



# RAID Array 3000 Storage Subsystem Second Controller Option

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Installation Guide

EK-SM3KC-IG. B01

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**Second Edition, May, 1998**

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## ***Revision Record***

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*This Revision Record provides a concise publication history of this guide. It lists the revision levels, release dates, and a summary of changes.*

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The following revision history lists all revisions of this publication and their effective dates. The publication part number is included in the Revision Level column, with the last entry denoting the latest revision. This publication supports the installation and configuration of the Second Controller Option into the StorageWorks RAID Array 3000 Pedestal and Controller Shelf storage subsystems.

<b>Revision Level</b>	<b>Date</b>	<b>Summary of Changes</b>
EK-SM3KC-IG. A01	January, 1998	Original release.
EK-SM3KC-IG. B01	May, 1998	Expands controller configuration procedure using Command Console Client (SWCC).



## *About This Guide*

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*This section identifies the audience of this guide. It also describes its contents and includes a list of associated documents and the conventions.*

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### **Intended Audience**

This guide is intended for installers and operators of the RAID Array 3000 pedestal and controller shelf storage subsystems. Installing the subsystems and its components (options) requires a general understanding of basic SCSI terminology and product installation procedures.

### **Document Structure**

This guide contains the following sections:

**1.0 Introduction** – summarizes the content of this guide.

**2.0 Install Firmware Upgrade** – includes the steps required to install the second controller option into the pedestal or controller shelf enclosures. The Information includes saving the existing configuration using the SWCC console, upgrading the firmware, and installing the cache memory SIMM modules to accommodate the second controller.

## Associated Documents

In addition to this guide, the following documentation is useful to the reader:

**Table 1 Associated Documents**

Document Title	Order Number
<i>StorageWorks RAID Array 3000 Storage Subsystem Hardware User's Guide</i>	<i>EK-SMCPO-UG</i>
<i>StorageWorks RAID Array 3000 Controller Shelf Hardware User's Guide</i>	<i>EK-SMCPQ-UG</i>
<i>StorageWorks RAID Array 3000 Configuration and Maintenance Guide</i>	<i>EK-SMCS2-UG</i>
<i>Installation Instructions for the RAID Array Replacement Controller – SWXRC-03</i>	<i>EK-SMCPL-PN</i>
<i>RAID Array 3000 Getting Started for Windows NT-Intel Installation Guide</i>	<i>AA-RACZA-TE</i>
<i>RAID Array 3000 Getting Started for Windows NT-Alpha Installation Guide</i>	<i>AA-RACUA-TE</i>

## Conventions

**Table 2 Style Conventions**

Style	Meaning
plain monospace type	Text
<b>boldface type</b>	For the first instance of terms being defined in text, or both.
<i>italic type</i>	<i>For emphasis, manual titles, chapter summaries, keyboard key names.</i>



## Support and Services

### Who to contact in the Americas

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<b>Information and Product Questions:</b>	Local Sales Office / StorageWorks Hotline 1-800-786-7967
<b>Installation Support:</b>	Contact the DIGITAL Distributor where the Storage Solution was Purchased / Local Digital Sales Office.
<b>DIGITAL Multivendor Customer Service (MCS):</b>	
<b>Installation</b>	Contact the DIGITAL Customer Support Center (CSC).
<b>Warranty</b>	Contact the DIGITAL Customer Support Center (CSC) for warranty service after solution is installed and operating.
<b>Remedial</b>	Contact the DIGITAL Customer Support Center (CSC)  <b>Note:</b> A Service Contract is recommended when the equipment is out of warranty. Contact the local DIGITAL Sales Office.
<b>Customer Support Center (CSC)</b>	1 800-354-9000

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### Who to contact in Europe

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<b>Information and Product Questions:</b>	Contact the DIGITAL Distributor or reseller
<b>Installation Support and Installation:</b>	Contact the DIGITAL Distributor or reseller from whom the Storage Solution was purchased.
<b>For Warranty Service</b>	See the Warranty Card packaged with the product.
<b>For Remedial Service</b>	Contact the DIGITAL Distributor or reseller from whom the Storage Solution was purchased.  <b>Note:</b> A Service Contract is recommended when the equipment is out of warranty.

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### Who to contact in Asia Pacific

For all services, contact the DIGITAL Distributor or reseller from whom the equipment was purchased



# *Second Controller Option*

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*This guide describes how to install a second RAID controller in the RAID Array 3000 pedestal or controller shelf. The second controller option adds a fail/safe feature to your storage subsystem.*

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## **NOTE**

The following second controller option installation and configuration procedure applies to both the desk-side pedestal and the rack-mount controller shelf. For clarity, only the pedestal is illustrated in the procedure.

## **1.0 Introduction**

The controller option adds a second (redundant) controller unit to your subsystem installation to preserve the integrity of data should the first controller sustain a malfunction. The second controller is installed directly below the existing device in the bottom controller slot of the RAID Array 3000 pedestal (see Figure 1) or the rack-mount controller shelf version of the subsystem.

The installation procedure consists of adding two SIMM memory modules to the redundant controller and, depending on the option kit you are installing (see inventory below), one or two modules to the existing controller. Following the memory upgrade, you simply insert and seat the devices in their respective controller slots and configure the subsystem to accommodate a redundant controller.

Perform an inventory of the items contained in the second controller kit option. The kit should contain the following:

RAID Array 3000 Controller

For option kit DS-HSZ22-AA, 3 SIMMs

For option kits DS-HSZ22-AB and -AC, 4 SIMMs

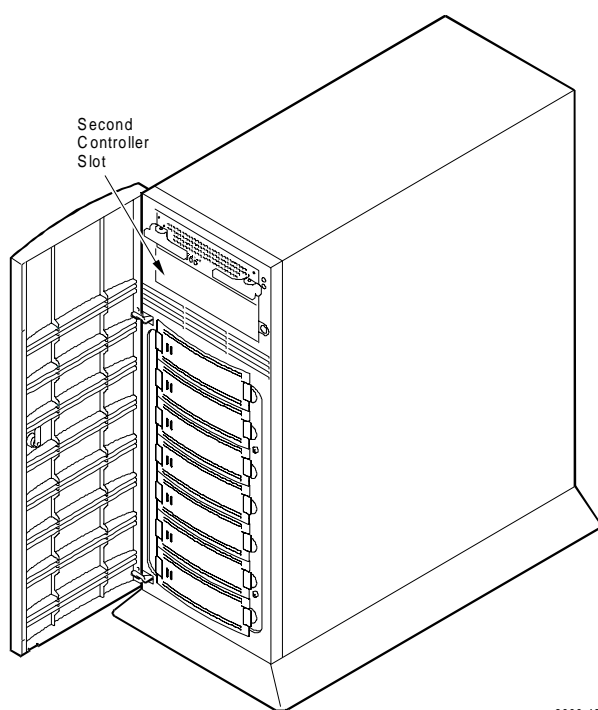
CD with new Firmware

Model Label

Warranty Card

This Guide

**Figure 1 Second Controller Pedestal Slot Location**



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## 2.0 Install Firmware Upgrade

### **CAUTION**

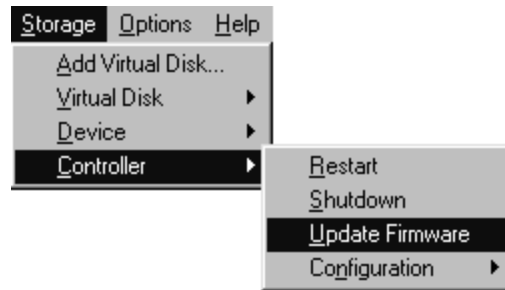
To prevent an electrical discharge from damaging the SIMMs, always wear an ESD wrist or foot strap connected to a suitable ground when handling the memory modules.

**NOTE**

You can upgrade your firmware using the SCSI or network connection methods. These methods provide the fastest way to upgrade your firmware. To update your controller's firmware, proceed as follows.

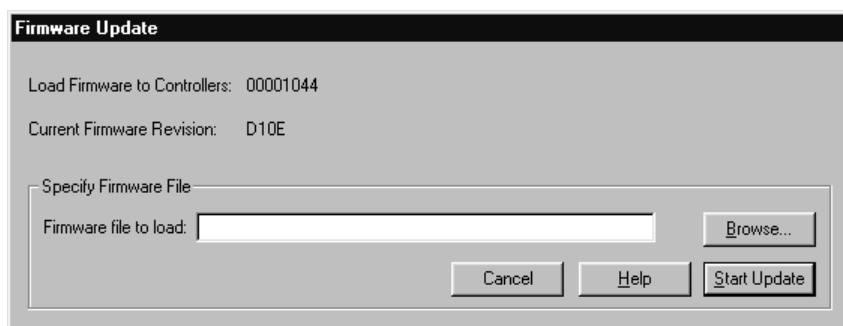
1. From the Storage menu (see Figure 2), select **Controller**, and then select **Update Firmware**.

**Figure 2 Update Firmware Command**



2. A window will appear (see Figure 3) asking you to specify the firmware file that you want to load. This file resides on the CD supplied with the controller kit option. You can easily identify Firmware software by its .fdi. extension. Enter the fdi file name (for example, D:\firmware\xxx.fdi), then click **Start Update**. Upon completion of the Firmware update, the system will automatically reboot and update the controller's firmware.

**Figure 3 Firmware Update Dialog Box**



## 2.1 Save Existing Configuration

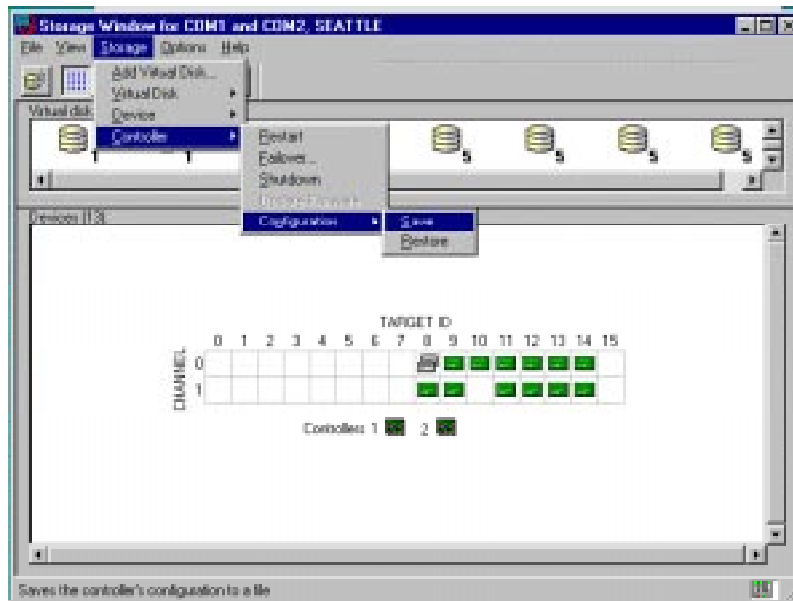
### NOTE

You must save the subsystem configuration using the Command Console Client (SWCC) before performing the installation procedure. Otherwise, the RAID controller may lose your configuration.

To save your current configuration:

1. Select the **Storage** pull-down menu from the Toolbar (see Figure 4), click on **Controller**, select **Configuration**, and then **Save**.

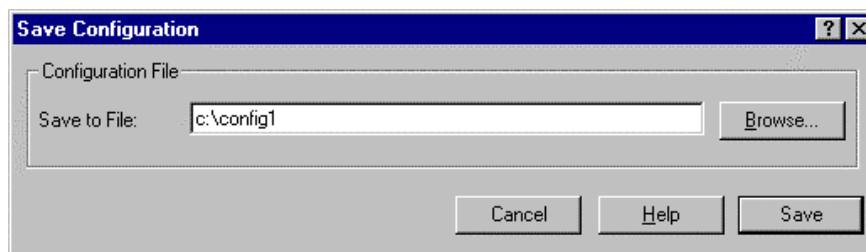
**Figure 4 Saving the Existing Configuration**



A saved configuration screen with a “Save to File” field appears as shown in Figure 5. The example below lists the file name as `c:\config1`.

2. Enter your file name in the “Save to File” field and click on **Save**.

**Figure 5 Saved Configuration**

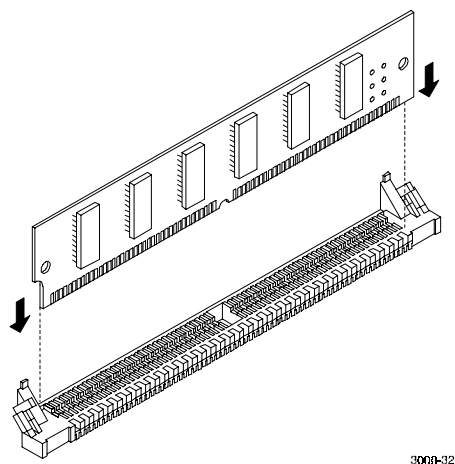


3. Ensure that both host ports are in a quiescent state (no I/O activity).
4. Shut down the Host System.
5. Issue a “shutdown” command from the SWCC Console to the pedestal (or controller shelf) controller.
6. Power **OFF** the pedestal or controller shelf as applicable.

### 2.1.1 Install Two SIMMs

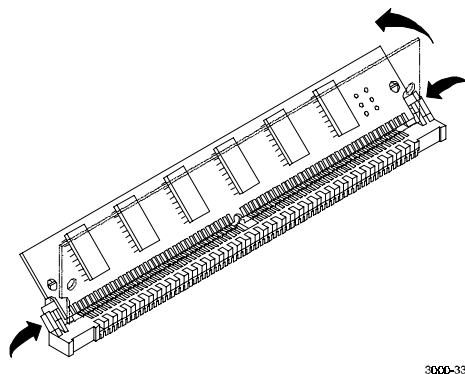
1. Install two of the SIMM modules into the second controller (make sure all modules are of the same type) by aligning the connector pins and inserting the modules into the SIMM module connectors as shown in Figure 6.

**Figure 6 Insert Module into SIMM Connector**



2. Ensure the module is firmly seated and then gently pivot it toward the controller board until it snaps into place as shown in Figure 7.

**Figure 7 Pivot Module Down to Seat**

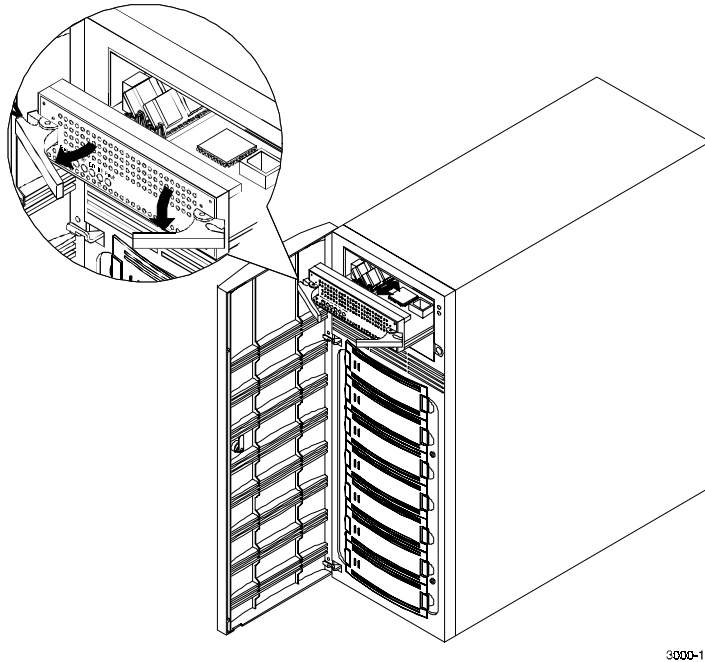




## **2.2 Install the New Controller**

1. Replace the existing controller (see Figure 8 to remove) with the new controller.

**Figure 8 Remove Controller from Top Slot**



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### **NOTE**

Ensure you install the new controller in the same slot as the existing controller removed in step 1 above. Do not leave the existing controller in the pedestal (or controller shelf) while performing the following step.

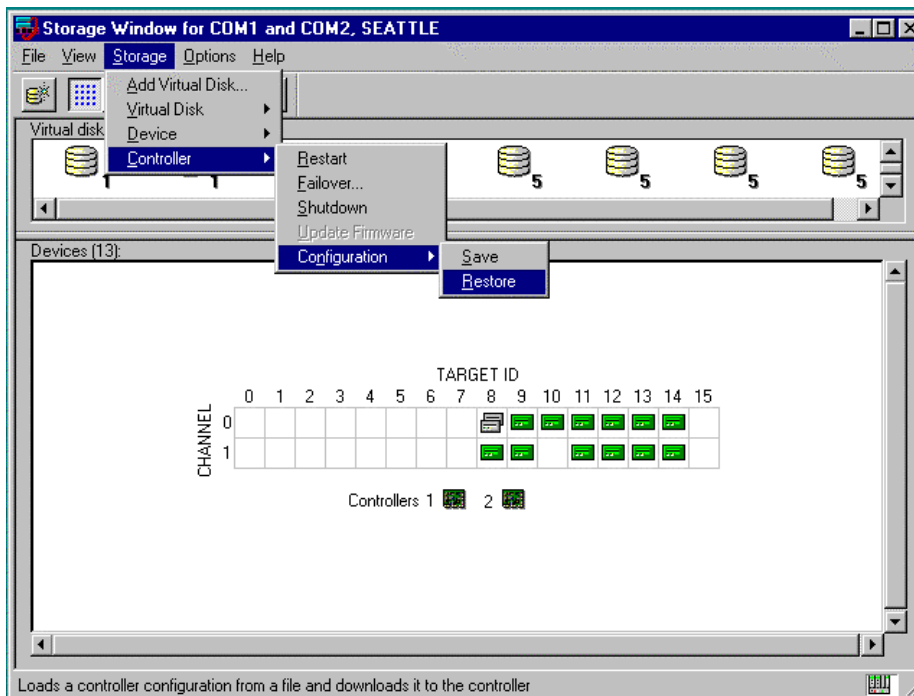
2. Power up the system and proceed to the following section to restore the configuration on the new controller.

### 2.2.1 Restoring Configuration

To restore your configuration to the new controller:

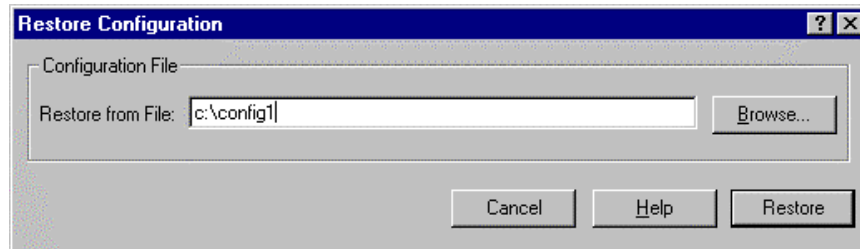
1. Restart SWCC in the “Serial Mode”.
2. Select the **Storage** pull-down menu from the Toolbar, then choose **Controller**.
3. From the **Controller** pull-down menu (Figure 9), select **Configuration**, and then **Restore**.

Figure 9 Restoring Configuration to New Controller



The saved configuration screen with a “Restore from File” field appears as shown in the example of Figure 10.

**Figure 10 Restored Configuration Example**



**NOTE**

Restoring the configuration in the following step may take up to 5 minutes. Be patient.

4. Enter the file name that you saved in Section 2.1 and click on **Restore**.
5. After the configuration has been restored, power down the system.
6. If installing option kit DS-HSZ22-AA, add the second SIMM to the original controller. If installing option kit DS-HSZ22-AB or -AC, replace the existing SIMM with the two remaining SIMMs supplied with the kit.
7. Install the second controller into the pedestal (or controller shelf) and power up the system.

The system is now in the dual-redundant operating mode. If you need to reconfigure or make changes to your host port setup, refer to Chapter 4 of the RAID Array 3000 Getting Started guide for your specific operating system.



## Reader's Comments

**Manual Order Number:**

EK-SM3KC-IG. B01 \_\_\_\_\_

### RAID Array 3000 Second Controller Option Installation Guide

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Manual Rating	Excellent	Good	Fair	Poor
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Organization (logical sequence of information)	[ ]	[ ]	[ ]	[ ]
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