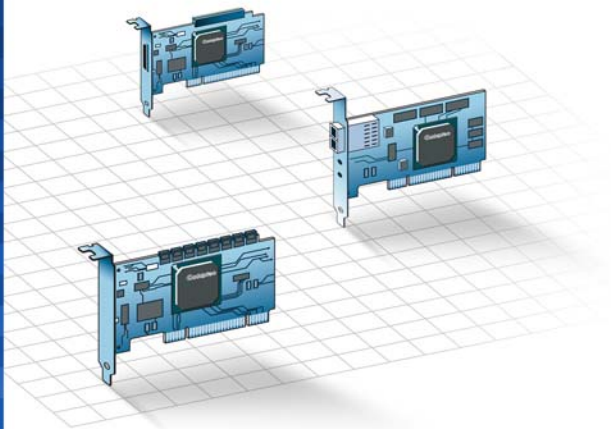


adaptec®

COMMAND LINE UTILITY

USER'S GUIDE



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Getting Started with the Command Line Utility

1

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This chapter explains how your Adaptec product supports the use of one of these command line utilities:

- ARCCONF - for Adaptec RAID controllers
- HRCONF - for Adaptec HostRAID products

Each utility allows you to:

- Create and delete logical drives
- Display and modify a limited set of configuration settings
- Copy configurations from one computer to another
- Recover from a failed physical drive and rebuild an affected logical drive
- Flashes new firmware and BIOS onto the controller
- Enables the controller to check the removal and connection of any disk drives
- Restores the controller configuration (HRCONF only)
- Automatically update Windows drivers (ARCCONF only)
- Provides access to the status and event logs of a controller (ARCCONF only)
- Isolate problems and determine their causes (ARCCONF only)

Installing the Command Line Utility

Both command line utilities are provided on the Adaptec Storage Manager CD. The utility (ARCCONF or HRCONF) is automatically installed in the same directory as Adaptec Storage Manager and must remain there.

Installing on Windows

To install ARCCONF or HRCONF on Windows systems:

- 1 Start the computer.
- 2 After Windows starts, insert the Adaptec Storage Manager CD.
- 3 When the installation program starts, follow the on-screen instructions.

Installing on Linux

To install ARCCONF or HRCONF on Linux systems:

- 1 Start the computer.
- 2 After Linux starts, insert the Adaptec Storage Manager CD.
- 3 Mount the Adaptec Storage Manager CD:

Red Hat: `mount /dev/cdrom /mnt/cdrom`

SuSE: `mount /dev/cdrom /media/cdrom`

- 4 Change to the cdrom directory:

Red Hat: `cd /mnt/cdrom/linux/manager`

SuSE: `cd /media/cdrom/linux/manager`

- 5 Extract the RPM package and install it:

```
rpm --install ./StorMan*.rpm
```

- 6 Unmount the Adaptec Storage Manager CD:

Red Hat: `umount /mnt/cdrom`

SuSE: `umount /media/cdrom`

Installing on NetWare

To install ARCCONF or HRCONF on NetWare:

You need the latest Support Pack for your operating system so you can run the supported Java Virtual Machine (JVM). You need JVM version 1.3 or later. To check your JVM version, load JVM, type `JAVA - VERSION`.

Note: For the latest updates from Novell, visit www.novell.com.

- 1 Insert the Adaptec Storage Manager CD.
- 2 From the command prompt, type `load cdrom` and press **Enter**. From the command prompt, type:

```
xx_yy_zz:\netware\manager\install
```

where *xx* is the product CD, *yy* is the version number, and *zz* is the release number. For example:

```
adptcd_v2_01
```

The installation program starts.

- 3 Follow the on-screen instructions to complete the installation.

Starting the Command Line Utility

To start ARCCONF or HRCONF, enter one of the following commands:

Windows: `c:\<install_dir*>\<name of utility>.exe`

Linux: `/usr/StorMan/<name of utility>`

NetWare: `load <name of utility>`

*install_dir** is the directory where the utility is installed and *name of utility* is ARCCONF or HRCONF.

To see a list of available commands, type ARCCONF or HRCONF at the prompt. The utility command functions are detailed in the next chapter, *Using the Command Line Utility*.

Using the Command Line Utility

2

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This chapter explains how to use the command line utility interactively or in batch mode. With interactive mode, enter commands at the prompt. In batch mode, create scripts and run the script in the appropriate shell. For example:

Environment	Batch File	Run Script
Windows	.bat	CMD.EXE
Linux/Unix	.sh	sh / bash

In either mode, if your command fails, you immediately see an error message of `Command failed`. Other script messages that you can get are `Command completed successfully`, or `Command aborted`.

Available commands are described on the following pages, in alphabetical order.

ARCCONF Commands

Perform the following functions from the command line:

ARCCONF COMMANDS		
copyback	getstatus	setconfig
create	getversion	setname
delete	rescan	setstate
driverupdate	romupdate	snapshot
getconfig	setalarm	task
getlogs	setcache	

Command

```
arccconf copyback
```

What it does

Toggles the controller copyback feature, which attempts to keep drives in the original slot order after rebuilds. Enables or disables the copyback feature.

Syntax

```
arccconf copyback <Controller#> <ON|OFF>
```

Parameters

Controller# is the controller number

ON enables the copyback feature

OFF disables the copyback feature

Example

```
arccconf copyback 1 ON
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command has failed

Command

```
arccnf create
```

What it does

Creates a new logical drive. You must provide the channel and device ID of the physical drives.

On redundant logical drives, ARCCONF performs autosynchronization.

Syntax

```
arccnf create CREATE <Controller#>  
LOGICALDRIVE [Options] <Size> <RAID#> <CHANNEL#  
DRIVE#> [CHANNEL# DRIVE#] ... [noprompt]
```

```
CREATE <Controller#> LOGICALDRIVE RVOLUME <LD#>  
<LD#> [LD#] ... [noprompt]
```

Parameters

Controller# is the controller number

Logical Drive indicates the logical drive stripe size with the following options:

- **Stripesize <STRIPE>**: Optional parameters for specifying a stripe size. *STRIPE* is specified in kilobytes 16, 32, 64, 128, 256, 512 and 1024 are supported.
- **Legs <LEG>**: Optional parameters for specifying number of legs.
 - **LEG**: Number of legs for RAID level x0.
 - **RAID 50/60**: 2 - 16 legs, 3 - 16 drives/leg, 48 drives max.
- **Name <NAME>**: Optional parameter for specifying the name of the logical device.
- **Init_Priority <PRIORITY>**: Initialization Priority for logical drive to be created. Valid options are: *HIGH*, *MED*, or *LOW*.
- **Init_Method <METHOD>**: Initialization method for the logical drive. Valid options include: *NORMAL*, *CLEAR*, *QUICK*.

Size: Indicates the size of the logical drive in megabytes. Use *MAX* to set size to available space.

RAID#: Indicates the RAID level for the new logical drive. 0, 1, 1E, 10, 5, 5EE, 50, 6, 60, and volume are supported.

RVOLUME: RAID Level for a RAID volume logical drive.

LD#: Logical drive numbers for the 2 or more logical drives to be concatenated into the RAID volume.

CHANNEL# DRIVE#: List of space-delimited channel number and device number pairs for each device to add to the logical drive.

noprompt: No prompt for confirmation.

Example

```
arcconf create 1 logicaldrive stripesize 64 MAX  
0 1 0 1 1 1 2
```

```
noprompt
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command has failed

Command

```
arcconf delete
```

What it does

Deletes a logical drive. All data stored on the logical drive will be lost. Spanned drives can't be deleted with this function.

Syntax

```
arcconf delete <Controller#> LOGICALDRIVE  
<LogicalDrive#> [noprompt]
```

Parameters

Controller# is the controller number

LogicalDrive# is the number of the logical drive to be deleted.

Example

```
arcconf delete 1
```

```
logicaldrive 1
```

```
noprompt
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
arconf driverupdate
```

What it does

Updates Windows device drivers. Automatically updates a Windows driver to the version found in the given directory.

Note: Available on Windows systems only.

Syntax

```
arconf driverupdate DRIVERUPDATE <DirName>
```

Parameters

DRIVERUPDATE is the absolute path to the directory containing controller drivers.

Example

```
arconf driverupdate
```

```
c:\windowsall
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
arcconf getconfig
```

What it does

Lists information about the controllers, logical drives, and physical drives. This information can include (but is not limited to) the following items:

- Controller type
- BIOS, boot block, device driver, and firmware versions
- Logical drive status, RAID level, and size
- Physical drive type, device ID, presence of PFA
- Physical drive state

Syntax

```
arcconf config <Controller#> [AD/LD/PD/AL]
```

Parameters

Controller# is the controller number

AD/LD/PD/AL options:

- AD: Adapter information only
- LD: Logical drive information only
- PD: Physical device information only
- AL: All information (optional)

Example

```
arcconf getconfig 1 ad
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
arcconf getlogs
```

What it does

Obtains controller log information.

Provides access to the status and event logs of a controller. You can retrieve four different types of logs:

- **DEVICE:** Lists any device errors the controller has encountered.
- **DEAD:** Records any occurrences of defunct drives.
- **EVENT:** Lists special events that may have occurred (e.g., rebuilds, LDMS, etc.).
- **UART:** Records low level debug and trace information from the controller.

Syntax

```
arcconf getlogs GETLOGS <Controller#> <Type>
```

Parameters

Controller# is the controller number

Type is the type of log to retrieve:

- **DEVICE:** Device error log
- **DEAD:** Dead (failed) drive log
- **EVENT:** Controller event log

Example

```
arcconf getlogs 1 DEVICE
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
arccnf getstatus
```

What it does

The GETSTATUS function displays the status of any background command that is currently running.

Displays information about the most recent rebuild, synchronization, logical-drive migration, and compaction/expansion. The information includes the type of operation, status, logical drive number, logical drive size, and percentage of the operation completed.

Note: GETSTATUS reports currently active operations for both ARCCNF commands and commands issued from the Adaptec Storage Manager.

Syntax

```
arccnf getstatus <Controller#>
```

Parameters

Controller# is the controller number

Example

```
arccnf getstatus 1
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
arccnf getversion
```

What it does

Lists version information for all controllers or a specific controller's software components, including information about the BIOS, driver, firmware currently running, and firmware that will run after a reboot.

Note: The firmware version that will run after a reboot is called the “staged” firmware.

Syntax

```
arccnf getversion (use this for information on
all controllers)
```

```
arccnf getversion <Controller#> (use this for
information on a specific controller)
```

Parameters

```
<Controller#>
```

Example

```
arccnf getversion
```

Return values

```
controllers found: 0
```

```
FAILURE: 0x01 bad arguments or internal error
```

Command

```
arccnf rescan
```

What it does

Enables the controller to check for the removal of any disk drives in the ready state and to check for the connection of any new disk drives to the controller. The command returns when the rescan is complete.

Syntax

```
arccnf rescan <Controller#>
```

Parameters

Controller# is the controller number

Example

```
arccconf rescan 1
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arccconf romupdate
```

What it does

Allows new firmware and BIOS to be flashed to the controller. A reboot is required for the new firmware to take effect.

Note: This function is only supported in Windows and Linux.

Syntax

```
arccconf romupdate <Controller#> <BaseName>
```

Parameters

Controller# is the controller number

BaseName: is the name of the ROM image basename or the fully qualified name if you have a set of controller ROM images.

Note: All UFI files must be in the same directory prior to invoking ARCCONF. If you are copying UFI files from floppy images, be sure to check all images.

Example

```
[RIGHT] arccconf romupdate 1 ac2200
```

```
[RIGHT] arccconf romupdate 1 ac220001.ufi
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arconf setalarm
```

What it does

Sets the state of the controller audible alarm, if present.

Syntax

```
arconf setalarm <Controller#>  
<on|off|silence|test>
```

Parameters

Controller# is the controller number

on enables the alarm

off disables the alarm

silence silences the currently sounding alarm

test triggers the alarm

Example

```
arconf setalarm 1 test
```

```
arconf setalarm 1 silence
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arconf setcache
```

What it does

Changes a device's cache mode.

Syntax

```
arccnf setcache <Controller#> DEVICE <Channel>  
<ID> <options>
```

Parameters

Controller# is the controller number

LogicalDrive# is the number of the logical drive whose cache will be altered

- Logical drive options:
 - ron: Read cache enabled
 - roff: Read cache disabled
 - wt: Write-through
 - wb: Write-back
 - wbb: Write-back with battery
- Physical drive options:
 - wt: Write-through
 - wb: Write-back

Example

```
arccnf setcache logicaldrive 1 ron  
arccnf setcache device 0 0 wb
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arccnf setconfig
```

What it does

Resets the controller's configuration.

Syntax

```
arcconf setconfig <Controller#> DEFAULT  
[noprompt]
```

Parameters

Controller# is the controller number

Default: Resets the controller's configuration. Logical drives are deleted, hard drives are reset to the ready state, and any controller settings are reset to default values.

noprompt: No prompt for confirmation.

Example

```
arcconf setconfig 1 default
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arcconf setname
```

What it does

Rename a logical drive.

Syntax

```
arcconf setname <Controller#> LOGICALDRIVE  
<LogicalDrive#> <New Name>
```

Parameters

Controller# is the controller number

LogicalDrive# is the number of the logical drive to be renamed

New Name is the new name of the logical drive

Example

```
arcconf setname 1 logicaldrive 1 backup_a
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arccnf setstate
```

What it does

Redefine the state of a physical device from its current state to the designated state (Hotspare).

Syntax

```
arccnf setstate <Controller#> <Channel#>  
<Device#> <State> [LOGICALDRIVE <LD#> [LD#] ... ]
```

Parameters

Controller# is the controller number

channel# is the channel number for the drive

device# is the device number for the drive.

State:

- HSP: Create a hot spare from a ready drive
- RDY: Remove a hot spare designation
- DDD: Force a drive offline

Example

```
arccnf setstate 1 0 0 DDD
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arccnf snapshot
```

What it does

Create or manage a logical drive snapshot.

Syntax

```
arconf snapshot SNAPSHOT <Controller#>  
<COMMAND> ... [noprompt]
```

Parameters

Controller# is the controller number

Commands:

- map: Display logical drives and any snapshot state.
- stop <Logicaldrive#>: Remove the snapshot associated with the given Logical drive.
- backup <source Logicaldrive#> <target Logicaldrive#>: Create a new snapshot, copying the full contents of the source to the target.
- nobackup <source Logicaldrive#> <target Logicaldrive#>: Create a new snapshot, copying only changes to the source to the target.

noprompt: No prompt for confirmation.

Example

```
arconf snapshot 1 map
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
arconf task
```

What it does

Performs a task on a logical drive.

Syntax

arccnf task

```
TASK START <Controller#> LOGICALDRIVE  
<LogicalDrive#> <options>[noprompt]
```

```
TASK STOP <Controller#> LOGICALDRIVE  
<LogicalDrive#>
```

```
TASK START <Controller#> DEVICE <Channel> <ID>  
<options>[noprompt]
```

```
TASK STOP <Controller#> DEVICE <Channel> <ID>
```

Parameters

Controller# is the controller number

LogicalDrive# is the number of the logical drive in which the task is to be performed

- Logical drive options:
 - verify
 - verify_fix (Verify with fix)
 - clear
- Physical drive options:
 - verify
 - verify_fix
 - clear
 - initialize

Example

```
arccnf task start 1 logicaldrive 1 verify
```

```
arccnf task start 1 device 0 0 initialize
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

HRCONF Commands

Perform the following functions from the command line:

HRCCONF COMMANDS		
backup	getstatus	romupdate
create	getversion	setconfig
delete	rescan	setstate
getconfig	restore	

Command

hrconf Backup

What it does

For large-scale deployments, stores the current controller and disk drive configuration setting to a specific file. Stored files can be used with the RESTORE command to restore to another controller or disk drive. To restore, the controller or disk drive must have the same configuration as it did before the backup. For example: the same type of controller, same number and type of disk drives with same IDs and channels).

Syntax

```
hrconf backup <Controller#> <File Name>
```

Parameters

Controller# is the controller number

File Name is the relative or absolute path with filename

Example

```
hrconf backup 1 c:\windows\hr2200
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
hrconf create
```

What it does

Creates logical drives. You must provide the channel and device ID of the physical drives. On redundant logical drives, HRCONF performs autosynchronization.

Syntax

```
hrconf create <Controller#> LOGICALDRIVE
[Options] <Size> <RAID#> <CHANNEL# DRIVE#>
[CHANNEL# DRIVE#] ... [noprompt]
```

Parameters

Controller# is the controller number

Logicaldrive indicates the logical drive stripe size with the following options:

- **Stripesize:** Optional parameters for specifying a stripe size. STRIPE is specified in kilobytes: 16, 32, and 64 are supported.
- **Name:** Optional parameter for specifying the name of the logical drive to be created.
- **Init_Priority:** Initialization Priority for logical drive to be created. Valid parameters are either HIGH, MED, or LOW.
- **Init_Method:** Initialization method for the logical drive. Valid options include: NORMAL, CLEAR, QUICK.

Size indicates the size of the logical drive. MAX is the only size option available.

RAID# indicates the RAID level for the logical drive (0, 1, volume).

Channel# is the channel number for the device.

Drive# is the device number for the device.

noprompt: No prompt for confirmation.

Example

```
hrconf create 1 logicaldrive stripesize 64 max
0 1 0 1 1 1 2
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x00 bad arguments or internal error

Command

```
hrconf delete
```

What it does

Deletes a logical drive. All data stored on the logical drive will be lost. Spanned drives can't be deleted with this function.

Syntax

```
hrconf delete <Controller#> LOGICALDRIVE  
<LogicalDrive#> [noprompt]
```

Parameters

Controller# is the controller number

LogicalDrive# is the number of the logical drive to be deleted

Example

```
hrconf delete 1
```

```
logicaldrive 1
```

```
noprompt
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
hrconf getconfig
```

What it does

Lists information about the controllers, logical drives, and physical drives. This information can include (but is not limited to) the following items:

- Controller type
- BIOS, boot block, device driver, and firmware versions
- Logical drive status, RAID level, and size
- Physical drive type, device ID, presence of PFA
- Physical drive state

Syntax

```
hrconf getconfig <Controller#> [AD/LD/PD/AL]
```

Parameters

Controller is the controller number

AD/LD/PD/AL options:

- AD: Adapter information only
- LD: Logical drive information only
- PD: Physical device information only
- AL: All information (optional)

Example

```
hrconf getconfig 1 ad
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
hrconf getstatus
```

What it does

The GETSTATUS function displays the status of any background command that is currently running.

Syntax

```
hrconf getstatus <Controller#>
```

Parameters

Controller# is the controller number

Example

```
hrconf getstatus 1
```

Return values

SUCCESS: 0x00 successful termination

FAILURE: 0x01 bad arguments or internal error

Command

```
hrconf getversion
```

What it does

Returns the version information for all controllers.

Syntax

```
hrconf getversion
```

Parameters

n/a

Example

```
hrconf getversion
```

Return values

controllers found: 0

FAILURE: 0x01

Command

```
hrconf rescan
```

What it does

Enables the controller to check for the removal of any disk drives in the ready state and to check for the connection of any new disk drives to the controller. The command returns when the rescan is complete.

Syntax

```
hrconf rescan<Controller#>
```

Parameters

Controller# is the controller number

Example

```
hrconf rescan 1
```

Return values

SUCCESS: 0x00 indicates the command completed

FAILURE: 0x01 indicates the command failed

Command

```
hrconf restore
```

What it does

Restores the controller configuration by importing its configuration settings from a specified file. Deletes the current configuration. The file must have been saved through the BACKUP command from a controller of the same type, same number, and type of physical drives with same channels and device IDs. A reboot is required for the configuration change to take effect.

Syntax

```
hrconf restore <Controller#> <Filename>  
[noprompt]
```

Parameters

Controller# is the controller number

Filename is the name of the file to read the configuration from

noprompt: No prompt for confirmation.

Example

```
hrconf restore 1 c:\windows\hr2200 noprompt
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

BAD_PATH: 0xFF indicates that the path provided is incorrect

FAILURE: 0xFE indicates an error occurred writing the configuration file

Command

```
hrconf romupdate
```

What it does

Updates the controller or enclosure firmware. The ROM image file must be in the same directory prior to invoking hrconf.

Syntax

```
hrconf romupdate ROMUPDATE <Controller#>  
[CONTROLLER] <Filename> ROMUPDATE <Controller#>  
ENCLOSURE <Channel#> <Device#> <Filename>
```

Parameters

Controller# is the controller number

File Name is the relative or absolute path with filename

Example

```
hrconf romupdate
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
hrconf setconfig
```

What it does

Resets the controller's configuration.

Syntax

```
hrconf setconfig <Controller#> DEFAULT  
[noprompt]
```

Parameters

Controller# is the controller number

Default: Resets the controller's configuration. Logical drives are deleted, hard drives are reset to the ready state, and any controller settings are reset to default values.

noprompt: No prompt for confirmation.

Example

```
hrconf setconfig 1 default noprompt
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed

Command

```
hrconf setstate
```

What it does

Redefine the state of a physical device from its current state to the designated state (Hotspare).

Syntax

```
hrconf setstate <Controller#> <Channel#>  
<Device#> <State> [LOGICALDRIVE <LD#>[LD#] ... ]
```

Parameters

Controller# is the controller number

channel# is the channel number for the drive

device# is the device number for the drive

State:

- HSP: Create a hot spare from a ready drive
 - RDY: Remove a hot spare designation
 - DDD: Force a drive offline
-

Example

```
hrconf setstate 1 0 1 HSP
```

```
hrconf setstate 1 0 2 RDY
```

```
hrconf setstate 1 0 2 RBL
```

Return values

SUCCESS: 0x00 indicates the command completed successfully

FAILURE: 0x01 indicates the command failed



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