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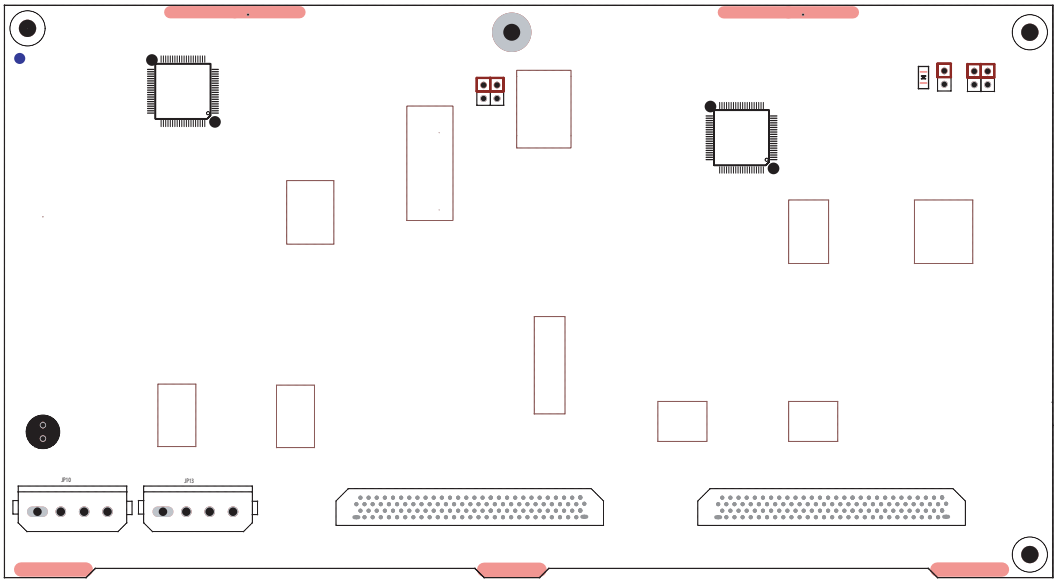

SCA 743S2 Backplane

USER'S GUIDE

Rev. 1.0

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Manual Revision 1.0

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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

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.

1-2 General Safety Guidelines

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

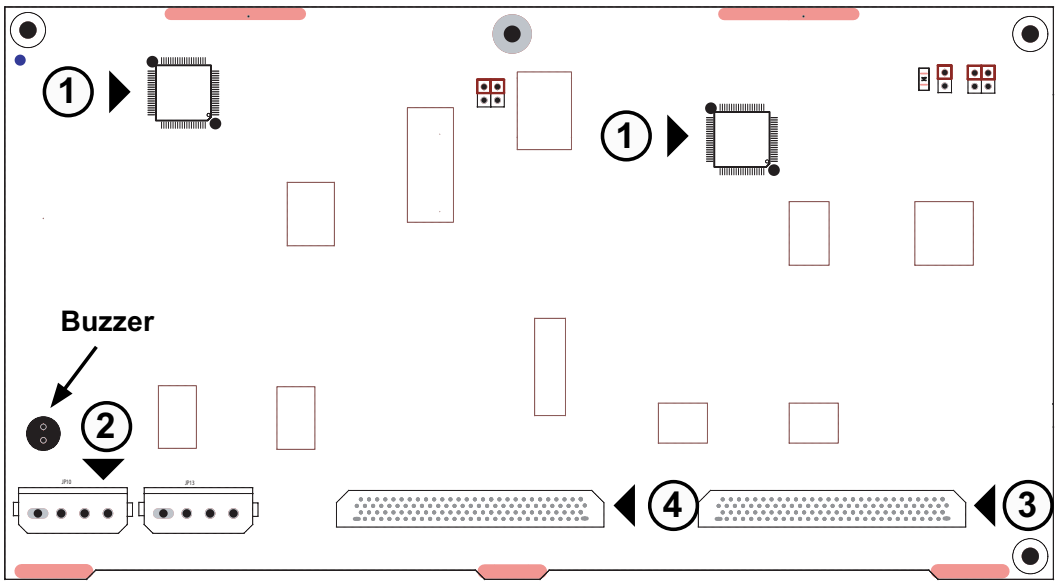
- All images and layouts shown in this user's guide are based upon the latest PCB Revision available at the time of publishing. The card you have received may or may not look exactly the same as the graphics shown in this manual.

Notes

Chapter 2:

Jumper Settings and Pin Definitions

2-1 Front Connectors and Jumpers



Front Connectors

1. GEM 318 Chips
2. Backplane Main (4-Pin) PWR: JP10 and JP15
3. SCSI Channel A: LVD1
4. SCSI Channel B: LVD2

2-2 Front Connector and Pin Definitions

#1. GEM Chip (SAF-TE: SCSI Accessed Fault-Tolerant Enclosures)

The GEM chip allows the system to monitor the status of the disk drives and provides disk drive information to the user through the LED indicators and buzzers.

This function is only available when a RAID controller with a Raid set is present and enabled.

SAF-TE LED Indicators

LED #	Location	Description
D4	Front	Overheat or Drive Failure (red light, flashing, buzzer on)
D5	Rear	A-ID# 0 Fail LED (red light, flashing, buzzer on)
D6	Rear	A-ID# 1 Fail LED (red light, flashing, buzzer on)
D16	Rear	A-ID# 2 Fail LED (red light, flashing, buzzer on)
D27	Rear	A-ID# 3 Fail LED (red light, flashing, buzzer on)
D17	Rear	B-ID# 0 Fail LED (red light, flashing, buzzer on)
D22	Rear	B-ID# 1 Fail LED (red light, flashing, buzzer on)
D23	Rear	B-ID# 2 Fail LED (red light, flashing, buzzer on)
D25	Rear	B-ID# 3 Fail LED (red light, flashing, buzzer on)

#2. Backplane Main Power Connectors

The 4-pin connector, designated JP10 and JP15, provide power to the backplane. See the table on the right for pin definitions.

Backplane Main Power 4-Pin Connector (JP10 and JP15)

Pin#	Definition
1	+12V
2 and 3	Ground
4	+5V

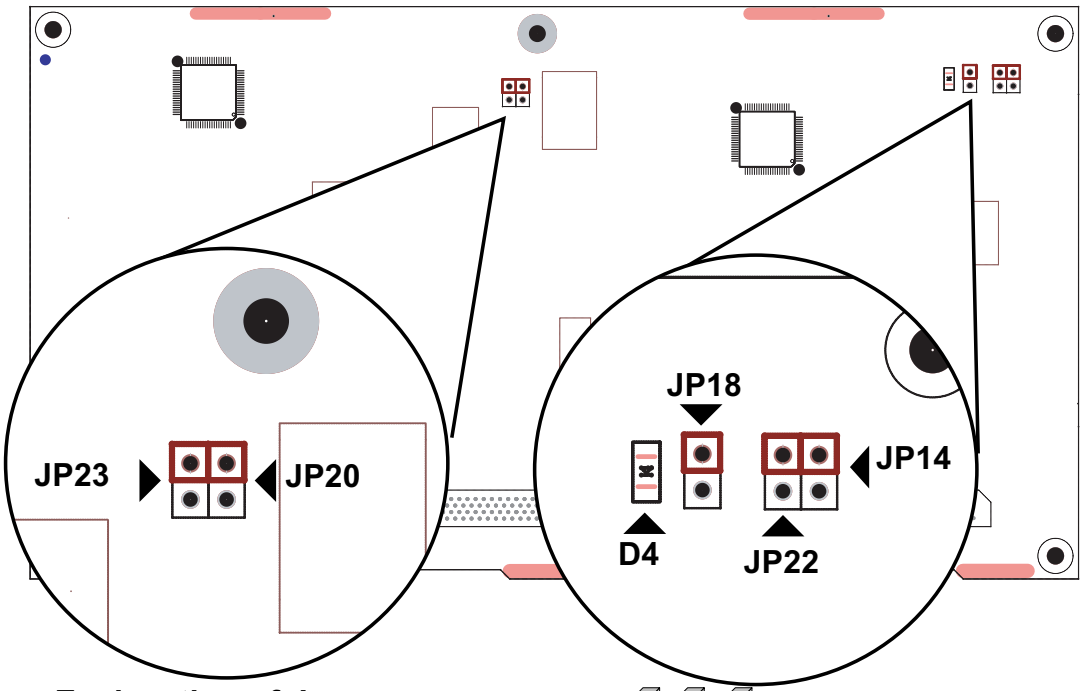
#3. and #4. Ultra 320 SCSI Connector (LVD1 and LVD2)

The Ultra 320 SCSI connectors, LVD1 and LVD2, join the backplane to the server motherboard.

Ultra320 SCSI Drive Connector Pin Definitions (LVD1 and LVD2)

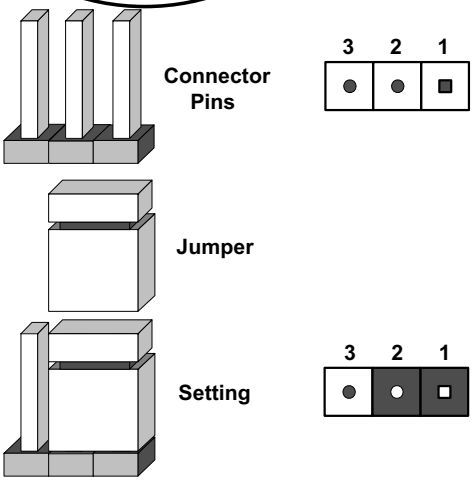
Pin#	Definition	Pin #	Definition
1	+DB (12)	35	-DB (12)
2	+DB (13)	36	-DB (13)
3	+DB (14)	37	-DB (14)
4	+DB (15)	38	-DB (15)
5	+DB (P1)	39	-DB (P1)
6	+DB (0)	40	-DB (0)
7	+DB (1)	41	-DB (1)
8	+DB (2)	42	-DB (2)
9	+DB (3)	43	-DB (3)
10	+DB (4)	44	-DB (4)
11	+DB (5)	45	-DB (5)
12	+DB (6)	46	-DB (6)
13	+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)

2-3 Front Jumper Locations and Pin Definitions



Explanation of Jumpers

To modify the operation of the backplane, jumpers can be used to choose between optional settings. Jumpers create shorts between two pins to change the function of the connector. Pin 1 is identified with a square solder pad on the printed circuit board. **Note:** On two pin jumpers, "Closed" means the jumper is on and "Open" means the jumper is off the pins.

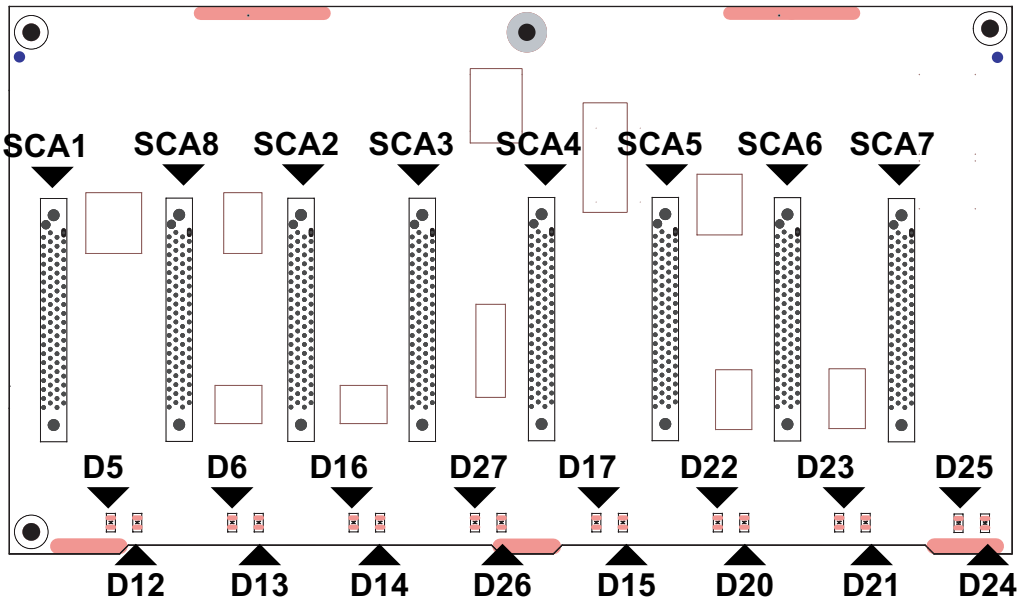


Jumper Settings		
Jumper	**Jumper Settings**	**Note**
JP14	Closed: Enabled Open: Disabled	A-Delay Start Enable
JP18	Closed: Enabled Open: Disabled	Buzzer Enable
JP20	Closed: Enabled Open: Disabled	B-Delay Start Enable
JP22	Closed: Enabled Open: Disabled	A-Remote Start Enable
JP23	Closed: Enabled Open: Disabled	B-Remote Start Enable

FRONT LED INDICATORS

Backplane LED		
LED	**STATE**	**SPECIFICATION**
D4	ON	Overheat/Drive Failure LED Indicator (Red light: flashing, Buzzer: On)

2-4 Rear Connectors and LED Indicators



Rear SCA Connectors		
Rear Connector	**Connector Number**	**SCA Drive Number**
SCA1	A - ID #0	SCA HDD #0
SCA8	A - ID #1	SCA HDD #1
SCA2	A - ID #2	SCA HDD #2
SCA3	A - ID #3	SCA HDD #3
SCA4	B - ID #0	SCA HDD #4
SCA5	B - ID #1	SCA HDD #5
SCA6	B - ID #2	SCA HDD #6
SCA7	B - ID #3	SCA HDD #7

Rear LED Indicators					
Rear LED	**Connector Number**	**Hard Drive Activity**		**Failure LED**	
SCA1	A - ID #0	D12	A-ACT1	D5	A-FAIL1
SCA8	A - ID #1	D13	A-ACT2	D6	A-FAIL2
SCA2	A - ID #2	D14	A-ACT3	D16	A-FAIL3
SCA3	A - ID #3	D26	A-ACT4	D27	A-FAIL4
SCA4	B - ID #0	D15	A-ACT5	D17	A-FAIL5
SCA5	B - ID #1	D20	A-ACT6	D22	A-FAIL6
SCA6	B - ID #2	D21	A-ACT7	D23	A-FAIL7
SCA7	B - ID #3	D24	A-ACT8	D25	A-FAIL8

2-5 SCSI (Super) GEM Installation Instructions for the Windows Operating System

The following instructions describe how to install the SCSI GEM Driver for the Windows OS systems. This driver is not necessary for other Operating Systems. If you have two SCA 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/SCSI_Backplanes/Qlogic/*

Use ONE of the following Windows installation procedures to install the drivers to your system.

Windows Driver Installation Procedure A

1. Right click on “My Computer” and choose “Properties”.
2. Select “Hardware” tab and click “Device Manager”.
3. Open “Other Devices” or wherever “GEM318” is located.
4. Right click on this device and choose “Properties”.
5. Click on “Driver” tab and choose “Update Driver”.
6. Click “Next” twice, uncheck both “Floppy disk drives” and “CD-ROM drives”.

7. Select “Specify a location,” and choose “Next”.
8. Click on “Browse” and choose D drive or wherever Supermicro Setup CD is in.
9. Choose “Qlogic” folder and click on “Open”.
10. System will automatically detect the GEM318 chip and install the drive from this point on.

Windows Driver Installation Procedure B

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 both devices have question marks, 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".

Notes