



LTO Cartridge Quality Analyzer

Introducing VeriTape®

All LTO Cartridges contain an internal memory chip called Cartridge Memory (CM). This chip contains vital information about the cartridge. VeriTape® reads this information and extracts it into special software with a clear and concise display.

Identify deteriorating cartridges before they fail

Most systems identify defective cartridges after they fail. These cartridge failures can be disruptive and expensive. But with VeriTape® you can monitor any cartridge and retire aging or damaged ones **before** they fail, not afterwards.

Storing mission critical data

When saving critical data to tape you must have complete confidence that your data can be recovered without problems. VeriTape® enables you to identify and eliminate any cartridge that does not meet your standards.

Purchasing used cartridges

You may be buying damaged or aged cartridges. There is no way to judge the cartridge quality from the outside appearance of the cartridge. VeriTape® allows you to “look inside” the cartridge and get its complete history.



Do you know the quality of your cartridge ? Your cartridge does!

Data displayed with VeriTape®

The available data include:

Percentage of records in error

- Recovered read & write errors
- Unrecovered read & write errors
- Servo errors & fatal servo errors

Number of bytes written & read

Number of cartridge loads

Age of cartridge

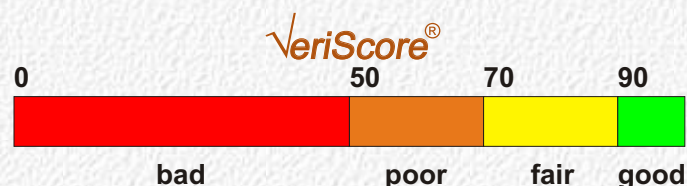
Manufacturer of cartridge

Manufacturer of the tape

Details of the last four times the cartridge was used

Interpreting VeriTape® data

It can be time consuming, tedious, and inconsistent if you try to examine all the data in order to evaluate a cartridge. Not everyone may give each parameter the same weight. It is more helpful to create a single score number that is automatically and consistently calculated from all available data. VeriScore® is a Tape Evaluation Score ranging from 0 (very bad) to 100 (very good). Within seconds you will learn if a used cartridge meets your standards.



Hardware & Software requirements

The VeriTape® scanner can be connected to most systems. All you need is a USB port.

The VeriTape® application software runs under all recent Windows operating systems.

VeriTape® Software

Display

When in 'automatic mode', VeriTape® automatically detects the presence of a cartridge, reads its memory chip, and displays the data.

Save

The 'save file' function allows you save the CM contents in a file.

Save Cartridge History

The 'Save Cartridge History' function reads the CM and saves its contents in a file. This function allows you to rapidly read and save the CM contents of many cartridges.

If you scan a cartridge that has been previously scanned, VeriTape® automatically finds and appends the previously saved file, allowing you to easily build a complete performance record for each cartridge..

Open

Opens and displays previously saved files. When more than one file is selected, the software performs a **statistical analysis** and displays statistical data including maximum, minimum, average, and standard deviation from the selected files.

Regardless of the number of cartridges you evaluate, unacceptable cartridges will immediately be shown.

VeriTap® Cartridge Screen

VeriTap® - VERBATIMF3XPDsn192	
File Edit Action Help	
Cartridge Usage History Details	
Manufacturer	Verbatim
Serial Number	F3XPDsn192
Volume ID	009556L2
VeriScore™	89
Media Manufacturer	TDK
Manufacture Date	2003.10.27
Cartridge Type	LTO2 cartridge
Last Unload	Normal
EOD Mark	Valid
Mounts	206
Total Data Written	88.3GB
Total Data Read	81.5GB
Recent Data Written	613MB
Recent Data Read	148MB
Recent Write Retries	0
Recent Read Retries	0
Recent Servo Errors	0
Recent Fatal Write Errors	0
Recent Fatal Read Errors	0
Recent Fatal Servo Errors	0
Total Write Retries	6 (67.9/TB)
Total Read Retries	80 (981/TB)
Total Servo Errors	0
Total Fatal Write Errors	0
Total Fatal Read Errors	0
Total Fatal Servo Errors	0
Data read OK	

The display gives you the information you need. Values that are outside acceptable norms are highlighted in order of severity in yellow, orange, and red colors.

VeriScore and Summary information

Errors that occurred within the last four times the cartridge was loaded are known as "recent errors". Because of their importance they are displayed first and are weighted higher than other errors in calculating VeriScore.

Error summary for entire cartridge

VeriTap® Usage History Screen

VeriTap® File: HP-1150156218

File Edit Action Help

Cartridge Usage History Details

	Latest						Earliest
Scan Date	5/23/2007	5/23/2007	5/22/2007	5/22/2007	5/22/2007	5/22/2007	5/22/2007
Scan Time	11:38 AM	11:30 AM	4:33 PM	4:33 PM	11:18 AM	11:18 AM	11:07 AM
VeriScore™	76	78	74	74	74	82	82
Drive Manufacturer	HP	HP	IBM	IBM	IBM	IBM	HP
Drive ID	IE71L06320	IE71L06320	6810259027	6810259027	1311023486	1311023486	HUM5801301
Mounts	87	86	85	84	83	82	81
Data Written	4.89 GB	0	7.67 MB	8.89 MB	13.1 GB	132 MB	0
Data Read	4.91 GB	7.67 MB	25.4 MB	49.3 MB	2.02 MB	2.02 MB	58.2 MB
Write Retries	0	0	0	0	0	0	0
Read Retries	3 (61.9/TB)	0	0	0	0	0	0
Servo Errors	0	0	0	0	3 (229/TB)	0	0
Fatal Write Errors	0	0	0	0	0	0	0
Fatal Read Errors	0	0	0	0	0	0	0
Fatal Servo Errors	0	0	0	0	0	0	0

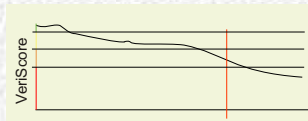
CM data read from T:\VeriTap\client\sample\DDI-INCH-HP-1150156218.bocm

Scanning a cartridge periodically with the "Save Cartridge History" option enabled, creates a complete record of the cartridge.

The example above shows a cartridge record with 8 scans. Notice the change of VeriScore.

Scanning a cartridge periodically is the best way to track its performance and detect the time when the cartridge should be retired.

The graph below is derived from the VeriScore row in the "Usage History" page of a cartridge that has been scanned periodically.



The red vertical line shows the point when the cartridge should be retired.

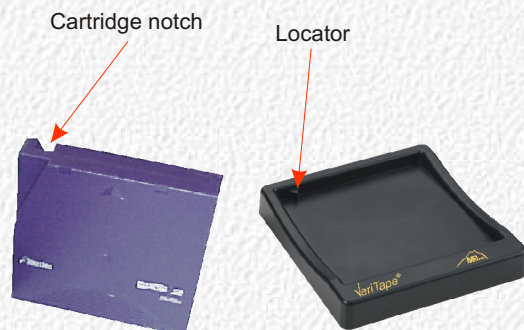
VeriTap® Summary Screen

VeriTap® - Files read from T:\VeriTap\client\samples\DDI-INC	
File Edit Action Help	
Summary	
Manufacturer	Min Max Average SD FUJIFILM FUJIFILM FUJIFILM FUJIFILM MAXELL FUJIFILM
Serial Number	0670411082 0438301024 0430302621 0430302618 2070005067 034P117109
Volume ID	009556L2 017322L1 017322L1 000546L1 000546L1 000546L1
VeriScore™	18.00 96.00 73.60 26.91 86 86 81 76 76
Manufacturing Date/Age	0.88 yr 4.71 yr 1.95 yr 1.09 yr 2004.03.17 2004.03.17 2004.03.17 2004.03.17 2003.06.07
Cartridge Type	LTO2 cartridge LTO1 cartridge LTO1 cartridge LTO1 cartridge LTO1 cartridge LTO1 cartridge
Last Unload	Normal Normal Normal Normal Normal Normal
EOD Mark	1 1 1 0 Valid Valid Valid Valid Valid
Mounts	1 70 36.6 18.7332 1 20 30 41 41 33
Total Data Written	112 GB 872 GB 472 GB 216 GB 112 GB 214 GB 350 GB 409 GB 554 GB 542 GB
Total Data Read	49.3 MB 20.9 GB 6.47GB 8.69 GB 49.3MB 574MB 1.29 GB 1.72 GB 1.35 GB 20.4 GB
Recent Data Written	2 GB 112 GB 42.6 GB 34.6 GB 112 GB 2 GB 8.44 GB 33 GB 58.7 GB 67.6 GB
Recent Data Read	17 MB 1.13 GB 227 MB 300 MB 49.3MB 17 MB 142 MB 140 MB 145 MB 158 MB
Recent Write Retries	0 202MB 23.6MB 62.7MB 1 (6.97/TB) 1 (6.97/TB) 0 0 1 (14.8/TB) 1 (14.8/TB)
Recent Read Retries	0 0 0 0 0 0 0 0 0 0
Recent Servo Errors	0 98MB 16.3MB 32.5MB 0 0 0 0 0 0
Recent Fatal Write Errors	0 0 0 0 0 0 0 0 0 0
Recent Fatal Read Errors	0 0 0 0 0 0 0 0 0 0
Recent Fatal Servo Errors	0 0 0 0 0 0 0 0 0 0
Total Write Retries	3.62MB 7.81KB 1.17KB 2.38KB 1 (6.97/TB) 41 (191/TB) 18 (26.1/TB) 846 (1.53GB) 379 (700/TB)
Total Read Retries	0 567MB 176MB 201MB 0 0 0 1 (953/TB) 0 3 (147/TB)
Total Servo Errors	0 3.72KB 34.1MB 1.14KB 0 0 0 0 0 0
Total Fatal Write Errors	0 0 0 0 0 0 0 0 0 0
Total Fatal Read Errors	0 159MB 15.9MB 50.3MB 0 0 0 0 0 0
Total Fatal Servo Errors	0 493GB 49.3GB 146GB 0 0 0 0 0 0

When the saved results of several cartridges are selected, the VeriTap® software displays the summary information of all tapes plus additional statistical information, which includes the minimum, the maximum, the average, and the standard deviation of all values.

Click on a value (on VeriScore™, for example) and the table is sorted for this value. Cartridges that do not meet your standard can immediately be identified and discarded.

Loading the Cartridge



VeriTap® is approximately the same size as an LTO cartridge. Unlike an LTO tape drive, however, VeriTap® does not need to thread the tape in order to access the CM. Just place the cartridge on top of the reader and the display immediately shows the relevant information. A locator feature in the frame matches a notch in the cartridge, thereby ensuring that the cartridge is always correctly oriented.

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