			
*Dummy CD-ROM Cover		0			
*Dummy FDD Cover		1			
*Hard drive carriers	CSE-PT39(B)	4			
*Front panel LED board		1			
*Front panel control round					
cable	CBL-0049	1	Flat cable 54cm (cable)		
DVD-ROM cable	CBL-0139	1			
Floppy cable	CBL-0078	1	Optional Item		
Backplane					
Hard Drive Backplane		1	SuperMicro install item		

B-3. The SC818-1000 Chassis Packaging List:

Notes:

1. Items marked with " * " are included in the chassis packaging.

2. DVD-ROM & FDD are optional items.

3. Slide Rails have no Teflon Tapes.

B-4. The SC818-1000 Chassis Accessory Kit:

The SC818-1000					
Item Name	Part Number	Q'ty	Note		
*Power cord		1			
*Rail accessories	CSE-PT51	1	1U Rail W/Teflon Tape		
*Screw and tie wrap kits	(A) B0-01-814O01-XXA	1			
*Riser card bracket		1			
*Accessory Box		1			
Hard Drive Backplane					
SATA cable	CBL-0058	4	SuperMicro install item		
SATA LED cable	CBL-0056	1	SuperMicro install item		

Note: Items marked with "*" are included in the chassis packaging.

C. The SC818 Chassis Front Panel



C-2. Front Panel LED Indicators and IO Ports

- 1. Front Panel LED Indicators (*See C-3 below)
- 2. CD-ROM/DVD-ROM
- 3. Power Supply Module
- 4. Hard Disk Drives (3)
- 5. Floppy Drive (optional)

C-3. Front Panel LED Indicators



- 1. Power Button
- 2. Reset Button
- 3. Power-on LED
- 4. Hard Drive Activity LED
- 5. LAN Port1 LED
- 6. LAN Port2 LED
- 7. Overheat/Fan Fail LED

C-4. Front Panel LED Descriptions

LED Button	Color	Condition	Description
Power	Green	On	System On
		Off	System Off
HDD	Amber	Blinking	HDD Activity
		Off	No Activity
LAN1 & LAN2	Green	On	Linked
		Blinking	LAN Activity
		Off	Disconnected
Overheat	Red	On	System Overheat
		Off	System Normal
		Blinking	Fan Failure

D. The SC818 Chassis Specifications

Model	SC818S+-1000	SC818TQ+-1000
Form Factor	1U Rackmount	1U Rackmount
CPU Support	AMD Quad Opteron	AMD Quad Opteron
	Processors	Processors
Max.	ATX 13" x 16"	ATX 13" x 16"
Motherboard Size		
Expansion Slots	1	1
SCA or HD Bays	Three 1"hot-swap Ultra	Three 1"hot-swap SATA bays
	320/160 SCSI drive bays	
	(SAF-TE Compliant)	
Front Side USB	Optional	Optional
Port &COM port		
Floppy/CD-ROM	Optional/Yes	Optional /Yes
Power Supply	1000W cold-swap PS	1000W cold-swap PS
Cooling System	Six 40mmx40mmx56mm	Six 40mmx40mmx56mm
Dimension	17.2" x 1.7" x 27.75"	17.2" x 1.7" x 27.75"
(W x H x D)	(437mm x 43mm x 705 mm)	(437mm x. 43mm x 705mm)
Weight	35 lb. (15.9 kg)	35 lb. (15.9 kg)
Optional Kits	Riser Cards	Riser Cards

D-1. The SC818+-1000 Chassis Specifications

D-2. The SC818-1000 Chassis Specifications

Model	SC818S-1000	SC818TQ-1000
Form Factor	1U Rackmount	1U Rackmount
CPU Support	Intel Quad Processors	Intel Quad Processors
Max.	ATX 16" x 14.5"	ATX 16" x 14.5"
Motherboard Size		
Expansion Slots	1	1
SCA or HD Bays	Three 1"hot-swap Ultra	Three 1"hot-swap SATA bays
	320/160 SCSI drive bays	
	(SAF-TE Compliant)	
Front Side USB	Yes	Yes
Port &COM port		
Floppy/CD-ROM	Optional/Yes	Optional/Yes
Power Supply	1000W cold-swap PS	1000W cold-swap PS
Cooling System	Six 40mmx40mmx56mm	Six 40mmx40mmx56mm
Dimension	17.2" x 1.7" x 27.75"	17.2" x 1.7" x 27.75"
(W x H x D)	(437mm x 43mm x 705 mm)	(437mm x. 43mm x 705mm)
Weight	35 lb. (15.9 kg)	35 lb. (15.9 kg)
Optional Kits	Riser Cards	Riser Cards

E. The SC818 Chassis Power Supply Specifications

Power Supply Spec	SC818
rower supply spec	50010
Mfr. Model #	PWS-1K01-1R
Mfr. Part #	PWS-1K01-1R
Rated AC Input Voltage	100-240 VAC
Rated Input Frequency	50-60 Hz
Rated Input Current	15A (115V)
	10A (230V)
Rated Output Power	1000W
Maximum rated BTU	4400 BTUs/Hr
Nominal Output Voltage	
+12V	83A
+5Vsb	4A
Mfr. Model #	PDB-PT818-8824
Mfr. Part #	PDB-PT818-8824
+5V	20A
+3.3V	20A
-12V	0.6A

Notes

Chapter 2: Installation Procedures

Section 1: Installing Components into the SC818

A. Removing the Top Cover from the Chassis

Before installing any components, replacing chassis fans or accessing the motherboard, you will first need to remove the top cove from the chassis.

Procedures

1. Using a Philips screw driver, remove two screws from the top cover as shown below.

- 2. Unlock and remove the thumb screw from the chassis.
- 3. Press the release tabs and slide the top cover out from the chassis.



The SC818 w/the Top Cover Removed



B. Removing the Riser Card Bracket from the Chassis

Before installing the motherboard, you will need to remove the riser card bracket from the chassis.

Procedures

1. After the top cover is removed from the chassis, using a Philips screw driver to remove the two screws on the riser card bracket as shown below:

2. Remove the riser card bracket from the chassis.



C. Installing the Motherboard into the Chassis

After you've removed the chassis cover and the riser card bracket from the chassis, you are ready to install the motherboard into the chassis.

Procedures

1. Locate the mounting holes on the motherboard and the mounting holes on the chassis.

2. Align the mounting holes on the motherboard against the corresponding mounting holes on the chassis. Once aligned, place the motherboard on top of the chassis.

3. Using a Philips screw driver, install a 6-32 screw into each mounting hole to secure the motherboard onto the chassis.

(To be continued on the next page)



4. Connect power cables to the power connectors on the motherboard as shown below.

5. Connect fan cables to the fan headers on the motherboard as shown in the picture below.)



D. Installing the Chipset Air Shroud into the Chassis

After the MB is securely installed into the chassis, you will need to install the chipset air shroud to prevent the chipset from overheat.

Procedures

1. Align the chipset air shroud with the chipset.

2. Once aligned, secure the chipset air shroud into the chassis with a 6-32 \times 13L screw as shown below.

3. Connect fan cables to the fan headers on the motherboard as shown below.



E. Installing the CPU Air Shroud into the Chassis

After you have installed the CPU and the CPU Heatsink into the chassis, you will need to install the CPU air shroud to prevent the processors from overheat.

Procedures

1. Before installing the air shroud, make sure that the CPU, the heatsink and the memory modules are properly installed.

2. Align the CPU air shroud with the CPUs.

3. Once aligned, secure the CPU air shroud into the chassis with a 6-32 screw as shown below.

4. Cover the chassis with the top cover.



(*Warning: Do not operate the system without the top cover being properly installed.)

5. Securely attach the top cover to the chassis with screws and the thumb screw.



F. Accessing the Hard Disk Drive Tray and Installing a Hard Drive

To install a hard disk drive into the chassis, you need to first remove the HDD tray from the chassis so that the HDD can be installed in.

Procedures

- 1. Press the release tab to unlock the HDD tray.
- 2. Pull the HDD tray out from the chassis as shown below:



3. Remove the two screws that attach to the both sides of the dummy HDD, and take out the dummy HDD as shown below:



4. Slide a hard drive disk (HDD) into the HDD tray, and secure the HDD to the tray with three screws on each side of the tray as shown below:



5. Once the HDD is securely placed into the HDD tray, you can install the HDD drive tray back to the chassis.

G. Rail Installation

Rail Packaging includes:

*One pair of inner slides to be installed on the chassis

*One pair of outer slides to be installed in the rack

*One pair of long brackets to be used on the rear side of the outer slides

*Two pairs of short brackets to be used on the front side of the outer slides (Note: One pair of short brackets include screw threads, and the other pair does not. Use the only pair that will fit into your rack.)

G-1 Installing Inner Slides

Procedures

1. Locate the right inner slide, (-the slide that will be used on the right side of chassis when facing the front panel of the chassis).

2. Align the four (4) square holes on the right inner slide against the hooks on the right side of the chassis as show below on the left.

3. Attach the slide to the chassis with two M4 flat head screws and repeat the steps 1-3 to install the left inner slide to the left side of the chassis.



G-2 Installing Outer Slides

4. Measure the distance from the front rail of the rack to the rear rail of the rack.

5. Attach a short bracket to the rear side of the right outer slide, and a long bracket to the front side of the right outer slide as shown above on the right.

6. Adjust the short and long brackets to the proper distance so that the chassis can snugly fit into the rack.

7. Secure the slides to the cabinet with screws. Repeat steps 4-7 for the left outer slide.

G-3 Installing the Slide Assemblies to the Rack

Procedures

1. After you have installed the short and long brackets to the outer slides, you are ready to install the whole slide assemblies (-outer slides with short and long brackets attached) to the rack. (See the previous page.)

2. Use M5 screws and washers to secure the slide assemblies into the rack as shown below:



H. Installing the Chassis into the Rack

Procedures

1. Push the inner slides, which are attached to the chassis, into the grooves of the outer slide assemblies that are installed in the rack as shown below:



2. Push the chassis all the way to the back of the outer slide assemblies as shown below: (The plastic bezel is not included in the package.)



Section 2: SCSI (Super) GEM Driver Installation Instructions for the Windows Operating System

Please refer to the following instructions to install the SCSI GEM Driver for the Windows operating systems.

(*Note: This driver is not necessary for other Operating Systems. If you have two HDD backplanes, you will need to install the driver twice.)

The driver is located on the Super Micro motherboard driver CD or is available for download from our FTP site: ftp://ftp.supermicro.com/driver/Qlogic/

Follow the instructions below to install this driver to your system.

Installing the driver:

1) Right click on "My Computer" and choose "Property".

2) Select "Hardware" tab and click on "Device Manager".

3) Open "Other Devices" or wherever "GEM318" is on.

4) Right click on this device and choose "Property".

5) Click on "Driver" tab and choose "Update Driver".

6) Click "Next" 2 times, uncheck both "Floppy disk drives" and "CD-ROM drives". Then, select the item- "Specify a location," and choose "Next".

7) Click on "Browse" and choose D drive or wherever Supermicro Setup CD is in.

8) Choose "Qlogic" folder and click on "Open".

9) System will automatically detect GEM318 and install the drive from this point on.

or,

1) Right click the "My Computer" icon on your desktop and choose Properties.

2) Click on the Hardware tab and click on "Device Manager" to bring up the list of system devices.

3) You may see one or two yellow question marks (?) that read QLogic GEM354 or GEM318 SCSI Processor Device. Right click on these, and choose to uninstall. If two such question marks are present, uninstall both.

4) Click on Action tab and choose "Scan for Hardware Changes". The Hardware Wizard program should start up. Click "Next".

5) At the first prompt, choose "Display a list of known device drivers for the device so that I can choose a specific driver" and click "Next".

6) Choose "Other Devices" and click Next.

7) Choose "Have Disk", and specify your floppy drive location in the options box. Then, click "Next".

8) Highlight "Enclosure Services Device" and click "Next".

9) Ignore the warning prompt by clicking "Yes".

(*Note: Please refer to the Appendix for SCA-818S Backplane Information.)

Notes

Aappendix

SUPER

SCA818S Backplane

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Safety Information and Technical Specifications

1. Safety Guidelines

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

ESD Safety Guidelines

Electric Static Discharge (ESD) can damage electronic components. To prevent damage to your system, it is important to handle it 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 RAID card by its edges only; do not touch its components, peripheral chips, memory modules or gold contacts.
- When handling chips or modules, avoid touching their pins.
- Put the card and peripherals back into their antistatic bags when not in use.

General Safety Guidelines

- Always disconnect power cables before installing or removing any components from the computer, including the SCA818S Backplane.
- Disconnect the power cable before installing or removing any cable from the SCA818S Backplane.
- Make sure that the SCA818S Backplane is securely and properly installed on the motherboard to prevent damage to the system due to power shortage.

An Important Note to the User

• 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've received may or may not look exactly the same as the graphics shown in this manual.

2. Jumper Settings and Pin Definitions

A. Front Jumpers and Connectors

Front Jumper/Connector Locations





A-2. Front Panel Connectors

- A. JP10: Backplane Main (4-Pin) PWR
- B. LVD1: SCSI Channel
- C. J1, J2: CD-ROM/Floppy Drive (4-Pin) PWR Connector
- D. 318 GEM Chip
- E. JP9: I²C Connector
- F. D4: Overheat/Drive Fail LED Indicator

Front Connectors and Pin Definitions

A : SCA818S Backplane Main Power (J10)

Backplane Main Power Connector Pin Definitions

You must use the 4-pin power connector (J10), marked "A" on the layout above, to provide adequate power supply to the Backplane. See the table on the right for pin definitions.



C: CD-ROM/Floppy Drive Power Connectors

CD-ROM/FDD Power Connector Pin Definitions

You must use the 4-pin power connectors (J1, J2), marked "C" on the layout above, to provide power supply to the CD-ROM and Floppy Drives. See the table on the right for pin definitions.

CD-ROM/FDD PWR 4-pin Connectors				
	Pins # 1 2 & 3	Definition +5 V Ground		
	4	+12V		

B: Ultra 320 SCSI Connector (LVD1)

SCSI Connector Pin Definitions

There is a Ultra 320 SCSI connector, marked "B" on the layout, on the backplane. Refer to the table below for the pin definitions of the Ultra 320 SCSI connector located at (LVD1).

Ultra320 SCSI Drive Connector Pin Definitions (J28)				
Pin#	Definition	Pin #	Definition	
1	+DB (12)	35	-DB (12)	
2	+DB (13)	36	-DB (13)	
3	+DB (14)	37	-DB (14)	
4	+DB (15)	38	-DB (15)	
5	+DB (P1)	39	-DB (P1)	
6	+DB (0)	40	-DB (0)	
7	+DB (1)	41	-DB (1)	
8	+DB (2)	42	-DB (2)	
9	+DB (3)	43	-DB (3)	
10	+DB (4)	44	-DB (4)	
11	+DB (5)	45	-DB (5)	
12	+DB (6)	46	-DB (6)	
13	+DB (7)	47	-DB (7)	
14	+DB (P)	48	-DB (P)	
15	Ground	49	Ground	
16	DIFFSENS	50	Ground	
17	TERMPWR	51	TERMPWR	
18	TERMPWR	52	TERMPWR	
19	Reserved	53	Reserved	
20	Ground	54	Ground	
21	+ATN	55	-ATN	
22	Ground	56	Ground	
23	+BSY	57	-BSY	
24	+ACK	58	-ACK	
25	+RST	59	-RST	
26	+MSG	60	-MSG	
27	+SEL	61	-SEL	
28	+C/D	62	-C/D	
29	+REQ	63	-REQ	
30	+I/O	64	-I/O	
31	+DB (8)	65	-DB (8)	
32	+DB (9)	66	-DB (9)	
33	+DB (10)	67	-DB (10)	
34	+DB (11)	68	-DB (11)	

D: GEM 318 (SAF-TE: SCSI Accessed Fault-Tolerant Enclosures)

This chip allows the system to use a set of pre-defined SCSI commands to monitor the status of disk drives and provide disk drive information to the user through LED indicators and buzzers. (*Note: This function is available only when a RAID controller with a RAID set is present and enabled. Please refer to the table below for the information on SAF-TE LED Indicators.)

LED#	Location	Description
D4	Front	Overheat or Drive Failure
		(red light flashing, buzzer: on)
D5	Rear	SCA#0 Fail LED
		(red light flashing, buzzer: on)
D6	Rear	SCA#1 Fail LED
		(red light flashing, buzzer: on)
D16	Rear	SCA#2 Fail LED
		(red light flashing, buzzer: on)

SAF-TE LED Indicators

A-2. Backplane Front Jumpers

Jumper	Description	Definition
JP17	On (*Default)	Buzzer Enable
	Off	Buzzer Disable
JP18	On	Delay Start-SCA#0 Enable
	Off (*Default)	Delay Start-SCA#0 Disable
JP20	On	Remote Start-SCA#0 Enable
	Off (*Default)	Remote Start-SCA#0 Disable
JP22	On	Delay Start-SCA#1 Enable
	Off (*Default)	Delay Start-SCA#1 Disable
JP23	On	Remote Start-SCA#1 Enable
	Off (*Default)	Remote Start-SCA#1 Disable
JP19	On	Delay Start-SCA#2 Enable
	Off (*Default)	Delay Start-SCA#2 Disable
JP21	On	Remote Start-SCA#2 Enable
	Off (*Default)	Remote Start-SCA#2 Disable

Front Jumper Descriptions and Pin Definitions

A-3. Backplane Front LED

Front Overheat LED Indicator

Front LED Indicator	Specification
D4 (Front)	Overheat/Drive Failure LED Indicator
	(Red light: flashing, Buzzer: On)

B. Rear Connectors and LED Indicators

B-1 Rear Connector/LED Indicator Locations

Rear View



(*See below for rear connector/LED descriptions.)

B-2 Connector/LED Indicator Descriptions

B-2.1 Backplane Rear Connectors

Rear Connector	Specification
SCA1 (Rear)	SCSI HDD#0 (SCA#0)
SCA4 (Rear)	SCSI HDD#1 (SCA#1)
SCA2 (Rear)	SCSI HDD#2 (SCA#2)

B-2.2 Backplane Rear LED Indicators

Rear LED Indicator	Specification
D12 (Rear)	SCA#0 Activity LED
D13 (Rear)	SCA#1 Activity LED
D14 (Rear)	SCA#2 Activity LED
D5 (Rear)	SCA#0 Fail LED
D6 (Rear)	SCA#1 Fail LED
D16 (Rear)	SCA#2 Fail LED