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Introduction

Thank you for purchasing Promise Technology' s SuperSwap. The SuperSwap drive housing installs easily into any 5.25" component bay in your PC. SuperSwap' s drive carrier and housing extend the data storage capabilities of your system by allowing you to easily swap most 3.5" form factor ATA hard drives in and out of your PC, without the hassle of opening and closing your PC' s case. SuperSwap accepts Ultra ATA/100 and Ultra ATA/66 drives. When used with Promise Technology' s ATA RAID 1, 3, or 5 products¹, SuperSwap allows users to "hot swap" a failed drive without powering down a system while fully protecting hard drive and internal system components.

Specifications

Interface

- Fits most 3.5" form factor ATA hard disk drives
- Standard ATA/IDE interface
- Supports Ultra ATA/100 and Ultra ATA/66 drives and cables
- Built-in Power/Drive Status LED and Drive Activity LED indicators
- **Built in Monitoring of SuperSwap Fan RPM, Temperature & Voltage levels with installation of FastCheck or SuperCheck Monitoring software.

Housing Assembly

- Dedicated cooling fan
- Keyed locking mechanism
- Spring-loaded pivoting access door

Drive Carrier

- Durable metal construction
- Fully-ventilated
- Unique handle design automatically unplugs drive chassis from housing when pulled up
- Removable drive access cover

Physical/Environmental

Dimensions

- Housing Assembly: 8.5" x 5.75" x 1.625" (21.59cm x14.605cm x4.128cm)
- Drive Carrier: 7.75" x 4.625" x 1.625" (19.685cm x 11.748cm x 4.128cm)

Operating Temperature

- 32°F to 122°F (0°C to 50°C)

Relative Humidity

¹ SuperTrak100, SuperTrak66, FastTrak100, FastTrak66

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- 5% to 95% (non-condensing)

Warranty

- Two years limited parts and labor

Key Features

The following are key features of the Promise SuperSwap:

Drive Types

- Supports standard IDE drives (Ultra ATA, DMA, and EIDE)
- Supports Ultra ATA/100 and Ultra ATA/66.

ATA RAID “Hot Swap” Support

- Supports Promise ATA RAID products allowing “hot swap” under RAID 1, 3, or 5
- Hot swap allows for easy repair/replacement of drives while PC remains active

Status Indicators²

- Power/Drive Status LED shows power on/off when not used with Promise SuperTrak100 or SuperTrak66 products
- Power/Drive Status LED displays status of drive in array (online, offline, critical (rebuilding/synchronizing) if used with Promise SuperTrak100 or SuperTrak66 products
- Disk Activity LED displays normal drive operation

Ultra ATA/100 Support

- Passes all Ultra ATA/100 information to controller card
- Allows auto-sensing of Ultra ATA/66 drive and implementation of 66MB/sec burst transfers

² Note: Users must obtain and install Promise FastTrak Driver v.1.30 or later in order to implement LED display functions for SuperSwap enclosure. Go to www.promise.com to find these drivers.

Note: For proper monitoring functionality of Fan RPM, Voltage, & Temperature users must install FastCheck for FastTrak Product Family or SuperCheck for SuperTrak, please visit www.promise.com for the latest software revisions.

Getting Started

This section is designed to help prepare SuperSwap for installation into your personal computer. Please read through this chapter carefully before attempting to install SuperSwap. As a standard precaution when working with hard drives, users should backup any hard drives containing data that may be connected to SuperSwap before making any changes.

Unpacking SuperSwap

The SuperSwap package should contain the following items:

- SuperSwap Housing Assembly
- SuperSwap Drive Carrier and removable cover
- SuperSwap User' s Manual
- 12 screws
- Two keys
- Registration card
- Drive ID stickers

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



NOTE: SuperSwap, like every other valuable part of your PC, is subject to static electricity. Be sure that you are properly grounded (Promise recommends that you wear an anti-static strap, or place a free hand on a grounded object), and that your PC is unplugged before installing SuperSwap.

Installing Drive Housing Assembly

Installing SuperSwap into your PC is a simple process. There are two basic components involved: installing the housing assembly in your system; and installing a hard drive in the drive carrier. Make sure that you're properly grounded when installing SuperSwap, either by touching a grounded portion of your PC, or by wearing a ground strap.

1. Power down and unplug your PC, then remove its cover.
2. Slide the housing assembly (see Figure 2-1 next page) into one of the 5.25" drive bays of your system.
3. Align the front of the housing assembly with the front of your system, then install the included screws in the four anchor holes (two on each side) of the assembly (see Figure 2-1).
4. Set the hard drive's jumper setting to Master/Slave/Cable-Select. Consult your hard drive user manual.
5. Connect your PC's IDE hard drive cable to the IDE HDD connector on the back of the housing assembly (see Figure 2-2). Make sure that the red edge of the cable corresponds to Pin 1 of the housing assembly's connector (opposite the fan, and near the power connector; see Figure 2-2).



NOTE: SuperSwap needs an 80-wire/40-pin IDE cable to work properly.

6. Connect the power cable to the power connector (see Figure 22) on the back of the housing assembly.
7. After making sure that all connections are properly seated, replace the PC's cover.

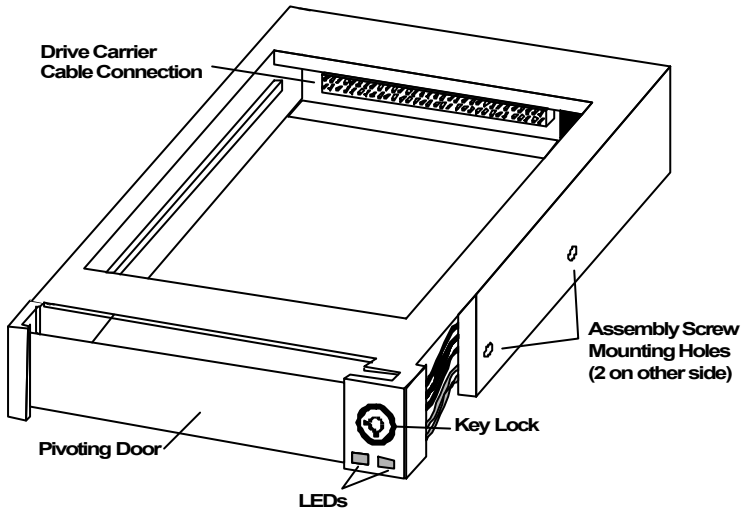


Figure 2-1: SuperSwap Housing Assembly

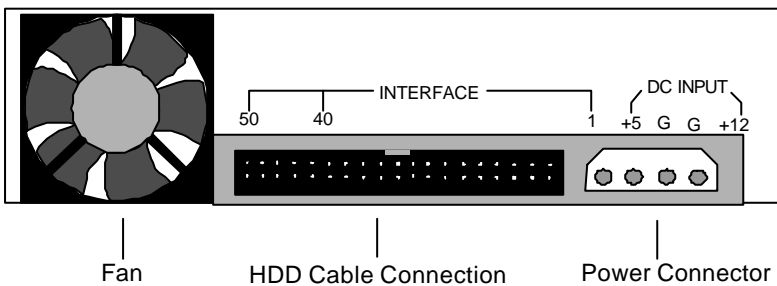


Figure 2-2: SuperSwap Housing Assembly Rearview

NOTE: If using the SuperSwap solely as a SLAVE device, make certain to connect the end of the IDE Cable (not to the middle) to the SuperSwap Chassis.

Removing/Installing Drives

The Promise SuperSwap is designed to work with several Promise ATA RAID controllers that can support RAID 1 (SuperTrak100/66, FastTrak100/66), RAID 3 (SuperTrak100/66), or RAID 5 (SuperTrak100/66). Used with these products and RAID levels, the SuperSwap supports “hot swapping” of hard drives (meaning you can remove a drive while your system is operating and replace it with another. This procedure is generally performed by the user in the event that one of the drives has failed and needs replacement.



NOTE: If not implementing RAID 1, 3, or 5 as described above, the SuperSwap will work as a removable drive carrier for a non-bootable drive. Users should power down their systems prior to removing and replacing drives unless the Operating System supports hard drive removal during normal operation.

To remove or install a drive:

1. Using the provided key, unlock the drive carrier by turning the key in the lock 90° counterclockwise (see Figure 2-1).
2. Remove the drive carrier from the housing assembly by firmly pulling on the drive carrier's handle (see Figure 2-3).
3. On the left side of the drive carrier cover, pull the small metal tab slightly away from the cover, then slide the cover back off (see Figure 2-3).
4. Attach the drive carrier's ATA HDD connector to the hard drive's data connector, making sure that the red edge of the cable corresponds to Pin 1 of the hard drive's connector.



NOTE: SuperSwap is Ultra ATA/100 compatible and backward compatible with Ultra ATA or EIDE drives.

5. Connect the drive carrier's power cable to the hard drive's power connector.
6. Place the hard drive in the drive carrier, and then install four screws (two on either side of the hard drive, or four on the bottom) to secure the hard drive in the drive carrier.
7. Replace the drive carrier access cover.
8. Slide the drive carrier back into the housing assembly. The carrier will latch back into place when handle is pushed back in.
9. Lock the carrier into place by turning the key in the lock 90° clockwise (see Figure 2-1). Power will not reach the hard drive unless the carrier is locked into place.



NOTE: In order to keep track of each drive carrier and its corresponding drive housing assembly, you have been supplied

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with two matching sets of numbered stickers. Place one sticker on the front of the drive housing assembly and the matching numbered sticker on the front of the drive carrier.

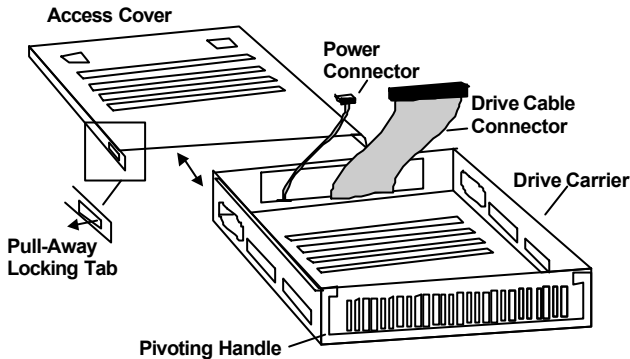


Figure 2-3: Drive Carrier Assembly

LED Messages

This section provides information on how to interpret LED display codes as reported by the SuperSwap³ when connected to the Promise SuperTrak66. Two LEDs appear on the front of the SuperSwap housing assembly: Power/Drive Status LED (left) and disk activity LED (right).

Power/Drive Status LED

Display	Means
Green*	Drive is OK
Amber (orange)	Drive is rebuilding and array is in "critical" mode
Red	Drive is bad or has failed and is now "offline"; array may also have failed depending on RAID level
Black (dark)	No drive detected or no power to drive housing

* Indicates only Power On when SuperSwap is not connected to a Promise SuperTrak66 card.

Disk Activity LED

³ Note: Users must obtain and install Promise FastTrak Driver v.1.30 or later in order to implement LED display functions for the SuperSwap enclosure. Go to www.promise.com to obtain these drivers.

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Usually dark or black, LED lights green when disk is accessed.

Troubleshooting

Event: The drive status LED is red.

Cause: This shows a failed drive. A failed drive may be marked as such because of power failure or media access problem (such as a bad sector which fails retry). When a drive in a fault tolerant array is determined to have failed, the remaining drives in the array are internally adjusted to a later “generation” status to indicate that they represent the current version of the array.

Fix: Upon replacing a failed drive, the new drive will be assigned to the failed drive's original location. A rebuild will then begin based on data from the drives in the array that have the latest “generation.” This “generation” tracking allows accurate reproduction of current data from the array drives that may have been written to during the time that the array was critical.

Event: The drive status LED is orange (amber).

Cause: This shows that the drive is in the process of rebuilding, following some sort of critical array status in a fault tolerant array. The LED will return to green status when the rebuild is complete and successful.

Event: The drive status LED does not light up, even though others light up.

Cause: The keylock on the housing is not turned ON

Fix: Lock the keylock to transmit power to the drive.

Cause: The drive carrier is not fully and correctly inserted into the drive housing.

Fix: Make sure the handle is fully down and the carrier is pushed all the way into the housing.

Cause: Either the cabling from the controller card to the housing is not correctly installed or the cabling from the carrier to the drive is not correctly installed.

Fix: Make sure that there is indeed a drive installed correctly in a drive carrier with the power and data cables properly attached.

Cause: The drive is not jumpered correctly.

Fix: Consult your drive manufacturer' s manual or the drive casing itself and jumper the drive for "single" drive operation.

Event: If HDD is set to the slave position (and no Master present), it needs to be attached at the far end connector not the middle connector.

Cause: The Master/Slave selecting of SuperSwap box depend on the cable select.

Fix: Thus you must put on slave position of the cable when you set the drive in slave mode. It mean that you can direct use the cable select to do the Master/Slave selecting or Drive setting in Master mode and put on Master position of cable Drive setting in Slave mode and put on Slave position of cable.

If the above items all seem okay, but the LED still remains unlit, you may try placing a known good drive with its carrier in the slot and see if the LED lights up. If the LED still remains unlit, then there is either a problem with the connection (the data cable attached to this channel or the controller card connection itself) or, although highly unlikely, a damaged LED. Verify that the drive connected to this channel is not working. If the drive is working, then the LED should be replaced. If the drive is not working, then it is a connection problem.

Limited Warranty

Promise Technology, Inc. ("Promise") warrants that for two (2) 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.

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.

Appendix A

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 which vary from state to state. This limited warranty is governed by the State of California.

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:

Promise Technology, Inc.
Customer Service Dept.
Attn.: RMA # _____
1460 Koll Circle
San Jose, CA 95112

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).

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.

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