

# StorageWorks™

Command Console Version 1.0

Release Notes



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A	8/96	Version 1.0 release
B	8/96	Minor corrections

# Contents

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<b>INTRODUCTION.....</b>	<b>1</b>
TOPICS COVERED.....	1
RELEASE PACKAGE CONTENTS .....	1
<b>INTENDED AUDIENCE.....</b>	<b>2</b>
<b>MINIMUM SYSTEM CONFIGURATION.....</b>	<b>2</b>
<b>QUALIFICATION .....</b>	<b>3</b>
OPERATING SYSTEMS.....	3
ASPI DRIVER SOFTWARE.....	3
SCSI ADAPTER HARDWARE .....	3
<b>CLARIFICATIONS.....</b>	<b>4</b>
WINDOWS NT AGENT INSTALLATION REQUIRES CD-ROM DRIVE.....	4
RUNNING CLIENT VIA NETWORK CONNECTIONS .....	4
DISPLAY IN VGA MODE .....	4
TUNING FAULT NOTIFICATION.....	4
ERRONEOUS INSTALLATION ERROR .....	4
PREFERRED IDS AND SINGLE CONTROLLER CONFIGURATIONS .....	5
<b>OPERATING CONSTRAINTS.....</b>	<b>6</b>
STORAGE SET TARGET VALUES NOT MODIFIED ONCE CREATED.....	6
RAID 0+1 PARAMETER ISSUES .....	6
CLI RUN COMMANDS .....	6
UPGRADING CONTROLLER FIRMWARE .....	6
“WHAT’S THIS” HELP NOT AVAILABLE.....	7
<b>AVOIDING PROBLEM SITUATIONS .....</b>	<b>8</b>
CONFIGURATION FILE DELETED ON REINSTALLATION OR UPGRADE .....	8
INVALID NETWORK PORT NUMBERS DURING INSTALLATION.....	8
CLIENT HANGS WHEN LUN DELETED .....	9
CLIENT HANGS WHEN PREFERRED ID CHANGED.....	9
MISSING TABS IN SEARCH MENU IN HELP.....	9
INVALID CACHE ERRORS .....	9
CONNECTING VIA THE HOST SCSI PORT.....	10
EXTRANEOUS EVENT LOG ENTRIES ON WINDOWS NT .....	10
COMMUNICATIONS FAILURE ON POWER UP WITH LOW BATTERIES .....	10
INVALID OR MISSING FAULT DISPLAYS .....	11
INCORRECT PHYSICAL VIEW DISPLAYED.....	11
TARGET IDS WHEN CREATING VOLUMES.....	11
OPERATING PARAMETERS OF PARTITION VOLUMES .....	12
“STATUS UNKNOWN AND TARGET LUN N/A” ERROR ON A RAIDSET .....	12
<b>INSTALLATION.....</b>	<b>13</b>

**IDENTIFYING YOUR COMMAND CONSOLE SOFTWARE REVISION LEVEL.....13**

# Software Release Notes

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*This document covers Version 1.0 of Command Console. It summarizes features and operational information not covered elsewhere in the product documentation.*

## Introduction

These release notes provide application information on Version 1.0 of Command Console software. Command Console is a feature-rich graphical user interface (GUI) for StorageWorks controllers. This document covers both the Command Console Client and Agent program modules.

For complete product information on Command Console, see the *Command Console Version 1.0 Software Product Description* and the product's on-line Help. Also, for details on the features of version 3.0 of the controller firmware, see the controller documentation.

## Topics Covered

These release notes cover the following topics:

- Minimum system configuration/qualification
- Clarifications—Explanations of the behavior of Command Console in certain situations
- Operational constraints—Limitations placed on the operation of Command Console by the nature of its design
- Avoiding Problem Situations—Information to help you avoid and recover from unusual behavior with Command Console in certain situations, under specific conditions
- Installation instructions
- Identification of the software revision level

## Release Package Contents

The software release package consists of the following:

1. The Command Console distribution CD-ROM.
2. A “Getting Started” user guide.
3. A software license sheet.
4. A software registration card.

The CD-ROM contains complete user documentation in on-line form.

## Intended Audience

This document is directed to customers who wish to install and use Command Console.

## Minimum System Configuration

Command Console Client requires the minimum system configuration shown in Table 1 to operate:

**Table 1 Command Console Minimum System Configuration Requirements**

Feature	Requirement
Architecture	Intel® 486/66 MHz with 16 MB memory and 10 MB free disk space, CD-ROM drive
OS	Windows NT 3.51 (build 1057 or later) or Windows 95 (build 950 or later)
Monitor	15" VGA
Input devices	Keyboard, mouse
Modem	Hayes-compatible
SCSI adapter (for local connection via host bus only)	fast/wide/differential ( for StorageWorks 6-port controllers) OR fast/wide/single-ended (for StorageWorks 2-port controllers)
Serial port (for connection via serial port only)	standard, PC serial port capable of at least 9600 baud.
Network adapter	TCP/IP-compatible network card (for network connection only)
Controller compatibility	StorageWorks 2 or 6-port controller running operating firmware Version 3.0 or higher.

For minimum system requirements for a particular Agent type, see the appropriate user guide, as listed in Table 2.

**Table 2 Agent Documentation**

Agent Version	User Guide
Agent for Windows NT®	<i>Command Console Agent for Windows NT® User Guide</i> (order number EK-C10IN-UG)
Agent for Digital UNIX®	<i>Command Console Agent for Digital UNIX® User Guide</i> (order number EK-C10DU-UG)

## Qualification

The following sections describe the software and hardware with which Command Console has been qualified.

### *Operating Systems*

Command Console Client Version 1 for Windows NT<sup>®</sup> has been qualified with Microsoft Windows NT<sup>®</sup>, version 3.51 (build 1057 or later) and Windows 95<sup>®</sup> (build 950 or later).

Command Console Agent is qualified for a number of operating systems. See the Agent documentation in Table 2 for details on qualified operating system versions.

### *ASPI Driver Software*

Version 1.0 of Client is compatible with ASPI drivers from a number of vendors. It has been fully qualified with the AIC78XX.SYS (version 1.01) and ARROW.SYS drivers from Adaptec<sup>®</sup>, Inc.

### *SCSI Adapter Hardware*

Version 1.0 of Client is compatible with SCSI adapters from a number of vendors. It has been qualified with the following adapters:

- Adaptec 2740N
- Adaptec 2740W
- Adaptec 2940W
- Digital Equipment Corporation PCs with embedded adapters using the AIC78XX chip.
- Digital Equipment Corporation KZPSA SCSI adapter
- NCR<sup>®</sup> SCSI adapters using the 53C810 chip.

## Clarifications

This section presents clarifications on the behavior of Command Console in certain situations.

### ***Windows NT Agent Installation Requires CD-ROM Drive***

The Windows NT Agent can only be installed locally. Because of this, any host system on which you wish to install the Windows NT Agent must have a CD-ROM drive to provide access to the Agent installation programs.

### ***Running Client Via Network Connections***

You can operate Client over PPP, SLIP, or RAS network connections.

### ***Display in VGA Mode***

There is a number of issues involving the use of Client on a system with standard, VGA resolution. The *Subsystem View* tab in the *Subsystem* window requires a minimum amount of screen space to properly display its contents. When you use VGA display resolution, screen space becomes more limited. It is highly recommended that you use Client with a minimum of SVGA (800x600) display resolution.

If you must use VGA resolution, consider the following suggestions:

- If you are running under Windows 95, enable the Auto Hide feature for the Task Bar. This feature provides more screen space when the Task Bar is not being used.
- You may not be able to see the scroll bars on the bottom of the display. You can use the *Show Toolbar* toggle in the Settings menu to remove the toolbar from the display to make room for the bottom scroll bars.
- If you are using Client with a 24-device, high-availability enclosure, it may be easier to configure the subsystem if you set the *Subsystem View* type in the *Settings* tab in the *Subsystem* window to *Generic* for configuration purposes. Return the setting to *High-Availability 24-Device Pedestal* for monitoring and viewing.

### ***Tuning Fault Notification***

For faster fault notification, remove any unused host system names on each of your Agent programs. Inactive systems may force timeouts that slow Client response to your commands.

### ***Erroneous Installation Error***

When you install Client, an error in copying a .DLL file may be reported. Ignore this error.

### ***Preferred IDs and Single Controller Configurations***

In a single-controller configuration, preferred IDs have no meaning. All target IDs are available on the one controller. In the Setup dialog box in single-controller configurations, there is no option for preferred ID selection.

## Operating Constraints

This section describes the operating constraints for the software. An operating constraint is a limitation placed on the operation of the controller by the nature of its design. Keep these constraints in mind, to avoid problems and to help you to get the maximum performance from your controller.

### ***Volume Target Values Not Modified Once Created***

You may wish to change the host target location of an existing volume. This function cannot be performed using *Volume/Modify*. You must delete the volume and recreate it. *An attempt to change the host target location with Volume/Modify results in data loss.*

To avoid data loss, you must delete the volume and then add it back in at a new host target location, using the CLI Window and the appropriate CLI commands, as in the following example:

```
CLI>DELETE D100
```

(Deletes storage set located at Target 1, LUN 0. No data is lost)

```
CLI>ADD UNIT D200 container-name
```

(Changes storage-set-name to Target 2, LUN 0.)

Because no INITIALIZE command was executed, no data loss occurs.

### ***RAID 0+1 Parameter Issues***

Not all parameters are changeable via Client at the RAID 0+1 level. REPLACEMENT\_POLICY must be changed at the mirrorset level. Chunksize, LUN, WRITEBACK switch, and MAXIMUM\_TRANSFER parameters must be changed at the RAID 0+1 *stripeset* level.

### ***CLI RUN Commands***

Do not issue RUN commands in the CLI Window. Use a maintenance terminal interface connection to issue RUN commands.

### ***Upgrading Controller Firmware***

You can use Command Console to upgrade your controller firmware, but you should carefully follow the controller user documentation when doing so. Upgrading your controller firmware can be a complex process in large, high-availability subsystems. Refer to your controller user documentation for detailed upgrade procedures, and use Command Console only to perform the firmware upload itself.

In Command Console, you can only upgrade your controller firmware using a local SCSI host bus connection.

***What's This Help not Available***

The Windows Help 4.0 What's This feature is not available in this release of Client.

## Avoiding Problem Situations

In certain situations, under specific conditions, you may experience unusual behavior with Command Console. This section presents information to help you to avoid such situations and to recover from them if they occur.

### **Configuration File Deleted on Reinstallation or Upgrade**

Make sure to save a copy of the current *config.mdb* file to another directory if you intend to reinstall or upgrade Client. If you uninstall the program, you may inadvertently delete the *config.mdb* file. This file contains your configuration of host systems and storage subsystems used in the Navigation window display.

To reinstate your current Navigation window configuration after installing a new version of Command Console, copy your saved *config.mdb* file back to the directory in which you installed Command Console.

### **Character Limit on Max Cached Transfer Quantity Entry**

There is a four-character limit on the maximum cached transfer entry field in the *Advanced Options* dialogue box accessed when creating volumes. The range of acceptable entries is 1–1024. Do not enter more than four digits in this field, as it may terminate Client with an error.

### **Invalid Network Port Numbers During Installation**

During Client or Agent installation, you may experience an error if the installation program cannot find an acceptable pair of network port numbers.

Your Client uses Windows sockets (sometimes called “network ports”) to communicate with its Agents. Client uses an even/odd number pair for the port numbers. The socket numbers at the Client and Agent ends must match for network communication to occur.

In Windows NT, the socket numbers are assigned in the *services* file in the `\winnt35\system32\drivers\etc` subdirectory. In Windows 95, the socket numbers are assigned in the *services* file in the `\windows` directory. In the unlikely event that you experience a conflict with the socket numbers, you may edit the *services* file manually.

The default socket numbers for Command Console are "4998" and "4999". If you are installing either Client or Agent and these numbers are already taken by another application, the installation program prompts to warn you that you must choose another 4-digit, even/odd pair.

To select another pair for Client, open the *services* file in an ASCII editor, after you have installed Client. Pick two numbers above 1023 that are not already used in the file, and add the following two lines:

```
spgui          even_number/tcp # StorageWorks® Command Console
spagent        odd_number/tcp # StorageWorks® Command Console
```

Note that the port numbers that you select must match the port numbers used by all of the Clients to which you wish to connect your Agent.

See the user guide for a particular Agent type for instructions on configuring the *services* file on its associated platform.

### **Network Port Assignments for Digital UNIX-Client/Server Systems**

A UNIX host may use Network Information Services (NIS) to serve the *services* file containing its network port assignments.

Agent must use the *services* file to determine which network ports to use. Because of this requirement, you may need to configure your system so that Agent can access the proper *services* file.

You have two options to prevent a conflict between the two possible locations of the *services* file. See the Agent user guide for your particular Agent for more information.

### **Client Hangs When LUN Deleted**

If Client is monitoring a particular subsystem LUN and you delete that LUN, the program may hang.

### **Client Hangs When PREFERRED ID Changed**

If Client is monitoring a particular subsystem LUN and you change the Preferred ID of the LUN, the program may hang.

### **Missing Tabs in Search Menu in Help**

When you select the Search button in Command Console Help, Windows Help may not display an Index or Find Tab.

To prevent this problem, delete any hidden files with a .GID extension that are in the Command Console directory. The WinHelp engine uses .GID files to construct the Index and Find Tabs. If the files are corrupted, the engine may not display one or both of the tabs. Deleting the files causes the engine to reconstruct the .GID files.

### **Invalid Cache Errors**

Your controller module, cache module, and subsystem devices all contain configuration information used to keep their activity synchronized. This data is called *metadata*. The firmware reports an invalid cache error on the affected controller in situations in which there is a mismatch between the metadata in the controller module and a cache module containing unwritten data. This mismatch can result in loss of the unwritten cache data if the error is not cleared properly.

#### **CAUTION**

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Use extreme care in responding to the Command Console invalid cache error prompt. If you inappropriately instruct the program to delete unwritten cache data, you may lose valid user data.

Client displays a message and prompt box when an invalid cache error occurs. You must tell the program whether or not to delete unwritten cache data as the error is cleared. If you are not familiar with the

proper treatment of unwritten cache data, see the information in the on-line Help documentation under the topic “Invalid Cache Errors.”

### ***Connecting Via the Host SCSI Port***

Client may indicate that it cannot find your subsystem if you attempt to connect via the host SCSI port under either Windows NT or Windows 95 in either of the following situations:

- A StorageWorks 2 or 6-port controller subsystem is connected to the host, but the subsystem has no volumes configured on it.
- A StorageWorks 2 or 6-port controller subsystem is not connected to the host.

To avoid the problem, a StorageWorks 2 or 6-port controller subsystem with at least one volume configured on it must be connected to the host before you attempt to connect Client. If your subsystem has no volumes configured on it, and you are using a host port SCSI connection, you must temporarily establish a connection via the controller’s serial maintenance port to create at least one volume on the subsystem.

Note that, because Agent uses a SCSI host bus connection to its subsystems, you must also adhere to this requirement on any host system on which an Agent is running.

### ***Extraneous Event Log Entries on Windows NT***

In system configurations using SCSI system disks instead of IDE system disks, you could see numerous, extraneous event log entries caused by an Adaptec ASPI driver conflict. In this situation, check the AIC78XX.SYS, version 1.01 file date. Recent versions of this file may cause the problem.

A solution to this problem is to use the version 1.01, AIC78XX.SYS file dated 6/94. Although this is an older version of the file, it produces better results than more recent ones in this situation. You can download this file from Adaptec’s BBS, or it may be available from their World Wide Web site at: <http://www.adaptec.com>.

You can also configure the NT Event Viewer to overwrite event log messages, to avoid creating too many of them. Use the **File|Log** menu to configure the Viewer.

### ***Communications Failure on Power Up with Low Batteries***

If the battery in your cache is discharged when you power up the controller, the controller may produce an invalid cache error. If you are using Client as your controller interface at that time, the error may prevent communication with the controller. In this case, the controller status bar in Client changes to yellow, and the program displays a window containing error information.

If you experience this situation, make sure Client is set up with the proper communication parameters. If Client is configured properly for your controller, you must exit Client and use a normal controller maintenance terminal to clear the error with the CLEAR ERRORS INVALID\_CACHE command before you can use the controller. See your controller documentation for instructions on use of the CLEAR ERRORS INVALID\_CACHE command.

After you have cleared the invalid cache error, you can use either a normal maintenance terminal or Client as your controller interface.

### ***Invalid or Missing Fault Displays***

Client receives notification of changing subsystem fault conditions the moment they occur. You may experience invalid or lost notifications in situations in which Client's connection with its subsystems is broken.

If the connection between Client and its subsystems is broken for any reason, Client may continue to display faults that are cleared while the connection is broken. Similarly, faults that occur while the connection is broken are not displayed at all.

To clear an invalid fault indication in Client, you must exit and restart it once its subsystem connections are intact. To avoid lost fault indications, make sure that Client's connections with its subsystems are monitored and maintained.

Broken connections can occur for a variety of reasons:

- For serial controller connections—Bad or missing serial cable. To repair this situation, plug in or replace the cable.
- For host port SCSI connections—Bad or missing SCSI host cable, no LUNs configured on controller on Client startup.
- For network connections—Agent missing or not running, network discontinuity, Agent not properly configured for your Clients.
- THIS controller halted, reset or hung—To repair this situation, restart or replace THIS controller.

### ***Incorrect Physical View Displayed***

You must manually select the appropriate physical view of your storage enclosure in the Settings tab of the Subsystem window. The program has no other way of knowing which enclosure to represent in the Subsystem View tab.

### ***Target IDs When Creating Volumes***

When you create a volume and select a Target ID for it in the *Create* dialog box, Client automatically assigns the volume the first available LUN.

Do not go straight to the LUN selection in the *Advanced Options* dialog box, select a LUN, and go back to the *Create* box to change the Target ID. Select your preferred Target ID *before* you go on to the *Advanced Options* dialog box, and do not change your selection when you go back to the box from the *Advanced Options* box.

### ***Operating Parameters of Partition Volumes***

Keep in mind that partition volumes on any container are all closely related. They all share the same target and operating parameters of the container. If you change any of this information for one partition on the container, you change it for all the partitions on that container.

### ***“Status Unknown and Target LUN N/A” Error on a RAIDset***

This message indicates that a volume was created, but that an error occurred in assigning it a unit number. To correct the situation, delete the volume and recreate it.

### ***Incompatibility with Windows 95 Monitor Energy Saver Mode***

If you are using Windows 95, do not use the “energy saver” (low power) monitor mode available with some monitors and graphics adapters. Your system may lock up with a blank screen when the energy saver mode is activated. You may use any screen saver you wish with Command Console.

## Installation

For complete instructions on installing Command Console, see *Getting Started with Command Console Version 1.0* (order number EK-C10GI-GS.)

## Identifying Your Command Console Software Revision Level

You can identify your version of Client software by accessing the **Help|About Command Console** menu. The resulting display lists the software revision level as version “Version 1.0”.