



SUPER SWAP 1100

USER MANUAL

Version 1.7

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Important Data Protection Information

You should back up all data before installing any drive controller or storage peripheral. Promise Technology is not responsible for any loss of data resulting from the use, disuse or misuse of this or any other Promise Technology product.

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Radio Frequency Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult Promise Technology, Inc. or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



Note

Only digital device equipment CERTIFIED CLASS B should be attached to this equipment and that must have shielded cables.

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Chapter 1: Introduction

SuperSwap 1100

Thank you for purchasing Promise Technology's SuperSwap 1100. The SuperSwap 1100 drive housing installs easily into a 5.25-inch component bay in your personal computer or workstation. SuperSwap 1100's drive carrier and housing extend the data storage capabilities of your system by allowing you to easily swap most 3.5-inch form factor Serial ATA disk drives in and out of your computer, without the hassle of opening and closing your computer's cabinet. SuperSwap 1100 accepts only Serial ATA drives. When used with Promise Technology's Serial ATA RAID 1, 0+1 or 5 products¹, SuperSwap 1100 allows users to hot swap a failed drive without powering down a system while fully protecting disk drive and internal system components.

Specifications

Interface

- Fits most 3.5-inch form factor Serial ATA hard disk drives
- Standard Serial ATA interface
- Supports Serial ATA drives
- Built-in Power/Array Status and Drive Activity Status LED indicators

Housing Assembly

- Dedicated cooling fan
- Keyed locking mechanism

Drive Carrier

- Durable metal construction
- Fully-ventilated
- Unique handle design automatically disengages drive

Physical/Environmental

Dimensions

- Housing Assembly: 8.25 x 5.75 x 1.65 inches (20.96 x 14.90 x 4.20 cm)
- Drive Carrier: 7.28 x 4.65 x 1.48 inches (18.48 x 11.80 x 3.75 cm)

Operating Temperature

- 32° to 122°F (0°C to 50°C)

¹ FastTrak S150 SX4 includes RAID Levels 0, 1, 0+1, and 5.
FastTrak S150 TX4 includes RAID Levels 0, 1, and 0+1.
FastTrak S150 TX2plus includes RAID Levels 0 and 1.

Relative Humidity

- Non-operating, 5% to 95% non-condensing
- Operating, 5% to 85% non-condensing

Warranty

- Three years limited parts and labor

Key Features

The following are key features of the Promise SuperSwap 1100:

Drive Types

- Supports standard Serial ATA drives
- Supports 7,200 rpm and 10,000 rpm drives

Hot Swap Support

- Supports Promise Serial ATA RAID products providing mirroring (RAID 1), striping & mirroring (RAID 0+1), and distributed parity (RAID 5) at hardware level
- Supports Promise non-RAID Serial ATA products
- Hot swappable disk drives, allowing for easy repair or replacement of drives

Status Indicators

- Power/Array Status LED indicates whether the power is On or Off, displays Array status (online, offline, critical, rebuilding and synchronizing) and Enclosure status (critical temperature, voltage and fan status).
- Disk LED displays during normal drive activity

Serial ATA Support

- Allows auto-sensing of Serial ATA drive and implementation of 150MB/sec burst transfers
- RAID Management and enclosure monitoring² via Promise Array Management (PAM) software³.

² For more precise monitoring of Fan RPM, Voltage, and Temperature, install and use Promise Array Management Software (PAM).
You can download PAM at no charge from: <http://www.promise.com>.

³ PAM only works with Promise RAID controllers.

Chapter 2: Getting Started

This section helps you prepare SuperSwap 1100 for installation into your personal computer or workstation. Please read this chapter carefully before attempting to install SuperSwap 1100.



Note

SuperSwap 1100 is Serial ATA compatible. It does not work with Parallel (Ultra) ATA hard disk drives.

Unpack Your SuperSwap 1100

The SuperSwap 1100 package contains the following items:

- SuperSwap drive enclosure
- Drive Carrier
- User Manual
- 3-pin to 3-pin SMBus Cable (SATA II compliant)
- 3-pin to 4-pin SMBus Cable
- 6-pin to 6-pin Daisy Chain cable
- Four (4) screws to attach a Hard Disk Drive to the Drive Carrier
- Eight (8) screws to mount the Housing inside your PC chassis
- Two (2) keys

If any of the contents are missing or damaged, please contact your dealer or distributor immediately.



Warning

SuperSwap 1100, like other parts of your system, is subject to damage by static electricity. Be sure that you're properly grounded (Promise recommends that you wear an anti-static strap or touch a grounded object) and that you unplug your system before installing SuperSwap 1100 or handling its components.



Caution

The SuperSwap 1100 ships with the drive carrier locked inside the enclosure. Use the key to unlock the enclosure before you attempt to slide out the drive carrier for the first time.



There are two phases to install the SuperSwap 1100 into your computer:

- Install the enclosure in your computer chassis
- Install a disk drive in the drive carrier

Install the Enclosure

To install the enclosure in your computer chassis, follow these steps:

1. Power down your computer and unplug the power cord.
2. Remove the computer cover.
3. Identify a free 5.25-inch drive bay and remove any bezel covering it.
4. Remove the drive carrier from the SuperSwap 1100 enclosure and set it aside.



Figure 1. Slide the SuperSwap enclosure into a drive bay.

5. Carefully slide the SuperSwap 1100 enclosure into the drive bay.
6. Align the front of the housing assembly with the front of your computer.

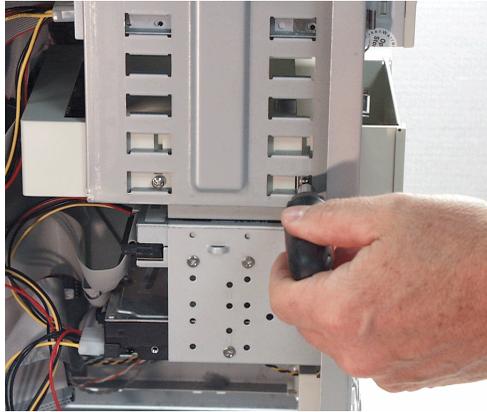


Figure 2. Install the mounting screws.

7. Install and snug the four screws into the four threaded mounting holes (two on each side) of the housing assembly.



Note

If you are installing more than one SuperSwap 1100 in the same computer chassis, install the other SuperSwaps now before making any cable connections.

8. Connect a Serial ATA cable from your FastTrak or SATA 150 Controller card to the Serial ATA connector on the back of the housing assembly. If you are installing multiple SuperSwap 1100s, make the same connection for each. See Figure 3, below.



Note

Although not required, Promise suggests connecting multiple SuperSwaps in Port number order.

For example, the top SuperSwap connects to FastTrak Port 1, the next SuperSwap connects to Port 2, and so on.

This arrangement makes it easy to remember which drive is on which channel when you replace or reassign the drives.

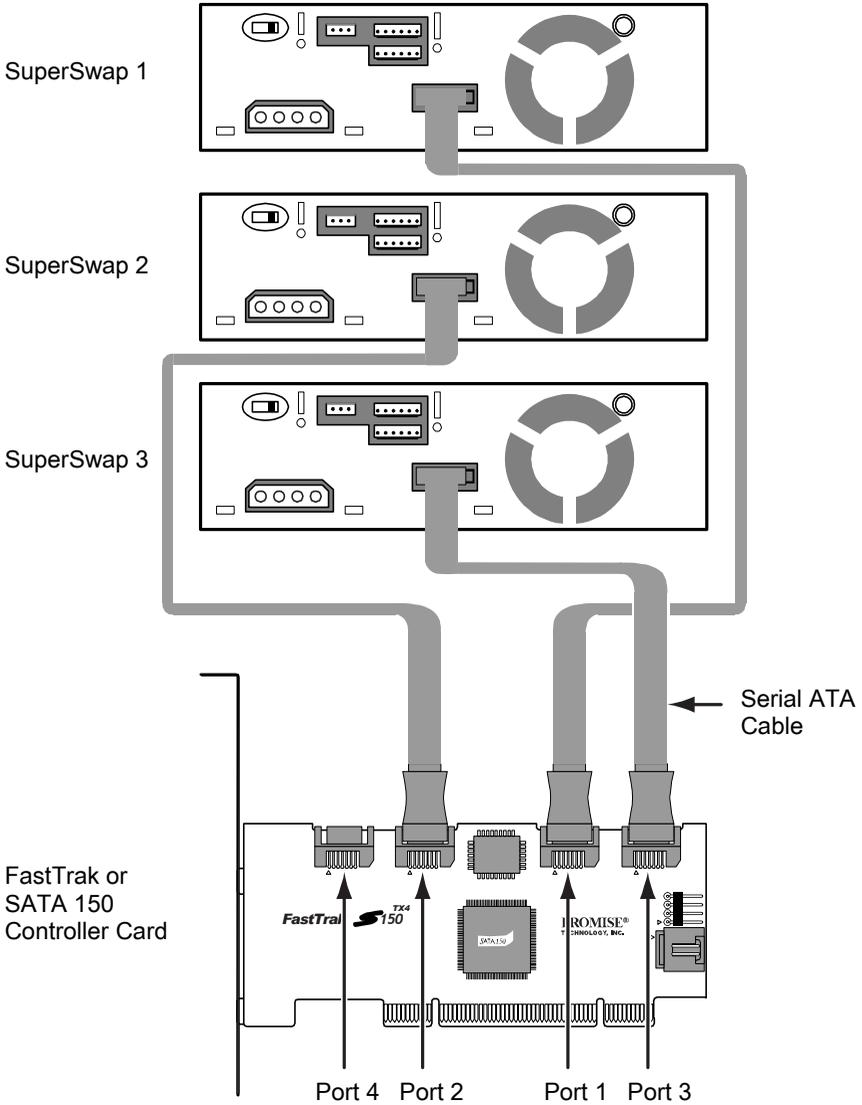


Figure 3. Serial ATA cable connections.

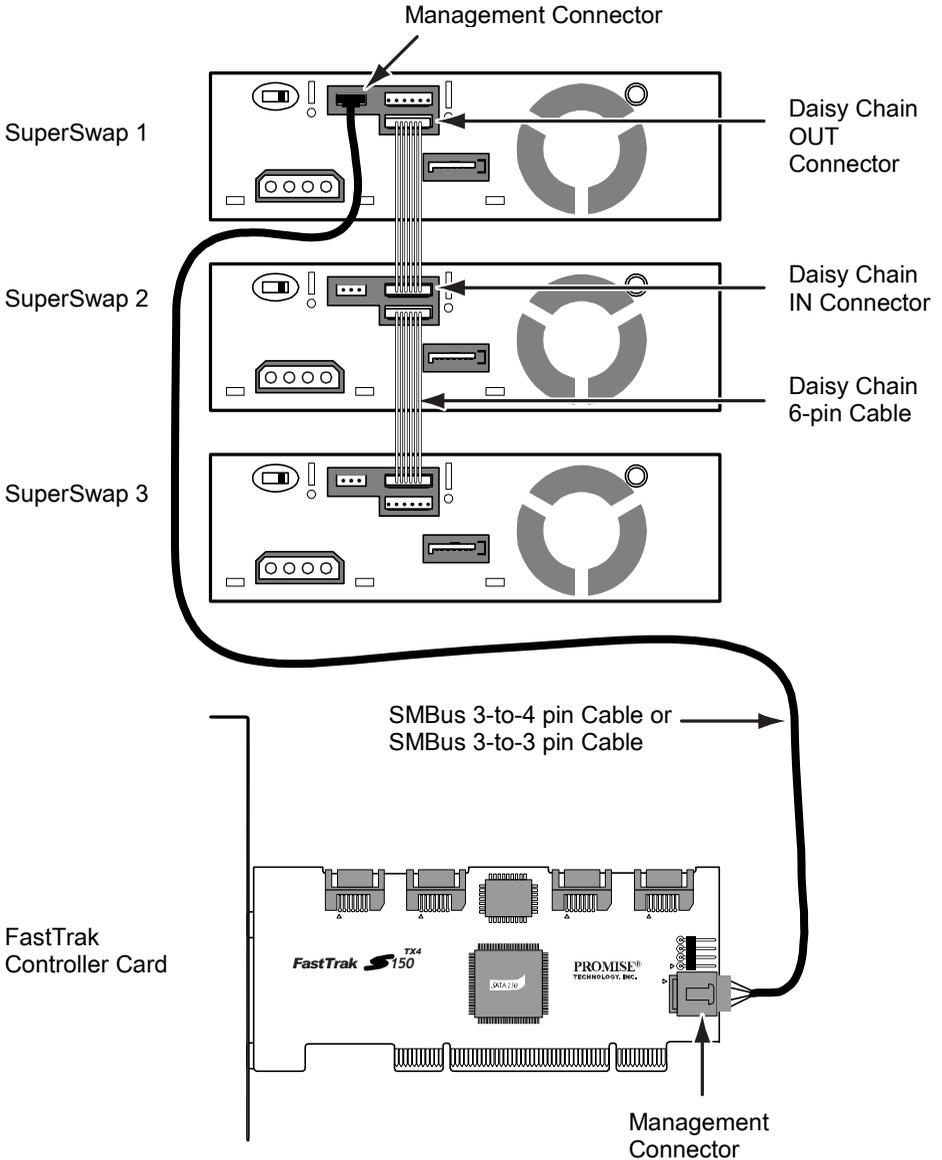


Figure 4. Management connections (FastTrak Controller only).



Note

Step 9 applies to the FastTrak RAID Controller only. If you have a SATA 150 Controller, go to Step 10.

The SMBus is the management or monitoring connection between the SuperSwap 1100 enclosure and the FastTrak RAID Controller. PAM uses this connection to monitor your enclosures. The daisy-chain cables extend the connection to multiple SuperSwaps.

9. Connect the 3-to-4 pin or 3-to-3 pin SMBus cable from the Management connector on the FastTrak Controller card to the Management connector on the back of the housing assembly.



Important

If you are installing multiple SuperSwap 1100s, connect the SMBus cable to the first SuperSwap as described in Step 9.

Then install a 6-pin daisy-chain cable from the daisy-chain OUT connector of the first SuperSwap to the daisy-chain IN connector of the second.

Do the same for additional SuperSwaps until all are connected. See Figure 4, above.

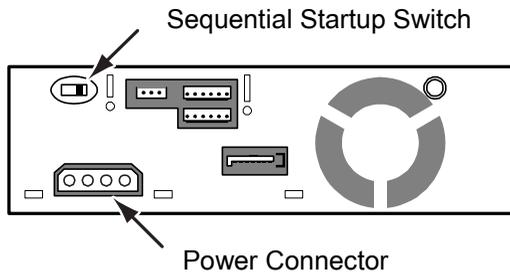


Figure 5. Power connection and Sequential Startup switch.

10. Connect one of your computer's internal power cables to the power connector on the back of the housing assembly. If you are installing multiple SuperSwaps, make the same connection for each one.



Note

SuperSwap 1100 uses a conventional 4-wire power cable from the PC's power supply. The drive carrier uses a Serial ATA power connector for the Serial ATA disk drive.

Sequential Startup Option

Sequential Startup enables SuperSwap to start one disk drive at a time in order to eliminate a sudden heavy draw on the computer's power supply.

The switch is located on the back of the SuperSwap enclosure (see Figure 5, above). ON is to the left, OFF is to the right.

The ON setting causes SuperSwap to wait two-seconds before spinning up its disk drive. The delay can be longer, depending on the settings of the previous SuperSwaps.

The OFF setting causes SuperSwap to spin up its disk drive when the power comes on.

The table below gives some examples of switch settings and their results. The Delay period is the time between the moment when the computer's power comes on and the moment the disk drive spins up.

Setting	Delay	Setting	Delay	Setting	Delay
OFF	None	OFF	None	OFF	None
ON	2 sec	ON	2 sec	ON	2 sec
OFF	None	ON	4 sec	ON	4 sec
ON	2 sec	OFF	None	ON	6 sec

Promise recommends setting the Sequential Startup on the first SuperSwap to OFF. The first SuperSwap is the one with the Management connection to the FastTrak Controller card.

11. Replace the computer's cover and reinstall the power cord.

Go on to *Hot Swap Drive* on the next page or *Install a Disk Drive* on page 11.

Hot Swap Drive

The Promise SuperSwap 1100 is designed to work with the Promise FastTrak Serial ATA RAID controllers that support RAID 1, RAID 0+1 and RAID 5. When used with these products and RAID configurations, the SuperSwap 1100 supports hot swapping of disk drives.

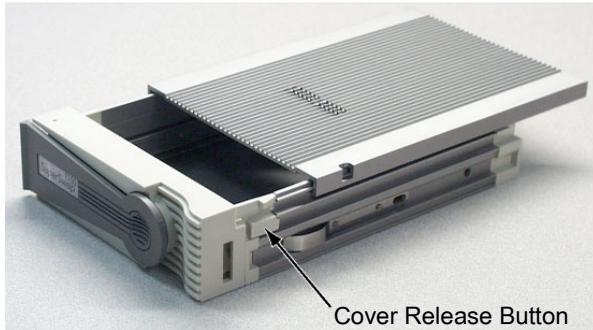
Hot swapping means you can remove a drive while your system is operating and replace it with another. You perform a hot swap when one of the drives has failed and needs replacement. The PAM Software reports drive problems and identifies which drive, by Channel (Port) number, needs replacement.



Caution

In all other cases, when removing disk drives or installing new drives, you **MUST** power down your system prior to removal or installation and ground yourself. Failure to do so may result in damaging the drive, the controller card, motherboard or other components.

Install a Disk Drive



1. Press the release button and slide the cover off the drive carrier.



2. Carefully place a Serial ATA disk drive into the drive carrier and slide it all the way to the back.



3. Install and tighten the four mounting screws to secure the disk drive in the drive carrier.
4. Replace the drive carrier top.



5. Carefully slide the drive carrier into the housing assembly with the handle turned out all the way.
As the carrier snaps into place, the handle will swing inward.
6. Press the handle flat against the drive carrier to fully seat it.



7. Insert the key and turn it 90 degrees clockwise to lock the drive carrier in the enclosure.



Note

The previous generation of SuperSwap enclosures, supporting Ultra ATA disk drives, used the key lock to activate power as well as secure the drive carrier.

SuperSwap 1100 uses the key lock only to secure the drive carrier. Power is available at all times, in order to comply with SATA 150 requirements.

Disk Drive Removal

To remove a disk drive, follow the *Disk Drive Installation* steps in reverse order.

Chapter 3: Troubleshooting

This section provides information on how to interpret LED display codes as reported by the SuperSwap 1100. Three LEDs appear on the front of each SuperSwap 1100 enclosure assembly: Status LED (left) and Disk LED (right).

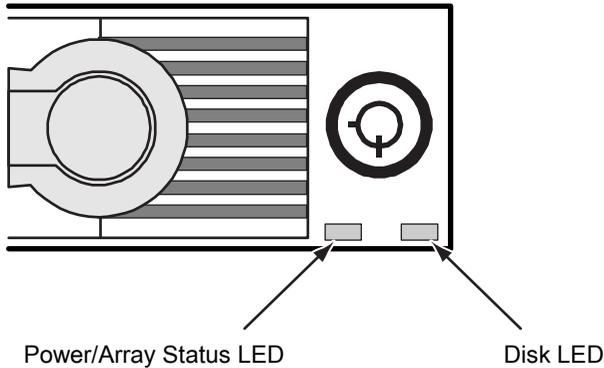


Figure 6. SuperSwap 1100 Status Indicators.



Note

The LEDs function only with the FastTrak RAID Controller. They do not function with the SATA 150 Controller.

Event: The Disk LED is steady green.

Cause: This is the “normal” condition when the OS detects the disk drive.

Event: The Disk LED is blinking green.

Cause: This is the “normal” condition when there is disk activity (read or write) executing on the drive.

Event: The Disk LED is dark.

Cause: No disk drive detected.

Fix: If a disk drive is present, reinstall it.

Event: The Status LED is steady green.

Cause: This is the “normal” condition when power is supplied to the drive and the computer has fully booted.

Event: The Status LED is amber (yellow).

Cause: The computer is booting. Wait for the computer to finish. The drive is *Critical*. The drive can be in the process of rebuilding. The LED will return to green status when the rebuild is complete and successful.

Event: The Status LED is red.

Cause: The drive has *Failed* or no drive is present. A failed drive may be marked as such because of power failure, hot removal or media access problems (such as a bad sector which fails retry).

Fix: Replace the failed drive. The new drive will be assigned to the failed drive’s original location and a rebuild operation will begin automatically. The LED turns amber (yellow) during the rebuild, then green when the rebuild is complete and successful.

Event: The Status and Disk LEDs do not light.

Cause: There is no power to the SuperSwap enclosure.

Fix: If the rest of your computer system is working, shut down the computer, open the case and check the power connection to the SuperSwap enclosure.



Note

During start-up, the Status LEDs display amber (yellow) while your computer is booting. They will turn green by the time your computer is fully booted.

If you have several SuperSwaps and you activated the Sequential Startup feature, the LEDs will turn green one-by-one.

As long as the PAM Software or Promise BIOS indicate that your array status is Functional, your array is operating normally.

Contacting Technical Support

Promise Technical Support provides several support options for Promise users to access information and updates. We encourage you to use one of our electronic services, which provide product information updates for the most efficient service and support.

If you decide to contact us, please have the following information available:

- Product model and serial number
- BIOS and driver version numbers
- A description of the problem / situation
- System configuration information, including: motherboard and CPU type, disk drive model(s), IDE/ATAPI drives & devices, and other controllers

Technical Support Services

Promise Online™ Web Site	http://www.promise.com (tech documents, drivers, utilities, etc.)
USA Tech Support Center	
E-mail Support	support@promise.com
Fax Technical Support	(408) 228-6401 Attention: Technical Support
Phone Technical Support	(408) 228-6402 7:30-5:00pm M-F Pacific Standard Time
If you wish to write us for support:	Promise Technology, Inc. Attn: Technical Support 1745 McCandless Drive Milpitas, CA 95035, USA

European Tech Support

E-mail Support	support@promise.nl
Fax Technical Support	+31 (0)40-256-9463 Attention: Technical Support
Phone Technical Support	+31 (0)40-235-2600 8:30-5:00pm The Netherlands Time
If you wish to write us for support:	Promise Technology EMEA Attn: Technical Support Luchthavenweg 81-125 5657 EA Eindhoven, The Netherlands

Pacific Rim Sales Office

E-mail Support	support@promise.com.tw
Fax Technical Support	886-3-578-2390 Attention: Technical Support
Phone Technical Support	886-3-578-2395 (Ext.8830) 9:00-6:00pm Taiwan Time
If you wish to write us for support:	Promise Technology, Inc. Attn: Technical Support 2F, No. 30, Industry E. Rd. IX Science-Based Industrial Park Hsinchu, Taiwan, R.O.C.

China Office

E-mail Support	support-china@promise.com
Fax Technical Support	86-(0)10-687-23940 Attention: Technical Support
Phone Technical Support	86-(0)10-687-23941 9:00-6:00pm China Time
If you wish to write us for support:	Promise Technology China Attn: Technical Support Room 3217, No. 11 South Zhong Guan Cun Street Hai Dian District, Beijing 100081 P.R. China

Appendix

Limited Warranty

Promise Technology, Inc. ("Promise") warrants that for three (3) years from the time of the delivery of the product to the original end user:

- a) the product will conform to Promise's specifications;
- b) the product will be free from defects in material and workmanship under normal use and service.

This warranty:

- a) applies only to products which are new and in cartons on the date of purchase;
- b) is not transferable;
- c) is valid only when accompanied by a copy of the original purchase invoice.
- d) is not valid on spare parts, fans and power supplies.

This warranty shall not apply to defects resulting from:

- a) improper or inadequate maintenance, or unauthorized modification(s), performed by the end user;
- b) operation outside the environmental specifications for the product;
- c) accident, misuse, negligence, misapplication, abuse, natural or personal disaster, or maintenance by anyone other than a Promise or a Promise-authorized service center.

Disclaimer of other warranties

This warranty covers only parts and labor, and excludes coverage on software items as expressly set above.

Except as expressly set forth above, Promise disclaims any warranties, expressed or implied, by statute or otherwise, regarding the product, including, without limitation, any warranties for fitness for any purpose, quality, merchantability, non-infringement, or otherwise. Promise makes no warranty or representation concerning the suitability of any product for use with any other item. You assume full responsibility for selecting products and for ensuring that the products selected are compatible and appropriate for use with other goods with which they will be used.

Promise does not warrant that any product is free from errors or that it will interface without problems with your computer system. It is your responsibility to back up or otherwise save important data before installing any product and continue to back up your important data regularly.

Promise's sole responsibility with respect to any product is to do one of the following:

- a) replace the product with a conforming unit of the same or superior product;
- b) repair the product;
- c) recover the product and refund the purchase price for the product.

Promise shall not be liable for the cost of procuring substitute goods, services, lost profits, unrealized savings, equipment damage, costs of recovering, reprogramming, or reproducing of programs or data stored in or used with the products, or for any other general, special, consequential, indirect, incidental, or punitive damages, whether in contract, tort, or otherwise, notwithstanding the failure of the essential purpose of the foregoing remedy and regardless of whether Promise has been advised of the possibility of such damages. Promise is not an insurer. If you desire insurance against such damage, you must obtain insurance from another party.

Some states do not allow the exclusion or limitation of incidental or consequential damages for consumer products, so the above limitation may not apply to you.

This warranty gives specific legal rights, and you may also have other rights that vary from state to state. This limited warranty is governed by the State of California.

Your Responsibilities

You are responsible for determining whether the product is appropriate for your use and will interface with your equipment without malfunction or damage. You are also responsible for backing up your data before installing any product and for regularly backing up your data after installing the product. Promise is not liable for any damage to equipment or data loss resulting from the use of any product.

Returning Product For Repair

If you suspect a product is not working properly, or if you have any questions about your product, contact our Technical Support Staff through one of our Technical Services, making sure to provide the following information:

- Product model and serial number (required)
- Return shipping address
- Daytime phone number
- Description of the problem
- Copy of the original purchase invoice

The technician will assist you in determining whether the product requires repair. If the product needs repair, the Technical Support Department will issue an RMA (Return Merchandise Authorization) number.

Return **ONLY** the specific product covered by the warranty (do not ship cables, manuals, diskettes, etc.), with a copy of your proof of purchase to:

USA and
Canada:

Promise Technology, Inc.
Customer Service Dept.
Attn.: RMA # _____
1745 McCandless Drive
Milpitas, CA 95035

Other Countries:

Return the product to your dealer or
retailer.
Contact them for instructions before
shipping the product.

You must follow the packaging guidelines for returning products:

- Use the original shipping carton and packaging
- Include a summary of the product's problem(s)
- Write an attention line on the box with the RMA number
- Include a copy of proof of purchase

You are responsible for the cost of insurance and shipment of the product to Promise. Note that damage incurred due to improper transport or packaging is not covered under the Limited Warranty.

When repairing returned product(s), Promise may replace defective parts with new or reconditioned parts, or replace the entire unit with a new or reconditioned unit. In the event of a replacement, the replacement unit will be under warranty for the remainder of the original warranty term from purchase date, or 30 days, whichever is longer.

Promise will pay for standard return shipping charges only. You will be required to pay for any additional shipping options (such as express shipping).

