



Storage System Interface Customization Guide

R/Evolution 2330, 2530, 2730, and
5730 Products

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Adobe PostScript

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Using the Customization Tool Kit

This guide introduces the Customization Tool Kit and describes the process to customize user interface elements for the R/Evolution™ 2330, 2530, 2730, and 5730 storage systems. This doc only applies to J1xx, J2xx, J3xx, and K1xx firmware.

The following topics are covered:

- “Introduction” on page 6
- “Accessing the Customization Tool Kit” on page 7
- “Select Your Basis for Customization” on page 7
- “Review the Customization Process” on page 8
- “Login Page Customization Details” on page 11
- “Logo Image for Interior Navigation Bar Requirement Details” on page 12
- “Hardware and Software Customizable Name Details” on page 13
- “Support Information Page Customization” on page 14
- “Customizing the Web Interface” on page 16
- “Restoring Interface Settings” on page 28
- “Loading a Customization File to a Controller Module” on page 29
- “Applying Branded Files to Multiple Controllers” on page 30

Refer to the R/Evolution storage system product documentation on the Dot Hill Systems [Customer Resource Center](#) for more information. If you require additional assistance, contact Dot Hill Systems' Customer Service at +1-877-368-7924 or support@dothill.com.

Introduction

You can customize elements of the embedded web-browser interface (WBI) in various ways to meet the marketing needs of your organization. This document describes how to use the Customization Tool Kit to change specific interface graphics and text to suit your needs, and to create a customization file that can be applied to multiple controller modules. Some text changes will also appear in the embedded command-line interface (CLI).

Interface elements that can be customized include:

- Login page color and logo
- Logo image for all interior pages
- Navigation background color
- Links and document icon type for up to four reference document links
- Content for support information
- Text for vendor name, product ID, product brand, and WBI name
- SCSI inquiry string values

Use of the tool kit requires a license key, which is provided by Dot Hill Systems Corp. directly to the purchaser of the tool kit. There are Three license key types:

- **Developer License Key** - A developer license key allows a user to change customization settings and to create a customization file.
- **Integrator License Key** - An integrator license key is stored on the midplane of a storage system and only enables a user to load a customization file to a controller.
- **Bundled License Key** - The bundled license key provides both developer and integrator capabilities.

A tool kit license key must be installed before users can access the tool kit from the WBI menu. For details on installing a license, see WBI help or the *Administrator's Guide*. See also *Obtaining and Installing the License Certificate File* on the Dot Hill Systems [Customer Resource Center](#) for more information.

A typical process would be for a storage-system reseller to develop a branding scheme, and then use the tool kit to create a customization file. The person performing this task might be a marketing branding specialist. As units are prepared for shipment to customers, another person would apply the customization file to those units. The person performing this task might be a manufacturing technician.

Accessing the Customization Tool Kit

To access the tool kit, as an Advanced Manage user:

- Select Manage > Utilities > Configuration Utilities > Custom Configuration.

Note – If this menu option is not present, a license to use the tool kit is not installed.

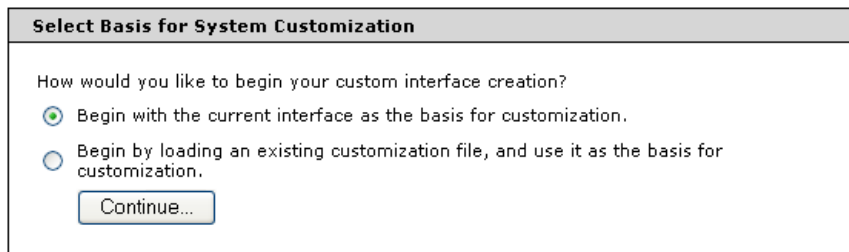
If you have a developer license, the Select Basis For System Customization panel is displayed.

If you have an integrator license, the Load Customization File panel is displayed; see “Loading a Customization File to a Controller Module” on page 29.

Select Your Basis for Customization

You must choose how to begin your customization process:

- To use the existing interface, select Begin With The Current Interface As The Basis For Customization, and click Continue.
- To use interface settings in a previously created customization file, select Begin By Loading An Existing Customization File, And Use It As The Basis For Customization, and then click Continue.



Select Basis for System Customization

How would you like to begin your custom interface creation?

Begin with the current interface as the basis for customization.

Begin by loading an existing customization file, and use it as the basis for customization.

Continue...

Note – Also on this page is the Interface Restoration panel, which you can use if you want to revert your controller module to the factory default interface settings. This option is described in “Restoring Interface Settings” on page 28.

Review the Customization Process

The Customization Process Overview page shows the size and format requirements for each customizable graphic element, and the maximum character length for each customizable text element.

Customization Process Overview

Several user interface characteristics of the RAIDar Administrator may be customized to meet your product branding scheme, and saved for use in a "customization file". At the completion of the customization file creation, you will be prompted to save this file to your local computer. You may then load this file on any compatible RAID Controller you have "Customization Area" access to. There are five customization options available on the RAIDar Administrator web browser interface.

Please prepare the following items in advance of creating your customization file. The requirements for each element are detailed below.

- 1. Login Screen Customization**
- [Click here to view login page details.](#)
- 2. Logo Image for all Interior Screens**
- [Click here to view interior logo details.](#)
- 3. Hardware & Software Name Customization**
- [Click here to view customizable name details.](#)
- 4. Content and Link for User's Guide Location**
- [Click here to view customizable help document links.](#)
- 5. Content for "Contact Information" Page**
- [Click here to view customizable contact details.](#)

Below you will find an overview of the steps you will go through to create your custom interface once you have gathered the content for this customization wizard.

- 1. Load Background Color .gif File**
- 2. Load Login Page Logo**
- 3. Load Interior NavBar Logo**
- 4. Enter Product Brand and Vendor Name**
- 5. Enter Help Document HTTP Links**
- 6. Enter Contact Information**
- 7. Specify File Protection Key**
- 8. Save Customization File to your Computer**

Note: As a general rule we advise against the use of your browser's "Back" button as stated in the RAIDar Help text. In addition to that recommendation, the use of the "Back" button is **strongly discouraged** within this particular area of the interface as it will lead to unpredictable results.

Once you have gathered the graphics and text to customize the above items and understand the eight step process you will go through, begin your customization here.

[Begin Customization Process](#)

Note – Do not use your browser's Back button; it can cause unpredictable results in the WBI.

Before proceeding, gather the following items. You will be prompted to select or specify these items during the customization process:

- Login Page Background Color and Logo
 - Background table color file — 5 x 5-pixel, 216-color, “web-safe” GIF89A
 - Login page logo file — 274 x 221-pixel, 216-color, “web-safe” GIF89A
- Interior Product Logo — 180 x 213-pixel, 216-color, “web-safe” GIF89A
- Brand Names
 - Vendor name
 - Product ID
 - Product brand
 - Web interface name (long and short forms)
 - SCSI vendor ID
 - SCSI product ID
- Support Information
 - Contact information (company name; phone number; and web site, street, and e-mail addresses)
 - Up to four external document links with customizable icon links
- Customization file protection key (password)

Once the requirements for the four areas of customization are gathered, review the steps you will be asked to complete:

- Step 1: Load Background .gif
- Step 2: Load Login Page Logo
- Step 3: Load Interior Logo
- Step 4: Enter Brand Names
- Step 5: Specify External Document Links
- Step 6: Enter Contact Information
- Step 7: Enter Protection Key
- Step 8: Save Customization File
- Step 9: Store Customization to Device

On the Select Basis For System Customization page:

- If you selected **Begin With The Current Interface As The Basis For Customization**, click **Begin Customization Process** to continue.
- If you selected **Begin By Loading An Existing Customization File, And Use It As The Basis For Customization**, you will be prompted to select the customization file and enter its protection key, if the file requires it. Click **Begin Customization Process** to continue.

Enter protection key for customization file, if required.

Protection Key:	<input type="text"/>
File Location:	<input type="text"/> <input type="button" value="Browse..."/>
<input type="button" value="Begin Customization Process"/>	
<input type="button" value="Cancel"/>	

Login Page Customization Details

The detailed requirements for the login page customizable options may be displayed in the interface by clicking on the first link on the Overview Page. The following figure shows the contents of that help page.

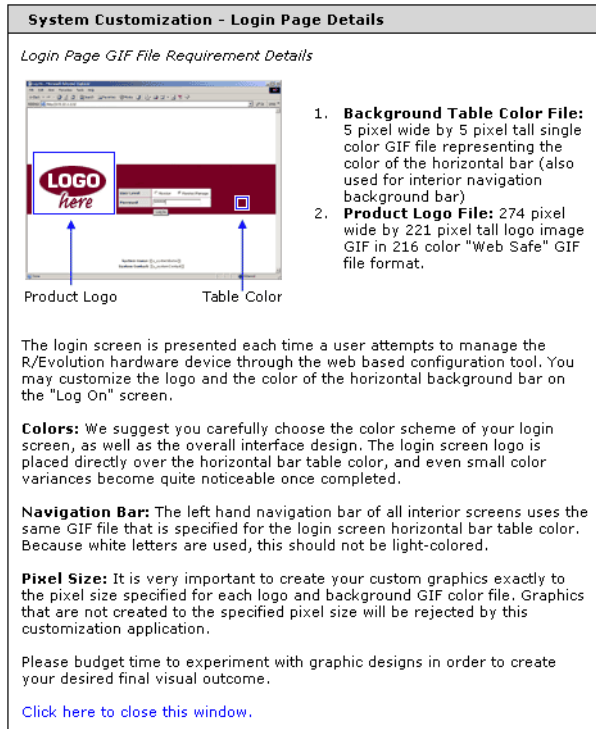


Figure 1 System Customization — Login Page Details Panel

Logo Image for Interior Navigation Bar Requirement Details

You can view the detailed requirements for the nav-bar logo in the interface by clicking on the second link on the Overview Page. The following figure shows the contents of that help page.

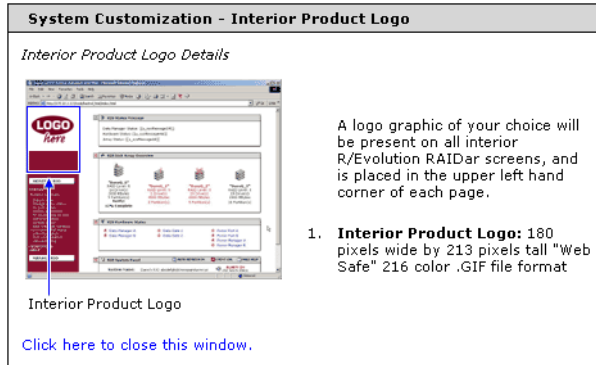


Figure 2 System Customization – Interior Product Logo Panel

Hardware and Software Customizable Name Details

You can view the detailed requirements for the customizable text elements in the interface by clicking on the third link on the Overview Page. The following figure shows the contents of that help page.

Hardware & Software Customizable Names

Hardware & Software Customizable Names

Text that is used repetitively in various places throughout the user interface, including many of the page "panel headers" and in the online help text, may be customized to suit your product branding scheme. The following items may be customized:

1. Vendor Name, 19 Characters Max, (e.g.: "XYZ Corp.")
2. Product ID, 16 Characters Max, (e.g.: "XYZ RAID")
3. Brand, 14 Characters Max, (e.g.: "My Brand")
4. Web Browser Interface Name
 - o Long Interface Name, 39 Characters Max, (e.g.: "My RAID Storage Manager")
 - o Short Interface Name, 19 Characters Max, (e.g.: "My Storage Manager")

The SCSI inquiry string is returned to host computers for volumes that are accessible by the hosts, to help identify their type. This SCSI inquiry string contains a configurable vendor ID and product ID. However, caution should be used in changing these, because host applications may expect specific volume types. Changing them may affect application function or require recertification of the application with the new volume types. The following items may be customized:

1. SCSI Vendor ID, 8 Characters Max, (e.g.: "XYZID")
2. SCSI Product ID, 16 Characters Max, (e.g.: "XYZ RAID")

[Click here to close this window.](#)

Figure 3 Hardware & Software Customizable Names Panel

Support Information Page Customization

The Support Information page can display links to help documents and corporate contact information.

Help Document Link Customization

You can view the detailed requirements for the customization of the HTTP help document links in the interface by clicking on the fourth link on the Overview Page. The following figure shows the contents of that help page.

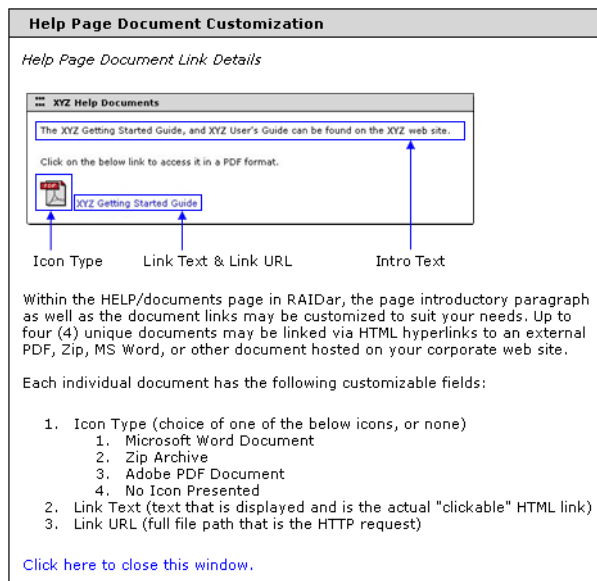


Figure 4 Help Page Document Customization Panel

Contacts Page Customization

You can view the detailed requirements for the customization of the Contacts page in the interface by clicking on the fifth link on the Overview Page. The following figure shows the contents of that help page.

Contacts Page Customization Details

Company Contact Page Customization Details

Company contact addresses, including email address, phone number, and web site may be customized.

XYZ Contact Information

XYZ International, Inc

<http://www.xyz-corp.com>

101 E Circle Drive
Somewhere CO, 80000
Phone: 800-444-5555

All fields are 79 characters maximum length.

1. Company Name
2. Company Web Site Address
3. Company Street Address
4. Company City
5. Company State or Province
6. Company ZIP or Postal Code
7. Company Phone Number
8. Company Email Address

[Click here to close this window.](#)

Figure 5 Contacts Page Customization Details Panel

Customizing the Web Interface

The process to customize the web interface has the nine steps detailed in this section.

Step 1: Load Background .gif

If you chose to use an existing customization file as your basis for customization and do not want to change it, click Skip All And Save File To Controller and continue with “Step 9: Store Customization to Device” on page 27.

If you chose to use the existing interface, the first step is to load the graphic file that will create the horizontal bar on the login page. This graphic file will also represent the background color of the left hand navigation bar on interior pages.

All graphic files intended for use within the tool kit should be saved in a GIF89A (Graphics Interchange Format, Specification 89A) file format. This file type is compatible with all current web browsers, and most popular graphic applications are capable of saving to this file type. Create the smallest GIF file size possible, taking into account web-safe color depths and interlacing options.

Click Browse to select a GIF file on your local hard drive. Once you have selected a GIF file, click Load GIF to load the file and continue. Verify you have created and selected a “Web-Safe” 5-pixel by 5-pixel GIF89 file.

If you would like to use the existing horizontal bar color as presented in the interface, click Skip This Step. This button will save your preference, and forward you to the next page.

To cancel the customization process and revert all changes to the previous values, click Cancel Customization.

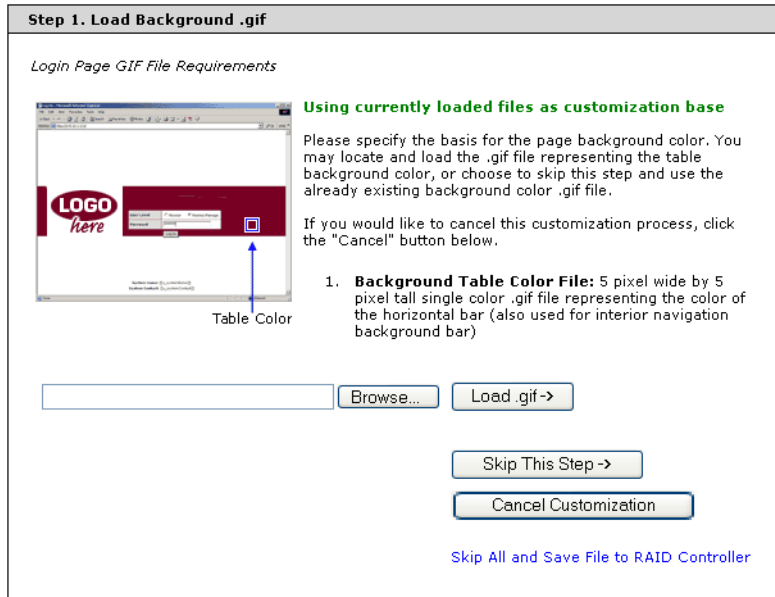


Figure 6 Load Background .gif Panel

Step 2: Load Login Page Logo

The next step is to specify the logo graphic for the login page.

Click Browse to select a GIF file on your local hard drive. Once you have selected a GIF file, click Load GIF to load file and continue. Ensure you have created and selected a 274-pixel by 221-pixel GIF89 file. If your graphic does not meet the specified requirements, the following page will display an error and allow you to reselect your desired login page logo GIF file.

If you would like to use the existing login page logo, click Skip This Step. This button will save your preference, and forward you to the next page.

To cancel the customization process and revert all changes to the previous values, click Cancel Customization.

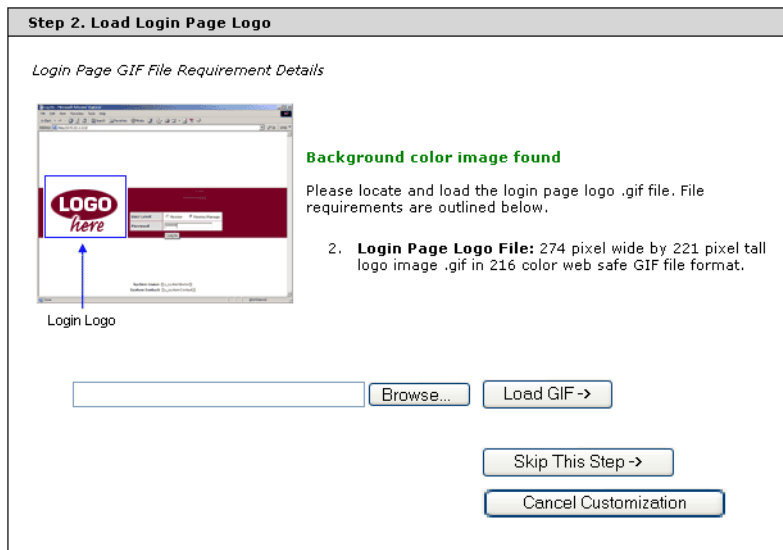


Figure 7 Load Login Page Logo Panel

Step 3: Load Interior Logo

The next step is to specify the logo graphic for the interior navigation panels. This interior product logo will be found at the top left hand corner of all interior pages directly above the navigation links.

Once you have reached this step, you have completed the requirements for the customization of the Login Page. If you would like to preview your newly created login page before continuing the customization process, click Preview Login Page. You will be prompted to verify that the login page is displayed as you intended.

To select your interior product logo GIF file, click Browse to select the file on your local hard drive. Once you have selected a GIF file, click Load GIF to load the file and continue. Ensure you have created and selected a 180-pixel by 213-pixel GIF89 file. If your graphic does not meet the specified requirements, the following page will display an error and allow you to reselect your desired interior product logo GIF file.

If you would like to use the existing interior product logo, click Skip This Step. This button will save your preference, and forward you to the next page.

To cancel the customization process and revert all changes to the previous values, click Cancel Customization.

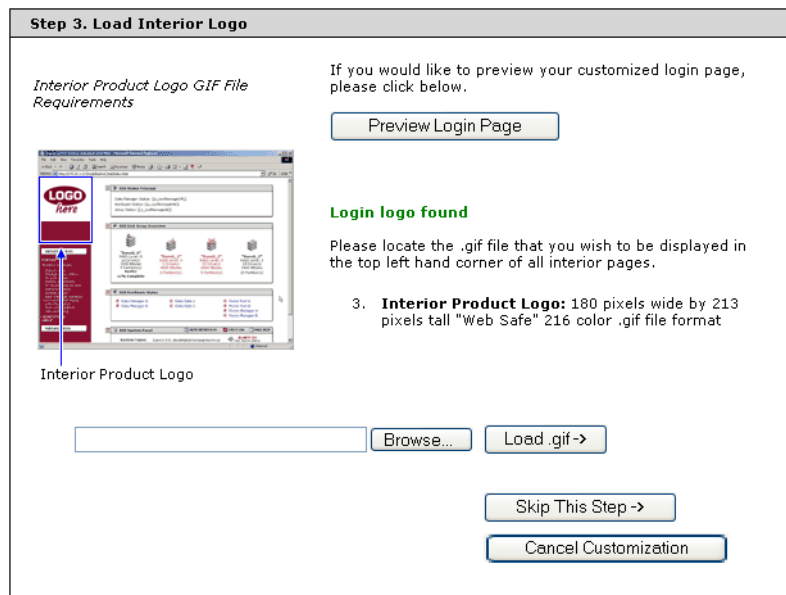


Figure 8 Load Interior Logo Panel

Step 4: Enter Brand Names

The next step is to specify customized names for various hardware and software components within the storage system on the `Enter Brand Names` panel.

In the first group of fields you can change values that are displayed in storage system user interfaces. Most notably your customized names will be visible in the context sensitive page help, many panels, and through many references to the interface itself.

In the second group of fields you can change values used in the SCSI inquiry string, which is returned to hosts for volumes that are accessible by the hosts, to help identify their type.

Note – Because host applications may expect specific volume types, changing these values may affect application function or require recertification of the application with the new volume types.

Edit the text entry fields to your customized names, then click `Submit Text Names`.

To cancel the customization process and revert all changes to the previous values, click `Cancel Customization`.

The following figure shows example values for an R/Evolution 2730-branded system on the `Enter Brand Names` panel. Enter your customized names into the text name fields.

Step 4. Enter Brand Names

Success - image uploaded.

Please specify the text names for the different product elements.

Vendor name	<input type="text"/>
	(19 Characters Max)
Product ID	<input type="text" value="R/Evo 2730-2R"/>
	(16 Characters Max)
Product Brand	<input type="text" value="R/Evolution"/>
	(14 Characters Max)
Web Interface Name - Long	<input type="text" value="RAIDer Administrator"/>
	(39 Characters Max)
Web Interface Name - Short	<input type="text" value="RAIDar"/>
	(19 Characters Max)

Optional SCSI Inquiry Values **Caution: changing these may affect host applications**

SCSI Vendor ID	<input type="text" value="DotHill"/>
	(8 Characters Max)
SCSI Product ID	<input type="text" value="R/Evo 2730-2R"/>
	(16 Characters Max)

Figure 9 Enter Brand Names Panel

Step 5: Specify External Document Links

The next step is to specify external HTML links to your reference documents on your web site. However, you may first preview your previously entered text names by viewing a sample Status Summary page.

To view a sample Status Summary Page, click on the button Sample Status Summary Page at the top of the panel.

If you are satisfied with the preview Status Summary page, you may continue and enter document and link information.

You may edit the page introductory text, as well as specify the links for up to four external documents. To link a document, select the icon you would like displayed next to the text HTML link, specify the text to display, and specify the actual HTTP link. You do not need to enter `http://` before the URL to your document.

Note – Linked documents that have neither the Text To Display field or the HTTP Link field blank will not be displayed in the final interface.

When you have completed this section, click Submit Documents to continue.

To cancel the customization process and revert all changes to the previous values, click Cancel Customization.

The following figure shows the options you use to specify a link to an external document.




Page Intro Text:	<input type="text" value="The following documents are available."/>
	(199 Characters Max)
Linked Document #1	
Select Icon	<input checked="" type="radio"/>  <input type="radio"/>  <input type="radio"/>  <input type="radio"/> No Icon
Text to Display	<input type="text" value="document1 title"/> (79 Characters Max)
HTTP Link	<input type="text" value="www.mycompany.com"/> (59 Characters Max)

Figure 10 Options for Linking External Documents

The following figure shows an example of how an external document link is displayed in the web interface.

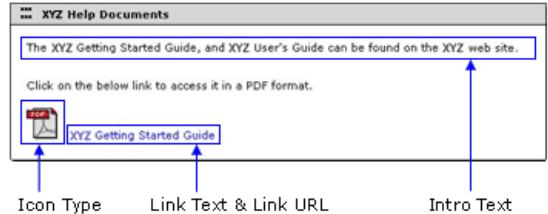


Figure 11 Example of an External Document Link

Step 6: Enter Contact Information

The next step is to specify your customized corporate contact information. This content can be found in the final interface on Monitor > Help > Support Information page.

Edit the text entry fields to specify your corporate information, then click Submit Text Contact Info.

To cancel the customization process and revert all changes to the previous values, click Cancel Customization.

Step 6. Enter Contact Information

Document information successfully loaded

Please enter your customized company information.

Company Name	<input type="text"/>
Company Web Site	<input type="text"/>
Street Address	<input type="text"/>
City	<input type="text"/>
State or Province	<input type="text"/>
Postal Code	<input type="text"/>
Country	<input type="text"/>
Phone	<input type="text"/>
E-mail	<input type="text"/>

Figure 12 Enter Contact Information Panel

Step 7: Enter Protection Key

The next step is to specify a *protection key* for your customization file. A protection key is an optional password comprised of characters and numbers that you may specify for any customization file you create. It gives you the ability to “lock” the file and ensure the person who uploads the file is the intended party.

This protection key will be required for anyone to be able to load it to a controller module if you specify anything other than a blank protection key. If you leave the text entry box blank, no protection key will be required to load the file to a controller module.

Enter a protection key in the text entry box, then click Specify Protection Key to continue. Leave this field blank if you would like to specify no protection key.

To cancel the customization process and revert all changes to the previous values, click Cancel Customization.

Step 7. Enter Protection Key

Contacts information successfully loaded

If you would like to specify a Protection Key for your customization file, please enter it below. Only users who know this key will be able to upload your customization file to their device.

Leave the field blank to not specify a Protection Key.

Customization File Protection Key

Figure 13 Enter Protection Key Panel

Step 8: Save Customization File

The next step is to transfer the customization file from the controller module's memory to your local computer or network.

Note – Windows might have a file type extension for `.config`, which is linked to XML. If you are using Internet Explorer 7, make sure you undo the file type association before saving the customization file.

To save the customization file, click **Save Customization File to Computer**. You will be prompted by your browser for a name and location to save this file to on your local computer or network. The default file name is `saved_configuration.config`. When processing is complete, click **Next Step** to continue.

To cancel the customization process and return all changes back to the previous values, click **Cancel Customization**. If you click cancel, customization files located on your computer or network will not be altered or deleted.

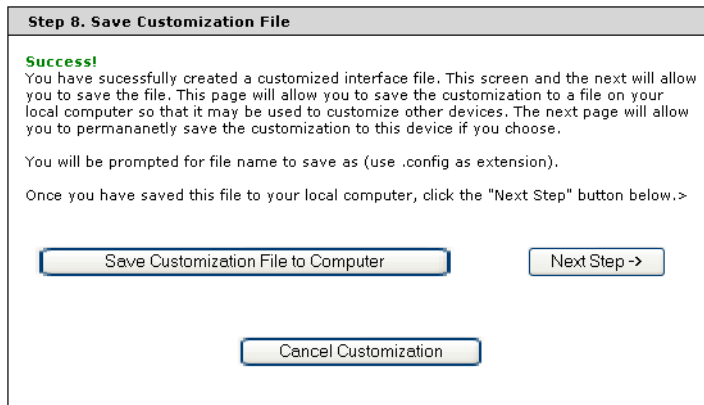


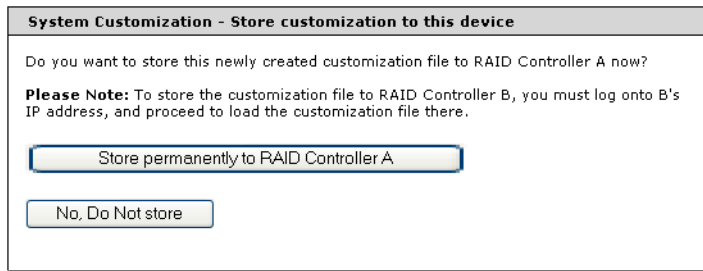
Figure 14 Save Customization File Panel

Step 9: Store Customization to Device

As the final step, you can store the current custom interface permanently on the controller module. This feature enables you to keep your custom interface in the controller module's memory for future users and sessions.

To save the customization file to the current controller module, click Store Permanently To Controller Module X.

In a dual-controller system, you must apply interface customizations to the partner controller module as well. To do this, log in to the partner controller module's IP address and then load the new customization file.



System Customization - Store customization to this device

Do you want to store this newly created customization file to RAID Controller A now?

Please Note: To store the customization file to RAID Controller B, you must log onto B's IP address, and proceed to load the customization file there.

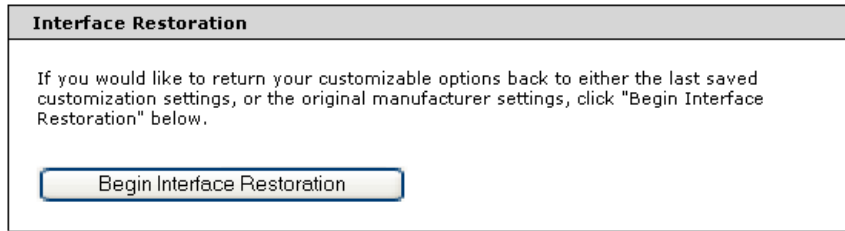
Store permanently to RAID Controller A

No, Do Not store

Figure 15 System Customization – Store Customization to This Device Panel

Restoring Interface Settings

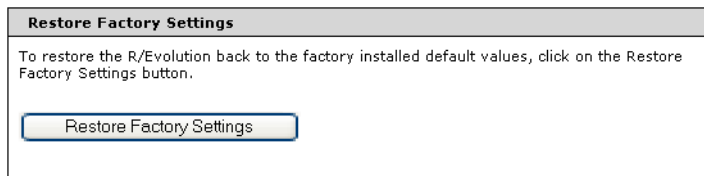
If necessary you can revert your controller module to the factory-default interface settings. To do this, use the Interface Restoration panel on the tool kit's first page.



To restore the interface:

1. In the Interface Restoration panel click Begin Interface Restoration.

The Restore Factory Settings panel is displayed.



2. Click Restore Factory Settings.

Your interface reverts to using the factory-default text and graphics.

Note – Restore Factory Settings affects only values and graphics changed by using the tool kit, and is not related to Manage > General Config > Restore Defaults.

Loading a Customization File to a Controller Module

This section applies to the person who is loading a customization file to controller modules in preparation for shipping them to customers. Before starting the load operation, this person must have the integrator or bundled license key.

To load a customization file to a controller module:

1. Select Manage > Utilities > Configuration Utilities > Custom Configuration.

The Load Customization File panel is displayed.

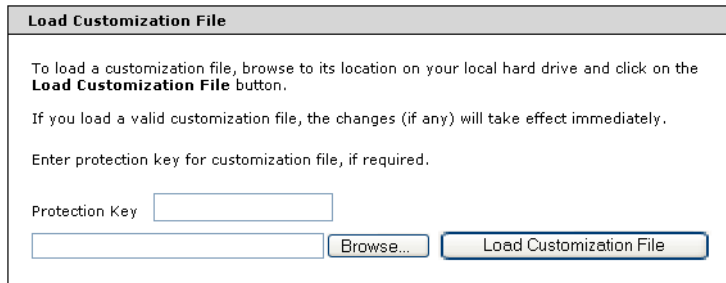


Figure 16 Load Customization File Panel

Note – Also on this page is the Interface Restoration panel, which you can use if you want to revert your controller module to the factory default interface settings. This option is described in “Restoring Interface Settings” on page 28.

2. Browse to and select the customization file.
3. Enter the protection key if the file requires it.
4. Click Load Customization File.
The file is loaded and the changes take effect immediately.
5. If the system has a second controller module, log in to the other controller and repeat Step 1–Step 4.

The customized interface is ready for use.

Applying Branded Files to Multiple Controllers

Rotating Controllers Through a Customization Station

Resellers should leverage a single system to brand controller modules before shipping them within a storage system enclosure, or as replacement FRUs. A typical process would be:

1. A storage-system reseller develops a branding scheme, and then uses the developer license key to create a customization file. The person performing this task might be a marketing branding specialist.
2. As controllers are prepared for shipment, a technician applies the customization file to each controller by cycling the controllers through a Customization Station. The Customization Station is simply a storage system enclosure with an integrator key. The license key is associated with the enclosure mid-plane, allowing multiple controllers to be branded using the same license. For details on installing a license see WBI help or the *Administrator's Guide*.

Since controller IP addresses are stored on the Customization Station midplane, branding becomes a fairly simple process. One IP address is used to connect to controllers in slot A and the other IP address to connect to controllers in slot B in the following manner:

- a. One or two controllers are installed into the enclosure and booted. The technician uses the WBI to connect and apply the customization file to each controller following the steps in the section *Loading a Customization File to a Controller Module* above.
- b. After branding has been applied, the controllers can then be shutdown and removed from the Customization Station for shipment. Branding is retained by the controllers and can't be modified in the field without customization keys.

Note – The bundled license key could also be used in the process described above. This key can be used as a developer key to produce a branding scheme in step one and also as an integrator key to apply the branded files to controllers in step two.
