

**StorCase® Technology**  
**Data Express®**  
**DX115 for Backup**

*Removable SATA 3Gbps  
Drive Enclosure*

**User's Guide**

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DX115 for Backup**

*Removable SATA 3Gbps  
Drive Enclosure*

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**Part No. D89-0000-0306 A01      June 2006**

*Kingston Technology Affiliate*



**StorCase Technology, Inc.  
17600 Newhope Street  
Fountain Valley, CA 92708-9885  
Phone (714) 438-1850      Fax (714) 438-1847**

## LIMITED WARRANTY

STORCASE TECHNOLOGY, Incorporated ("StorCase") warrants that its products will be free from defects in material and workmanship, subject to the conditions and limitations set forth below. StorCase will, at its option, either repair or replace any part of its product that proves defective by reason of improper workmanship or materials. Repair parts or replacement products will be provided by StorCase on an exchange basis, and will be either new or reconditioned to be functionally equivalent to new.

This warranty does not cover any product damage that results from accident, abuse, misuse, natural or personal disaster, external power surge or failure, or any unauthorized disassembly, repair or modification. StorCase will not be responsible for any software, firmware or other customer data stored within, or interfacing with a StorCase product.

### Duration of Warranty

**Twelve-Year Warranty:** The following StorCase products are covered by this warranty for a period of twelve (12) years from the original date of purchase from StorCase or its authorized resellers: all Data Express® Profile (model types "DX") removable device enclosures.

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To obtain warranty service, the defective product must be returned to your local authorized StorCase dealer or distributor, or, with prior StorCase approval, to the StorCase factory service center.

For defective products returned directly to StorCase, a Return Material Authorization ("RMA") number must be obtained by calling StorCase Customer Service at (714) 445-3455. The RMA number must be prominently displayed on the outside of the return package. Shipments must be freight-prepaid and insured, and must include the product serial number, a detailed description of the problem experienced, and proof of the original retail purchase date. Products must be properly packaged to prevent damage in transit. Damage resulting from improper packaging will not be covered by this warranty. The StorCase factory service center is located at 17650 Newhope Street, Receiving Dock, Gate #4, Fountain Valley, CA 92780, U.S.A.

## Free Technical Support

StorCase provides free technical support. If you experience any difficulty during the installation or subsequent use of a StorCase product, please contact StorCase's Technical Support Department prior to servicing your system. This warranty covers only repair or replacement of defective StorCase products, as described above. StorCase is not liable for, and does not cover under warranty, any costs associated with servicing and/or installation of StorCase products.

StorCase Technical Support can be reached in the U.S. at (714) 438-1858 or toll-free at (888) 435-5460 (U.S. and Canada only). StorCase European Technical Support can be reached in the U.K. at +44 (0) 1932 738900.

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## Declaration of Conformity

**Company Name:** StorCase Technology, Inc.

**Corporate Office Address:** 17600 Newhope Street  
Fountain Valley, CA 92708

**Manufacturing Address:** 17600 Newhope Street  
Fountain Valley, CA 92708

**Product Name:** Data Express SATA DX115

**Model Number:** S22J106, S22J107, S22J108, S22J109, S22J110,  
S22J111, S22J112, S22J113, S22J114

Conforms to the following standards:

**EMC Directives:** ITE Emission  
(89/336/EEC) - EN 55022: 1998+A1+A2  
EN 55024: 1998+A1+A2 ITE Immunity  
- IEC 61000-4-2 - IEC 61000-4-8  
- IEC 61000-4-3  
- IEC 61000-4-4  
- IEC 61000-4-6

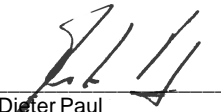
**Safety Standards:** CAN/CSA-C22.2 No. 950-95  
**CSA (NRTL/C)** UL 1950

**TUV** EN 60950: 2000

**EMI Standards:** FCC Part 15, Class B

**EMC Standards:** AS/NZS 3548 Information Technology Equipment  
Supplier's Code Number N10664

**Year of Manufacture:** 2005

Signature:   
Full name: Dieter Paul  
Position: President

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## Table of Contents

INTRODUCTION .....	1
Packaging Information .....	1
Serial Numbers .....	1
Package Contents .....	2
General Description .....	3
Front Panel .....	4
Receiving Frame Rear Panel .....	6
INSTALLATION .....	7
Preparation .....	7
Installing the Drive into the Drive Carrier .....	7
Installing the Receiving Frame .....	10
Drive Activity LED .....	11
Drive Hot Swap .....	12
Data Backup and Restoration .....	13
Replacing the Cooling Fan .....	14
APPENDICES .....	15
Appendix A - Specifications/Dimensions .....	16
Appendix B - Optional Accessories .....	17
Carrying Case .....	17
Reader's Comments .....	19

## List of Figures

Figure 1:	Package Contents .....	2
Figure 2:	SATA 3Gbps DX115 Receiving Frame and Carrier .....	3
Figure 3:	Front Panel .....	4
Figure 4:	Receiving Frame Motherboard (Rear View) .....	6
Figure 5:	Drive Installation Assembly .....	8
Figure 6:	Drive Cover Installation .....	9
Figure 7:	Receiving Frame Mounting Holes .....	10
Figure 8:	Removing the Cooling Fan .....	14
Figure A-1:	SATA 3Gbps DX115 Physical Dimensions .....	17
Figure B-1:	Carrying Case .....	18

**NOTICE:** This User's Guide is subject to periodic updates without notice. While reasonable efforts have been made to ensure the accuracy of this document, StorCase Technology, Inc. assumes no liability resulting from errors or omissions in this publication, or from the use of the information contained herein.

Please check the StorCase web site at <http://www.storcase.com> or contact your StorCase representative for the latest revision of this document.

## INTRODUCTION

### Packaging Information

The StorCase Technology Data Express® system is shipped in a container designed to provide protection and prevent damage during shipment. The Data Express unit was carefully inspected before and during the packing procedure at the factory. Bent or broken connectors, or evidence of other damage to the Data Express should be reported to the shipper immediately. Refer to Figure 1 for the package contents.

If the wrong Data Express model has been received, please call your reseller or StorCase at (800) 435-0642 to arrange for a Return Material Authorization (RMA). StorCase cannot accept returns which do not display an RMA number on the outside of the package. Return the unit with all the original packing materials.

Before removing any component from its packaging, discharge any static electricity by touching a properly grounded metal object.

### Serial Numbers

Both the SATA 3Gbps DX115 receiving frame and carrier are labeled with serial numbers. These numbers must be reported to the StorCase Customer Service Representative in order to receive a Return Material Authorization (RMA) for warranty claims. Locate the serial number labels and record the numbers in the spaces provided below.

**Receiving Frame:**

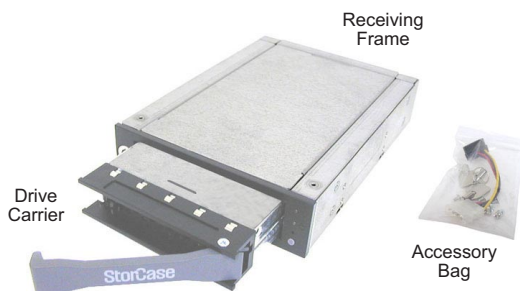
**Device Carrier:**



## Package Contents

**NOTE:** Package contents may vary, depending on model.

The DX115 for Backup package contents include the following items. If any item is missing or damaged, contact your StorCase dealer for a replacement.



- |                                |                              |
|--------------------------------|------------------------------|
| 1. Drive Carrier               | 7. Alignment Tool            |
| 2. Receiving Frame             | 8. Insert Sheets (not shown) |
| 3. M3 Phillips Flat Hd. Screws | 9. EMC® Retrospect® Backup   |
| 4. Split USB Cable             | Software CD (not shown)      |
| 5. Drive Lock Keys             |                              |
| 6. Self-Tapping Screws         |                              |

*Figure 1: Package Contents*

## General Description

**NOTES:** For SATA 3Gbps operation, a SATA 3Gbps controller and SATA 3Gbps hard drive are required.

Grey power switch indicates SATA 3Gbps DX115 receiving frame. Blue power switch indicates SAS DX115 receiving frame.

SATA 3Gbps DX115 receiving frame supports SATA drives only (SAS drives are not supported).

SAS DX115 receiving frame supports SATA and SAS drives.

The StorCase Technology **Data Express® SATA 3Gbps DX115 for Backup** is a removable drive carrier and receiving frame, designed to provide durable and reliable mounting for one (1) low-profile (up to 1" high) 3.5" SATA 3Gbps drive within a 5.25" half-height peripheral slot (Figure 2). It is downward-compatible with earlier SATA technology.

The SATA 3Gbps DX115 allows a drive to be removed and transported to another SATA 3Gbps DX115-equipped computer or expansion chassis, and also provides the ability to secure sensitive data by removing and storing the drive safely for future use.

The DX115 for Backup includes a EMC® Retrospect® (Express or Disk-to-Disk) Backup software CD, which allows for easy data backup and restoration.



*Figure 2: SATA 3Gbps DX115 Receiving Frame and Carrier*

This User's Guide describes the steps required to install the SATA 3Gbps DX115 removable enclosure inside a computer peripheral bay or external expansion chassis. This guide supplements documentation provided with the host computer system, operating system, and the drive to be installed within the carrier.

## Front Panel

(Figure 3)



*Figure 3: Front Panel*

- **Key Lock** - This lock prevents unauthorized removal or installation of the carrier.
- **Carrier Handle** - This handle allows the ejection and installation of the drive carrier.

To eject the carrier, simply push on carrier handle. Once handle pivots outward, pull handle to remove carrier.

To install the carrier, simply insert the drive carrier into the receiving frame. Push handle in to fully seat carrier into the receiving frame.

- **Power Switch** - This switch allows the drive carrier to be powered OFF/ON at anytime.

**NOTE:** Grey power switch indicates SATA 3Gbps DX115 receiving frame. Blue power switch indicates SAS DX115 receiving frame.

If the drive is already installed in the receiving frame before a system power up, you do not have to press and hold the switch to power on the drive. During system power up, the drive will automatically spin-up and the Drive Ready LED will flash. Drive is ready to be accessed when Drive Ready LED is ON.

**CAUTION:** It is the responsibility of the user to ensure that the host does not access the drive while attempting to remove the drive. Failure to do so may result in loss of data and/or damage to the drive itself!

- **Power Switch** (cont'd)

**OFF** - Press and hold down switch until the Drive Ready LED starts to flash. Drive is ready to be removed when the Drive Ready LED is OFF.

**ON \*** - Press and hold down switch until the Drive Ready LED starts to flash. Drive is ready to be accessed when the Drive Ready LED is ON.

\* Only necessary if:

1. Drive is inserted into the receiving frame *after* a system power-up.
2. Drive was removed and inserted *while* system is powered on.

- **Drive Ready/Error LED** - This bi-color LED indicates the status of the drive, fan, or DC power, depending on the color.

**Drive Ready (Blue):**

Flashing blue LED indicates that drive is inserted and powering up.

Steady blue LED glow indicates drive is powered on and ready for access.

**Error (Red):**

Flashing red and blue LED indicates a fan failure.

Steady red LED glow indicates DC power failure.

Flashing red LED indicates a SAS drive inserted into the receiving frame (SAS drives are not supported).

- **Drive Activity LED** - This amber LED indicates when the host computer is accessing the data on the drive. LED will flash during communication with the host computer.

Some SATA PC systems/host controllers provide support for the Drive Activity LED feature (refer to the SATA PC system/host controller manufacturer's documentation for further information).

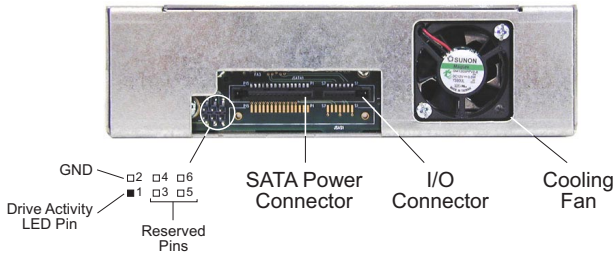
Drive Activity LED can be enabled via host connection (cable not included) to Pin 1 located on Receiving Frame Motherboard (Figure 2). Refer to the SATA PC system/host controller manufacturer's documentation for further information.

- **Fan Error LED Disable Switch** - This switch allows the user to disable the Fan Error LED (by inserting a paper clip or similar object to activate switch).

StorCase recommends replacing a faulty fan immediately. Contact StorCase for spare fan ordering information.

## Receiving Frame Rear Panel

(Figure 4)



*Figure 4: Receiving Frame Motherboard  
(Rear View)*

- **I/O Connector** - The input/output connector provides a standard interface for all SATA signals.
- **SATA Power Connector** - 15-Pin SATA power connector to accept DC power.

**NOTE:** If your system does not accommodate the SATA power connector, simply use the SATA-to-DC Power adapter cable (included in the accessory bag) to connect to your system's DC power.

- **Drive Activity LED Pins** - Pin 1 is used for host connection (cable not included) to the Drive Activity LED (Figure 1). Some SATA PC systems/host controllers provide support for the Drive Activity LED feature (refer to the SATA PC system/host controller manufacturer's documentation for further information).
- **Factory Reserved Pins** - These pins are reserved for factory use only - Do not install jumper under any circumstances!
- **Cooling Fan** - Field-replaceable fan provides ample cooling (4.6 CFM) for drive.

## INSTALLATION

**NOTE:** For SATA 3Gbps operation, a SATA 3Gbps controller and SATA 3Gbps hard drive are required.

Grey power switch indicates SATA 3Gbps DX115 receiving frame. Blue power switch indicates SAS DX115 receiving frame.

SATA 3Gbps DX115 receiving frame supports SATA drives only (SAS drives are not supported).

SAS DX115 receiving frame supports SATA and SAS drives.

### Preparation

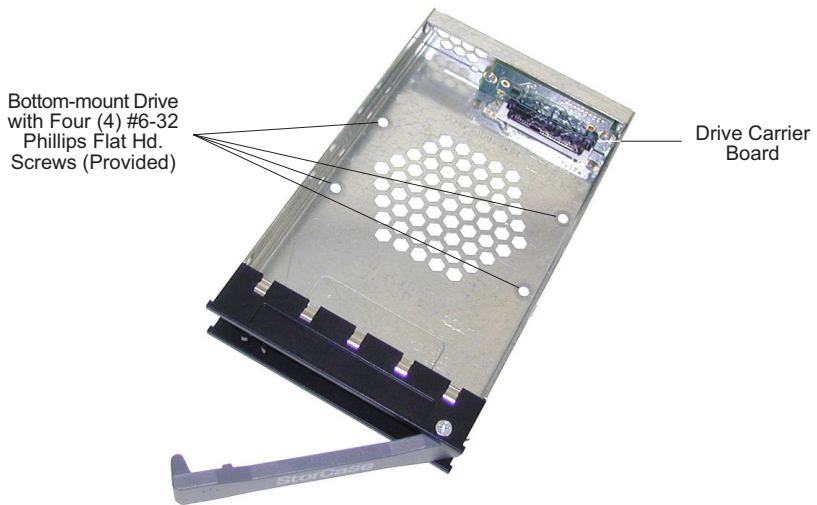
**NOTE:** A #1 and #2 Phillips screwdriver will be required during this procedure.

While performing the steps in this section, work on a soft surface to prevent excessive shock to the drive being installed. Also refer to the manufacturer's documentation provided with the drive.

1. Remove the drive (not included) from its protective packaging.
2. Remove the drive cover from the DX115 drive carrier (Figure 6) and save the screws.

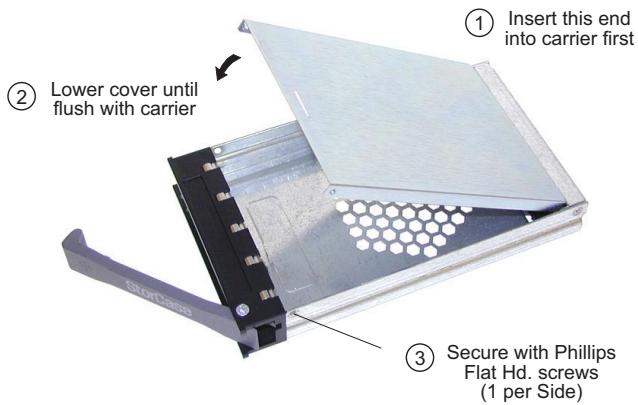
### Installing the Drive into the Drive Carrier

1. Carefully insert the drive (not included) into the carrier. Slide the drive towards the Drive Carrier Board, so that the I/O connector on the drive mates with the connector on the Drive Carrier Board (Figure 5). Turn the drive/carrier assembly over.
2. Fasten the drive into place with four (4) #6-32 Phillips Flat Hd. screws (Figure 5). Some drives may require minor adjustment before securing into carrier with screws.



*Figure 5: Drive Installation Assembly*

3. Install the provided drive cover (Figure 6).



*Figure 6: Drive Cover Installation*

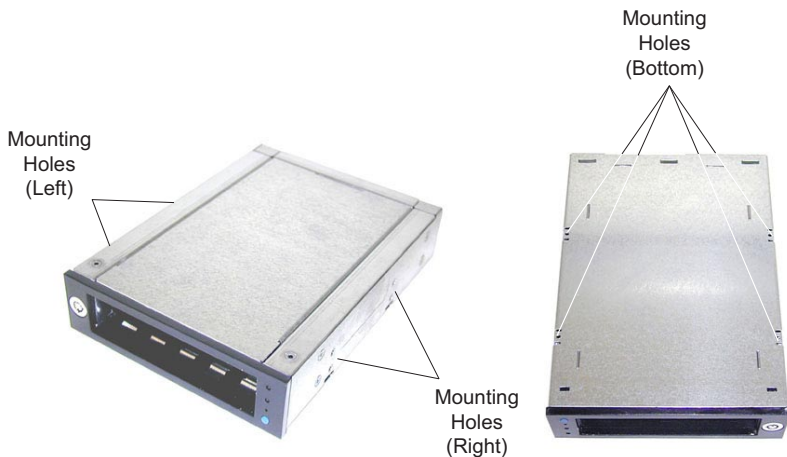


## Installing the Receiving Frame

**NOTE:** Use a #2 Phillips screwdriver for this procedure.

The drive should be installed into the carrier before installing the receiving frame into the mounting bay of a computer or expansion chassis.

1. Turn OFF power to the computer.
2. Open the computer system according to the manufacturer's instructions. If necessary, temporarily remove any expansion boards that may make installation difficult.
3. With the drive carrier locked in place inside the receiving frame, install the DX115 into the 5.25" drive opening in the computer or expansion chassis. Use the appropriate guides to position the Data Express, and fasten it into place with the four (4) M3 Phillips screws provided. Figure 7 illustrates the location of the mounting holes. Mounting holes are provided on each side and the bottom of the receiving frame to accommodate a variety of mounting configurations. Use the mounting holes which best suit the computer or expansion chassis configuration. Note that bottom mounting holes require self-tapping screws (not provided).
4. Adjust the front of the receiving frame so the carrier slides freely in and out on the receiving frame guides. The position of adjoining peripheral units may require adjustment.



*Figure 7: Receiving Frame Mounting Holes*

5. Connect the I/O cable from the host adapter to the receiving frame. The Pin 1 indicator on the cable must be properly aligned.
6. Connect the SATA power cable from the the computer or expansion chassis to the SATA power connector on the DX115 receiving frame. Refer to Figure 4 for the receiving frame power connector location.

**NOTES:** If your system does not accommodate the SATA power connector, simply use the SATA-to-DC Power adapter cable (included in the accessory bag) to connect to your system's DC power.

7. Replace any expansion boards that may have been removed earlier. Replace the system cover according to the manufacturer's instructions.
8. Reconnect any system or peripheral cables removed earlier.
9. Turn ON power to the computer. If the installation has been successful, and all the cables have been properly attached, the system should boot normally. Although the computer may not recognize the DX115 yet, the front panel display on the receiving frame should illuminate.
10. The new drive may need to be formatted or initialized prior to use with the operating system and applications software. Refer to the drive and/or computer manufacturer's documentation for formatting information.

### Drive Activity LED

**NOTE:** Some SATA PC systems/host controllers provide support for the Drive Activity LED feature (refer to the SATA PC system/host controller manufacturer's documentation for further information).

The Drive Activity LED can be enabled via host connection (cable not included) to Pin 1 located on the Receiving Frame Motherboard (Figure 4).

Refer to the SATA PC system/host controller manufacturer's documentation for further information.

## Drive Hot Swap

**NOTES:** To download hot swap software, please visit the StorCase web site at:  
**<http://www.storcase.com/hotswap/>**

DriveSwap32 supports Microsoft® Windows® 2000/2000 Server/2003 Server/  
XP Home/XP Professional.

DriveSwap32 will not run on Windows 95/98/ME/NT, or Windows 64-bit version.

For easy drive hot swap, please refer to the DriveSwap32 insert sheet (provided) for further information.

## Data Backup and Restoration

**NOTES:** The DX115 for Backup includes a EMC® Retrospect® (Express or Disk-to-Disk) Backup software CD.

Disk-to-Disk version supports the following OS: Microsoft® Windows® XP, 2000 Professional, 2000 Advanced Server, 2003 Server, NT 4.0 Workstation, NT 4.0 Server, 95/98/ME, Mac® OS 7.1 or later, and Mac OS X 10.1 or later.

For easy data backup and restoration, please refer to the *EMC® User's Guide* (provided) on the EMC® Retrospect® Backup software CD.

## Replacing the Cooling Fan

**NOTE:** StorCase recommends replacing a faulty fan immediately. Contact StorCase for spare fan ordering information.

In the event of a fan failure, the DX115 cooling fan is easily field-replaceable by the user.

1. Remove the two (2) screws securing the cooling fan to the receiving frame (Figure 8).
2. Once the screws are removed, disconnect the fan cable from the receiving frame.
3. Once the cable is disconnected, remove the fan.
4. To install the new fan, simply reverse Steps 1-3 above.



*Figure 8: Removing the Cooling Fan*

## **APPENDICES**

## Appendix A - Specifications/Dimensions

Specifications and dimensions below are for reference only.

Environmental Specifications	Operating	Non-Operating
Ambient Temperature	0° C to 50° C	-40° C to 70° C
Relative Humidity <sup>(1)</sup>	5% to 95%	5% to 95%
Altitude	-1000 to 10,000 ft	-1000 to 40,000 ft
	-305m to 3048m	-305m to 12195m
Shock <sup>(2)</sup>	10g	60g

<sup>(1)</sup> Non-condensing with maximum gradient of 10% per hour.

<sup>(2)</sup> Half-sine wave shock pulses at 2ms.

Physical Specifications	Carrier	Receiving Frame (Excluding Front Bezel)	Receiving Frame (Including Front Bezel)
Height	1.07" (27.2mm)	1.60" (40.6mm)	1.62" (41.1mm)
Width	4.34" (110.2mm)	5.75" (146.1mm)	5.81" (147.6mm)
Depth	7.54" (191.5mm)	7.88" (200.2mm)	8.08" (205.2mm)
Weight	0.9lb (0.41kg)		1.9lb (0.86kg) <sup>(1)</sup>

<sup>(1)</sup> With carrier removed.

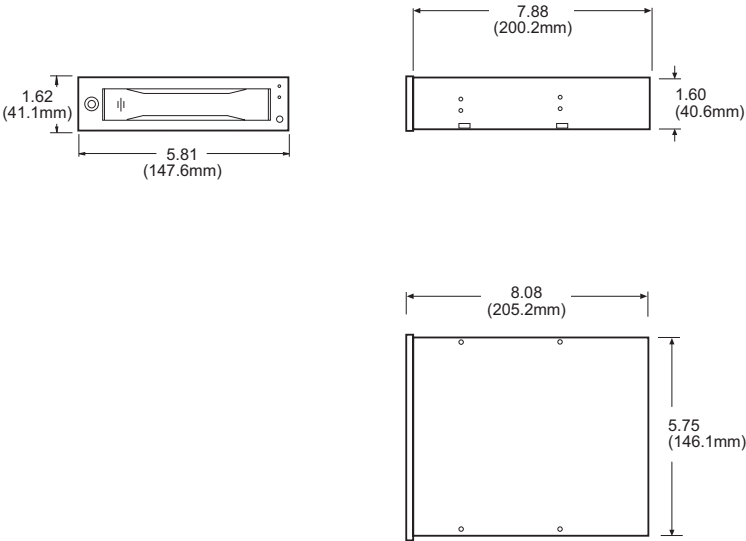
Chassis Reliability/Maintainability	
MTBF (at 30° C)	600,000 Hours
MTTR	5 minutes
Preventive Maintenance	None

Electrical Specifications		
Input	+5V	9mA
	+12V	20μA

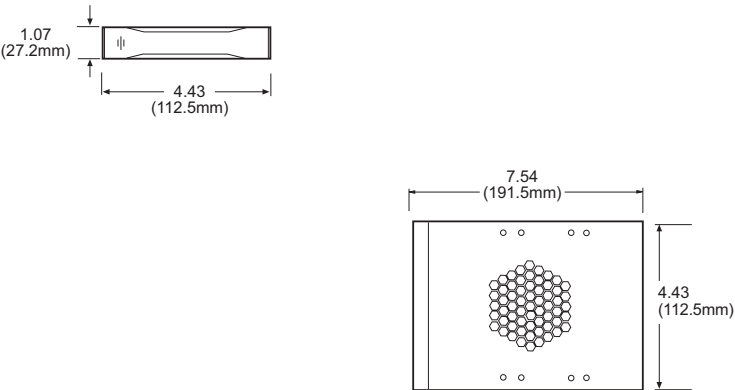
Insertion Rating
50,000

Cooling (Total for 1 Fan)
4.6 CFM

**Receiving Frame  
with Carrier  
Installed**



**Carrier  
Only**



*Figure A-1: SATA 3Gbps DX115 Physical Dimensions  
(Dimensions are for reference only)*



## Appendix B - Optional Accessories

### Carrying Case



*Figure B-1: Carrying Case*

The optional molded plastic carrying case (P/N S22E100) is designed to transport one (1) DX115 carrier from one site to another in a safe, impact and moisture-resistant environment. Its compact dimensions, 10" long x 11" wide x 4.5" high, make it easy to carry and to store. The foam lining is contoured to fit a single Data Express carrier. Contact your StorCase dealer for further details and ordering information.

Please take a few moments when your computer system is up and running to send us your ideas and suggestions for improving our products and documentation. Did the installation go smoothly for you? Are there any changes you would like us to make, either with the hardware itself, or with the installation instructions? Everyone at StorCase Technology is working toward the goal of providing you with the highest quality, most cost effective, products available on the market, and we need your comments to guide our efforts. We look forward to hearing from you soon!

Date: \_\_\_\_\_

[illegible]

Your Name: \_\_\_\_\_

Address:

---

Telephone: (                    )

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