

# StorageTek Automated Cartridge System Library Software

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Quick Reference

Version 7.3.1



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# Summary of Changes

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EC released document table.

<b>EC</b>	<b>Date</b>	<b>Edition</b>	<b>Revision</b>	<b>Description</b>
EC001630	May 2010	First	AA	ACSL 7.3.1: <ul style="list-style-type: none"><li>• Supports Redundant Electronics.</li><li>• Software no longer enforces the right-to-use license nor checks for a valid license key.</li></ul>

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## Summary of Changes

# ACSLs Quick Reference

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Throughout this quick reference, underlines show valid command and keyword abbreviations. For example, aud is an abbreviation of the audit command. Brackets [ ] enclose optional parameters. A vertical bar ( | ) separates parameter choices.

## Command Identifiers

Each command identifier corresponds to a type and consists of one or more components separated by commas.

<i>acs_id</i>	acs(0-31)
<i>cap_id</i>	acs(0-31),lsm(0-99),cap(0-11) An asterisk (*) in a <i>cap_id</i> does the following:
	acs,lsm,* causes ACSLS to select the highest priority available CAP in the LSM.
	acs,* causes ACSLS to select the highest priority available CAP in the ACS
	* for an enter request causes ACSLS to select the CAP in the ACS with the most free cells.
	* for an eject request causes ACSLS to select the highest priority CAP in each ACS with a volume designated for ejection.
<i>cell_id</i>	acs(0-31),lsm(0-99),panel(0-50),row(0-41),column(0-23)
<i>drive_id</i>	acs(0-31),lsm(0-99),panel(0-50),drive(0-31)
<i>drive_type</i>	Up to 10 characters transport type identifier; can be any combination of numbers (0-9) or letters (A-Z).
<i>lock_id</i>	decimal number (0-32767)
<i>lsm_id</i>	acs(0-31),lsm(0-99)
<i>media_type</i>	Up to 10 characters media type identifier; can be any combination of numbers (0-9) or letters (A-Z). Spaces are not allowed. A common media type is the STK1R.
<i>owner_id</i>	volume owner
<i>panel_id</i>	acs(0-31),lsm(0-99),panel(0-50)
<i>pool_id</i>	decimal number (0-65535) Specifying an asterisk (*) for the <i>pool_id</i> reassigns a volume to its current <i>pool_id</i>
<i>port_id</i>	acs(0-31),port(0-15)

<i>request_id</i>	unique decimal number (0-65535) assigned by the ACSLS.
<i>subpanel_id</i>	acs(0-31),lsm(0-99),panel(0-50),startrow(0-41),startcolumn(0-23),endrow(0-41),endcolumn(0-23)
<i>vol_id</i>	Six-character identifier consisting of any combination of numbers (0-9), letters (A-Z, a-z, or mixed case (except for use in volrpt)), dollar sign (\$), pound sign (#), and leading and/or trailing spaces ( ). Use single or double quotes to enclose <i>vol_ids</i> with leading or trailing spaces. <i>Do not</i> specify <i>vol_ids</i> with embedded spaces.
<i>volrange</i>	Specifies an ascending range of volumes separated by a dash.  For volranges in query, enter, and eject commands:  If it is a numeric range, specify only the right most numeric portions of the <i>vol_ids</i> as the range. All preceding characters <i>must</i> be identical. The display commands support full alphanumeric volranges and allow wildcards '*' and '_'.  '_'

### ***Auditing the Library***

Audit the entire library - updates library configuration	<u>audit cap_id server</u>
Audit an ACS	<u>audit cap_id acs acs_id</u>
Audit an LSM	<u>audit cap_id lsm lsm_id</u>
Audit an LSM panel	<u>audit cap_id panel panel_id</u>
Audit an LSM subpanel	<u>audit cap_id subpanel subpanel_id</u>

### ***Configuration***

Run the configuration script	acsss_config
Display values of dynamic options	dv_print
Display values of static options	dv_config -s
Display values of dynamic and static options	dv_config -d

### **Configuration - Dynamic**

ACS Add a new ACS  Reconfigure an existing ACS	<code>config acs new</code>  <code>config acs <i>acs_id</i></code>
Drives  Reconfigure all drives on an existing drive panel. This includes adding drives, updating drive types and serial numbers for existing drives, and deleting drives that were removed from the database.	<code>config drive(s) <i>panel_id</i></code>
LSMs  Reconfigure an existing LSM and all its components, which include CAPs and panels.  Note: Use <code>config acs</code> to add or delete an LSM in an ACS	<code>config lsm <i>lsm_id</i></code>
Ports  Reconfigure port connections to an ACS.	<code>config port(s) <i>acs_id</i></code>

### Displaying Status

Display CAP information	<code>display cap cap_id ... [ -availability cap_availability ... ] [ -status cap_status ... ][-priority cap_priority ... ] [ -state cap_state ... ] [ -manual   -automatic ] [ -condition cap_condition ... ] [[ -c ]   [ -f field ... ] [ -s sort_field ... ] [ -n n ] ]</code>
Display cell information	<code>display cell cell_loc ... [ -status cell_status ... ] [[ -c ]   [ -f field ... ] [ -s sortfield ... ] [ -n n ] ]</code>
Display drive information	<code>display drive drive_id ... [ -status drive_status ... ] [ -state drive_state ... ] [ -type drive_type ... ] [ -volume vol_id ... ] [ -lock lock_id... ] [ -serial drive_serial_num ... ] [ -condition drive_condition ... ] [[ -c ]   [ -f field ... ] [ -s sortfield ... ] [ -n n ] ]</code>
Display lock information	<code>display lock lock_id ... [ -user user_id ... ] [[ -c ]   [ -f field ... ] [ -s sortfield ... ] [ -n n ] ]</code>
Display LSM information	<code>display lsm lsm_id ... [ -status lsm_status ... ] [ -state lsm_state ... ] [ -free_cells cell_count ... ] [ -type lsm_type ... ] [ -serial lsm_serial_num ... ] [ -condition lsm_condition ] [ -door_open   -door_closed ] [[ -c ]   [ -f field ... ] [ -s sort_field ... ] [ -n n ] ]</code>
Display panel information	<code>display panel panel_id ... [ -type panel_type ... ] [[ -c ]   [ -f field ... ] [ -s sortfield ... ] [ -n n ] ]</code>
Display pool information	<code>display pool pool_id ... [ -low_water low_water_mark ...   - high_water high_water_mark... ] [ -overflow   -no_overflow ] [[ -c ]   [ -f field ... ] [ -s sort_field ... ] [ -n n ] ]</code>
Display port information	<code>display port port_id ... [ -online   -offline ] [ -name port_name ... ] [[ -c ]   [ -f field ... ] [ -s sort_field ... ] [ -n n ] ]</code>
Display volume information	<code>display volume vol_id ... [ -home acs,lsm,panel,row,column... ] [ - drive drive_loc ... ] [ -data   -scratch   -clean ] [ -media media_type ... ] [ -pool pool_id... ] [ -standard   -virtual ] [ -status vol_status ... ] [ -entry entry_date ... ] [ -access access_date ... ] [ -lock lock_id ... ] [[ -c ]   [ -f field ... ] [ -s sort_field ... ] [ -n n ] ] [ -max_use max_use ] [ -lock_time lock_time ]</code>

### ***Maintaining the Database***

Export database table data and ACSLS control database files to tape or a file. Use when reinstalling ACSLS or upgrading to a new ACSLS version using the same database.	<code>db_export.sh -f [ <i>db_file</i>   <i>tape_device</i> ]</code>
Import database table data and ACSLS control database files from the export tape or file. Use when reinstalling ACSLS or upgrading to a new ACSLS version using the same database.	<code>db_import.sh -f [ <i>db_file</i>   <i>tape_device</i> ]</code>
Back up the database	<code>bdb.acsss -f [ <i>backup_file</i>   <i>tape_device</i> ]</code>
Start up or shuts down the database	<code>db_command start   stop   status   log_normal   log_verbose   log_level   stop_force</code>
Recover the database after a database failure	<code>rdb.acsss</code>

### ***Managing CAPS***

Set CAP's entry mode (manual or automatic)	<code><u>set</u> <u>cap</u> <u>mode</u> <u>manual</u>   <u>automatic</u> <i>cap_id</i></code>
Set CAP's automatic selection priority	<code><u>set</u> <u>cap</u> <u>priority</u> <i>cap_priority</i> <i>cap_id</i></code>
Make manual mode CAP ready to enter labelled carts	<code><u>enter</u> <i>cap_id</i></code>
Make multiple CAPs in an LSM ready	<code><u>enter</u> <i>lsm_id</i></code>
Make CAP ready to enter unlabeled carts into library	<code><u>venter</u> <i>cap_id</i> <i>vol_id</i></code>

**Managing Dual LMU**

Display LMU and port status for both single-LMU and dual-LMU ACS configurations	<code>query <u>l</u>mu <u>a</u>cs_<u>i</u>d ...   <u>a</u>ll</code>
Manually switch ACS management from the ACS's master LMU to the standby LMU	<code><u>s</u>witch <u>l</u>mu <u>a</u>cs_<u>i</u>d</code>

**Managing Locks**

Set your lock ID	<code><u>s</u>et <u>l</u>ock <u>l</u>ock_<u>i</u>d</code>
Display your current lock ID or user ID	<code><u>s</u>how <u>l</u>ock   <u>u</u>ser</code>
Lock a volume or drive (to your current lock ID)	<code><u>l</u>ock <u>d</u>rive   <u>v</u>olume <u>i</u>dentifier</code>
Remove active locks (to your current lock ID) on specified drives or volumes or all active locks	<code><u>u</u>nlock <u>d</u>rive   <u>v</u>olume <u>i</u>dentifier ...   <u>a</u>ll</code>
Remove all active and pending locks on specified drives or volumes	<code><u>c</u>lear <u>l</u>ock <u>d</u>rive   <u>v</u>olume <u>i</u>dentifier</code>

## ***Managing Scratch Pools/Volumes***

Create or modify scratch pools	<u>define</u> <u>pool</u> <i>low_water_mark high_water_mark pool_id</i> ...[ <u>overflow</u> ]
Display scratch pool attributes	<u>query</u> <u>pool</u> <i>pool_id ...</i>   <u>all</u>
Display the status of scratch volumes in a pool	<u>query</u> <u>scratch</u> <i>pool_id ...</i>   <u>all</u>
Set volume's scratch attribute and assign the volume to a scratch pool	<u>set</u> <u>scratch</u> <i>pool_id vol_id</i>   <i>volrange</i>
Change volume from scratch to data	<u>set</u> <u>scratch</u> <u>off</u> <i>pool_id vol_id</i>   <i>volrange</i>
Delete an empty scratch pool	<u>delete</u> <u>pool</u> <i>pool_id ...</i>   <u>all</u>
Mount a scratch volume from a specified pool (single media libraries)	<u>mount</u> * <i>drive_id pool_id</i>
Mount a scratch volume from the common pool (single media libraries)	<u>mount</u> * <i>drive_id</i>
Mount a scratch volume from a specified pool with specific media type	<u>mount</u> * <i>drive_id pool_id</i> <u>media</u> <i>media_type</i>
Mount a scratch volume from a specific pool, media type based on scratch preferences defined	<u>mount</u> * <i>drive_id pool_id</i> <u>media</u> *
Mount a scratch volume from common pool, media type based on defined scratch preferences	<u>mount</u> * <i>drive_id</i> <u>media</u> *
Mount a scratch volume from common pool with specified media type	<u>mount</u> * <i>drive_id</i> <u>media</u> <i>media_type</i>
Display scratch pool information for a specific pool or for all pools	<u>display</u> <u>pool</u> <i>pool_id ...</i>   *

Display status of media-compatible transports for a specified scratch pool (or volume media type within the pool)	<code>query mount * pool_id ... [media media_type   media *]</code>
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### ***Managing Volumes***

Mount a data volume or cleaning cartridge	<code>mount vol_id drive_id [bypass] [readonly]</code>
Dismount a data volume or cleaning cartridge	<code>dismount vol_id drive_id [force]</code>
Create a volume report	<code>volrpt [-s vol   loc   use] [-d] [-f filename][-z] [-a   -l   -v identifier_list]</code>
Use Display for dynamic reporting of library components and/or volumes.	See Display commands.
Set volume ownership	<code>set owner owner_id volume vol_id   volrange</code>
Eject volumes from the library	<code>eject cap_id vol_id   volrange ...</code>
Move volumes to a specified LSM	<code>move vol_id lsm_id</code>
Delete a volume in an offline LSM	<code>del_vol vol_id -n -q</code>
Move multiple cartridges to one or more LSMs.	<code>moving.sh -f vol_list_file -t lsm_id...</code>
Set cleaning cartridge attributes	<code>set clean max_usage   vol_id   volrange</code>
Set cleaning attributes back to data cartridges	<code>set clean off vol_id   volrange</code>
Display volume information for cleaning cartridges	<code>display volume vol_id   vol_range   *-clean</code>

## Query Status

ACSLs and library status	<code>query <u>server</u></code>
ACS status	<code>query <u>acs</u> <i>acs_id</i> ...   <u>all</u></code>
LSM status	<code>query <u>lsm</u> <i>lsm_id</i> ...   <u>all</u></code>
CAP status	<code>query <u>cap</u> <i>cap_id</i> ...   <u>all</u></code>
Transport status	<code>query <u>drive</u> <i>drive_id</i> ...   <u>all</u></code>
LMU and port status for both single-LMU and dual-LMU ACS configurations	<code>query <u>lmu</u> <i>acs_id</i> ...   <u>all</u></code>
Media-compatible transports for a specified data volume	<code>query <u>mount</u> <i>vol_id</i></code>
Media-compatible transports for a specified scratch pool (or volume media type within the pool)	<code>query <u>mount</u> * <i>pool_id</i> ... [ <u>media</u> <i>media_type</i>   <u>media</u> *]</code>
Port status	<code>query <u>port</u> <i>port_id</i> ...   <u>all</u></code>
Location of a volume	<code>query <u>volume</u> <i>vol_id</i> ...   <u>all</u></code>
Cleaning cartridge status	<code>query <u>clean</u> <i>vol_id</i> ...   <u>all</u></code>
Scratch volumes in a pool	<code>query <u>scratch</u> <i>pool_id</i> ...   <u>all</u></code>
Scratch pool attributes	<code>query <u>pool</u> <i>pool_id</i> ...   <u>all</u></code>
Request status	<code>query <u>request</u> <i>request_id</i> ...   <u>all</u></code>
Display the lock status of a transport or volume	<code>query <u>lock</u> <u>drive</u>   <u>volume</u> <i>identifier</i> ...   <u>all</u></code>
Display cleaning cartridge attributes	<code>query <u>clean</u> <i>vol_id</i>...   <u>all</u></code>

***Varying Library Components***

Change the state of an ACS	<code>vary <u>acs</u> <i>acs_id</i> ... <u>online</u>   <u>offline</u>   <u>diagnostic</u> [force]</code>
Change the state of an LSM	<code>vary <u>lsm</u> <i>lsm_id</i> ... <u>online</u>   <u>offline</u>   <u>diagnostic</u> [force]</code>
Change the state of a CAP	<code>vary <u>cap</u> <i>cap_id</i> ... <u>online</u>   <u>offline</u>   <u>diagnostic</u> [force]</code>
Change the state of a transport	<code>vary <u>drive</u> <i>drive_id</i> ... <u>online</u>   <u>offline</u>   <u>diagnostic</u> [force]</code>
Change the state of a port	<code>vary <u>port</u> <i>_port_id</i> ... <u>online</u>   <u>offline</u></code>