StorageTek
T10000C Tape Drive
Fibre Channel Interface
Reference Manual
Part Number: E25414-01

StorageTek Search
Accelerator (SSA)
Errata Sheet

Version **1.06**

Revision Date **June 9, 2011**

SSA Errata Sheet

StorageTek Search Accelerator (SSA) Errata Sheet

Part Number E25414-01

SSA Errata Sheet

Summary of Changes

Date	Version	Description of Changes	Approved By
11-Mar-11	1.0	Initial Draft	Jeff Swartz
16-Mar-11	1.01	Changed option flag layout	Jeff Swartz
17-Mar-11	1.02	Changed wording: Algorithm to Accelerator Added some clarification to the offset search option	Jeff Swartz
18-Mar-11	1.03	Added search data length, changed device offset to data block offset, included a max block length value to the offset, and other wording refinements	Jeff Swartz
18-Mar-11	1.04	Added Oracle logo & copyright info. Changed option flags to SOFM & DBOE Changed TMK/tapemark to filemark	Jeff Swartz
18-Mar-11	1.05	Changed part number & revision info	Jeff Swartz
28-Mar-11	1.06	Added a note regarding data block spanning not supported on the T10000C and revised the max data block offset.	Jeff Swartz

SSA Errata Sheet

Contents

1 Preface

This Errata Sheet is intended to supplement the T10000C Tape Drive Fibre Channel Interface Reference Manual (E20425-01 or later revisions) with the following new and modified command features for supporting Oracle's StorageTek Search Accelerator (SSA) feature.

The Fibre Channel Reference Manual SSA Errata Sheet is intended for software application developers, and operating system/driver developers implementing SSA on Fibre Channel StorageTek T10000 Tape Drives.

This errata sheet describes information about the StorageTek T10000*C* Tape Drives. The SSA feature is available only on the T10000C drive. Where information changes, the following is used to identify them:

- FC = Fibre Channel

Terminology and Usage

The following terminology is used throughout this errata sheet:

- Examples of hexadecimal notation are: x'4A', 70h, and 00 10 4F (hex).
- Examples of binary notation are: '0101' (b) or 01b.
- Examples of tape drives, or drives are: StorageTek T10000 Tape Drive, T10000 A/B tape drives, T10000 C tape drive or just T10000.
- StorageTek is a trademark of Oracle Corporation.
- End Of Data or EOD.
- Data Integrity Validation or DIV.

Documentation Accessibility

Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit http://www.oracle.com/support/contact.html or visit http://www.oracle.com/accessibility/support.html if you are hearing impaired.

2 SSA Overview

The StorageTek Search Accelerator (SSA) is available on the T10000C drive. It is not available on the previous T10000 A/B models. SSA uses specialized T10000C search hardware to locate requested data on the device media. This hardware greatly speeds up search operations as no intervention with a host is needed.

3 T10000C Reference Manual Changes

A new vendor unique search command has been added to the command set.

3.1 *SSA Command*

This vendor unique command is used to search for information on the currently mounted media. All searches are initiated at the current device location. The search is complete when the specified search data is found, EOD is detected, or a filemark is encountered (see option flags).

Table 1.   **SSA Command**

Byte	Bit							
	7	6	5	4	3	2	1	0
0	Operation Code (C5h)							
1	Reserved							
2 thru 4	(MSB) Data Block Offset (LSB)							
5	Reserved			SOFM		Reserved		DBOE
6	Reserved							
7	Reserved							
8 thru 9	(MSB) Search Data Length (LSB)							
10	Reserved							
11	Control Byte							

Table 2.   **SSA Data Format**

Byte	Bit							
	7	6	5	4	3	2	1	0

SSA Errata Sheet

0 thru 1023	(LSB) Search Data (MSB)

Data Block Offset

    When enabled by the option flags below, this offset indicates the exact position in a data block where the search should find the specified search data. If the search data is not found at the exact specified offset, then the search proceeds to the next data block (if one) and examines that block at the exact specified offset (and so on until an EOD or a filemark is encountered per the option flags below). This type of search is useful for finding unique customer metadata on the currently mounted media. The data block offset + the search data length should not be greater than the maximum block length – 1 as data block spanning is not supported on the T10000C.

    Offset values can range from 0 to the maximum block length - 1.

        Maximum block length is 2,097,152 bytes (0x200000) in standard mode.

        Maximum block length is 2,097,156 bytes (0x200004) in DIV mode.

Option Flags

    Search options - Stop On Filemark (SOFM) and Data Block Offset Enable (DBOE).

    00 = A search for the specified search data is initiated at the current device location. The search is stopped when the search data is found or EOD is encountered.

    01 = The drive will determine if the specified search data exists at the exact specified offset in a data block starting at the current device location. If it does not, then the search proceeds to the next data block. The search is stopped when the search data is found at the exact specified offset or an EOD is encountered.

    10 = The same as option 00, but will also stop if a filemark is encountered.

    11 = The same as option 01, but will also stop if a filemark is encountered.

Search Data Length:

    The search data length specifies the size of the search data. The data block offset + the search data length should not be greater than the size of a data block as data block spanning is not supported on the T10000C. Values ranges from 1 to 1024 bytes.

Search Completion:

    If a match is found:

        The drive is positioned BEFORE the data block that contains the match.

    If a match is not found:

        For option flags 00 & 01: The drive is positioned at EOD.

        For option flags 10 & 11: The drive is positioned AFTER a filemark if one is found, otherwise EOD.