

TP Series SATA Hard Disk Eraser-TP400G

User Manual V3.0



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Preparation Tips before You Start

- Make sure to use stable power supply.
- Please use in a clean & dry environment.
- Please keep the environment well ventilated.
- When the eraser operates, it is normal for the machine to heat up.
- Please do not move the eraser during operation to ensure better operation.
- Please do not remove HDDs during operation to avoid damage.
- Please use power supply of its original manufacturer to ensure working safety.
- Static electricity may cause erasing error. Please pay attention to the eraser environment and operators' equipment. It is recommended to purchase static electricity elimination equipment to avoid static electricity shock when in high static electricity environment.

Notice Symbols

Special items, procedures, or notes should be noticed by users before operation.

• Note:

Note Refers to related operations on the eraser, special details, tips to know, suggestions or more effective operation.

• Caution:

Caution Refers to operations that need to be followed or to be cautious to avoid mistakes.

Function Table

Function	Description			
1.Quick Erase	Erase the INDEX of HDD, and take very short time.			
2.Full Erase	Erase the whole HDD, including empty space.			
3.DoD Erase	Erase HDDs thrice, complying with US Department of Defense's erase standard DoD 5220.22-M(E).			
4.DoD	Erase HDD thrice and co	ompare once, complying with US Department		
EraseComp	of Defense's erase stan	dard DoD 5220.22-M(E).		
5.Secure Erase	Erase whole HDD, even loadable, the internation	HPA/DOC or other area which are not nal authorized high standard Secure Erase.		
6.7 Pass Erase	Erase and overwrite wh Department of Defense	ole HDDs for 7 times, complying with US 's erase standard DoD 5220.22-M(ECE).		
7.1 Сору				
	Copy data from source	to targets.		
	7.2 Compare			
	Compare bit-by-bit bety	ween source and targets to make sure		
	accuracy.			
	7.3 Copy+Compare			
	Copy and Compare source to targets and immediately compare after			
7.Utility	7.4 Show Disk Info.			
	Show the information o	f connected HDDs, such as brand name, total		
	capacity, and etc.			
	7.5 Show System Info.			
	Show the information of the duplicator, such as controller model			
	number, software version, and etc.			
	7.6 System Update			
	Update the system firm	ware		
	8.1 Start-up Menu			
	Select which function is shown first when the system is turned on.			
8. Setup		8.2.1 System and Files		
	8.2 Copy Area	Set to copy source HDD's data area only to		
	Setup copy mode.			
		8.2.2 All Partitions		

		Set to copy source HDD's partition areas,		
		skipping any non-partition, empty areas.		
		8.2.3 Whole HDD		
		Set to copy the whole source HDD, including		
		empty space.		
	8.2.4 Percentage(%)			
		Set up percentage range of HDD for copy.		
		Enter Start and End percentage.		
	8.3 Skip Error			
	Set to ignore error of H	DDs while copying. Set up parameter from 0		
	to 65535 or unlimited.			
	8.4 Restore Default			
	Back to original manufa	acturer setting.		
	9.1 Out Today Report			
	Output today's log data			
	9.2 Out Recent Report			
	Output recent log data (from today to recent 28 days)			
	9.3 Out Period Report			
	Output a period time of log data			
9. Log Manager		9.4.1 Clear All Log		
		Clean out the log records after entering		
	9.4 Advanced	password.		
	Function (default	9.4.2 Setup Password		
	password 123456)	Set up the password for cleaning log records.		
		9.4.3 Adjust Clock		
		Adjust system time clock on LCD screen.		

*Above functions and features subject to change without notice.

Product Overview

Using data overwrite in erase mode has been proven safe and effective method to prevent the risk of data retrieval by others. The HDD is cleaned and can safety be discarded or recycled. TP series eraser allows all business and recycling work. There are 5 types of erase mode that can provide various application levels, from general, corporate, banking and military usage.

The TP400 SATA Eraser has ultra high speed up to 9.0GB/min, designed for data erasing consumers. TP400 HDD Eraser also supports hard disk function of duplication and comparison.

Product Features

- Five professional erase methods: Quick Erase, Full Erase, DoD Erase, Secure Erase, 7 Pass Erase
- Fast shortcut key <GO> can perform asynchronous HDD erase of each port.
- Display HDD info of each port clearly: After erasing, press ▲ ▼ up/down keys to check HDD status of each port, such as serial number, model or capacity, etc.
- Support hard disk copy and compare function.
- Support multi-interface
 Support directly 2.5"/3.5" SATA HDD and SSD. Support IDE HDD via IDE-SATA adapter.
- Ultra high speed efficiency up to 9.0GB/min.
- Log report management
 Professional log report management records all tasks and details for correct erasing.
- Connect a printer to printout real-time passed record of each HDD
- Auto power control system
 Protect hard disk from damage during hot removal from the eraser.
- Bad-sector counting
 Support auto detection and display number of bad-sector

Package Content



TP400G

Power Adapter

Power Cord

User Manual

Hardware Overview



- RS232 serial port: To connect printer, printout real-time log report of each socket.
- USB port: To connect USB drive, export out log of each port as txt file
- HDD socket#1: Copy source, erase port
- HDD socket#2/#3/#4: Copy targets, erase ports
- LED light: Red(error), Green(pass), Green blinking(working), Yellow(Power on, do not remove HDD)

Appliance Diagram



- Connect a printer to printout log report after erasing tasks. Please contact the original manufacturer of eraser for this printer model.
- Export log report to USB drive and also update firmware via USB drive.

Data Sanitization

Caution		It will erase the data in HDD, please make sure you have backup all
		important data before using this function.
	•	To cancel operation of any erasing mode, press <esc> key and hold</esc>
		continuously for 3 seconds to exit any erasing tasks.
	♦	The user is responsible to verify the targets' quality. Please pick a few
		completed targets for testing in a mass production environment for QC.

Step 1: Prepare HDDs

Prepare HDDs for disposal.

Step 2: Place HDDs

Insert HDDs for disposal into target ports.

Note	 Any port can erase data immediately.
	• Some modes will take much longer time than quick erase. Users can
	press <esc> to cancel, but original HDD format and data might not</esc>
	recover.

Step 3: Enter function "1.Quick Erase"

Use ▲ ▼ to select the mode of erasing method, and then press "OK". Data Erase will proceed.



Step 4: Completion!

Quantity of erasing OK/Fail and task time would show on LCD after the task completed. Press $\blacktriangle \nabla$ keys to check the information of each port.

During process of erasing, press <Go> to check real-time status of each port.

Setting of Erase Function

There are 5 professional erase methods:

Quick Erase, Full Erase, DoD Erase, Secure Erase, 7 Full Erase.

Quick Erase

Prepare disposal HDDs. Insert disposal HDD to any port. Enter function "1.Quick Erase". Press <OK> or <GO> to start erasing.

Quick erase will only erase the index of the HDD. It is the quickest way to erase HDD. It will damage the data in HDD. Please make sure you have backup all important data before using this function. Use $\blacktriangle \nabla$ keys to the status of each port or erasing related information.



Full Erase (Entire HDD Area)

Prepare disposal HDDs. Insert disposal HDD to any port. Enter function "2.Full Erase". Press <OK> or <GO> to start erasing.

Full erase will erase the whole sectors on the target HDD. It will take longer time than quick erase. Complies with NIST800-88 standards. Users can press <ESC> to cancel, but original format and data might not be recoverable.



DoD Erase (DoD5220.22 M)

Prepare disposal HDDs. Insert disposal HDD to any port. Enter function table "3.DoD Erase". Press <OK> or <GO> to start erasing.

DoD Erase is to comply with the U.S.A. Department of Defense's standard DoD5220.22-M(E). Fully erase the HDD three times bit-by-bit to overwrite HDD data and guarantees data not recoverable. This DoD erase method will erase HDD over each sector three times: the first time with zeros (0x00), second time with 0xFF(0xFF) and the third time with random characters.



DoD Erase Method:



DoD Erase & Compare (DoD5220.22 M)

Prepare disposal HDDs. Insert disposal HDD to any port. Enter function table "4.DoD EraseComp". Press <OK> or <GO> to start erasing.

DoD EraseComp fully erases the HDD 3 times, 5220.22-M (E), and compare bit-by-bit based on the step 3 to make sure the random correctly written.



DoD EraseComp Method:



Note *The erasing duration of DoD Erase mode is 3 times longer than full erase mode. *The duration of DoD EraseComp is 4 times longer than full erase mode.

Secure Erase (NIST800-88)

Prepare disposal HDDs. Insert disposal HDD to any port. Enter function "5. Secure Erase". Press <OK> or <GO> to start erasing.

This function sends an ATA Secure Erase command. It overwrites every single track on the hard drive with"00". Even HPA/DCO or other data area which are not able to load, can be erased all together.



Only devices support Enhanced Secure Erase are available to execute this function.

Seven Pass Erase"DoD 5220.22-M(ECE)"

Prepare disposal HDDs. Insert disposal HDD to any port. Enter function 6. "7 Pass Erase". Press <OK> or <GO> to start erasing.

7 Pass Erase (7-Pass DoD) is to comply with the U.S.A. Department of Defense's standard DoD 5220.22-M(ECE). The mode is a DoD 7-Pass and complies with the DoD5220.22-M(ECE) standard. It fully erases the HDD for 7 times bit-by-bit to overwrite HDD data and guarantees data not recoverable. The 7-Pass Erase mode spends 7 times longer than full erase mode.



Enhanced Secure Complete 31:53

7 Pass Erase Method:



Caution Please DO NOT disrupt Secure Erase/Enhanced Secure Erase during operation. Otherwise, it might cause error on reading the HDDs which cannot be identified by the duplicators and computers. If fails, please execute secure erase mode again.

Utility Function

1.Copy

Step 1: Prepare a source HDD and target HDDs.

Caution	 It's strongly recommended the source and target are the same capacity. SATA 1.0/2.0/3.0 HDD are all supported on the duplicator. Various
	adapters are required to copy device with different interfaces, e.g. IDE, eSATA, mSATA

Step 2: Place source HDD into source port, targets HDD to other ports.

Note When all the target HDD ports are plugged, the machine will start duplicating automatically. If not all ports are plugged, the number of working targets shows on LCD. Press <OK> to start.

Step 3: Use $\blacktriangle \nabla$ keys to select "7.1.Copy HDD", and then press <OK>. Duplication will start to proceed.

Note	ullet	Press A V together for 5 seconds to stop operation on the slowest HDI				
note	•	It is able to use "On-Time Monitor" feature to check operation speed of				
		every port.				

Step 4: Completion!

Quality of copy OK/Fail and duplication time would show on LCD after duplication completes. During process of duplication, every port captures in real-time and message shown on LCD.

Before executing this function, users can go to "8.2.Copy Area" to set the copy area and copy mode. After finishing these two settings, go back to function "7.1.Copy HDD" and press <OK>, and the system will start copying.

Copy Gready	40.0G
Function	Total Data
Сору x3	40G
1:38_25%	(4)10,3G
Copied	Slowest Copied
time & %	port data

- It is recommended to execute Compare after Copy to confirm the accuracy
 To guarantee data consistency, we highly recommend the consistency
 - To guarantee data consistency, we highly recommend the capacity of source and targets should be the same.
 - It is strongly suggested to use "Copy+Compare HDD" to achieve a perfect duplication.

How to skip bad sectors?

Enter function [8.3 Setup Skip Error], you can set the number of bad sectors that you accept to skip during Copy process. If the HDD is very critical for content correctness, it is strongly recommended to keep the skip error to be" 0".



Set Copy Area of Source HDD

Appropriate copy area can greatly reduce operation time and have better efficiency. There are four copy modes with different copy area, please go to function "Copy Area".



System and Files: (Quick Copy data area only)

It will copy source HDD's System and Files instead of the whole HDD. The system will analyze the source HDD and identify the data area to copy. As long as the source HDD's data within the target HDD's space, the copy will be processed. FAT16/32/64, NTFS, ext2/ext3/ext4, HFS+, HFS, HFX are supported for this copy mode.



Only 120G data area will be copied, it takes 12 minutes.

2 ALL Partitions

Copy all of the partitions area bit-by-bit no matter there is data exist or not. The capacity of target HDDs have to be bigger than the partition required capacity.



3 Whole HDD

Mirror copy the whole source HDD, no matter of the content, format, partition or empty space. This mode does not analyze the data.



Percentage (%)

Copy the selected percentage range of source HDD



Only copies the selected area, other area or data will not be copied.

2-Compare

Step 1: Prepare source HDD and target HDDs for comparison.

Step 2: Place source HDD to source port, target HDDs to the rest ports.

Step 3: Use▲▼to select "7.2.Compare HDD" and then press <OK>. Data comparison will be proceed.

Note When all the target HDD ports are plugged, the machine will start duplicating automatically. If not all ports are plugged, the number of working targets shows on LCD. Press <OK> to start.

It is recommended to copy data by function "7.3.Copy+Compare HDD".

Comparison function is to check the correctness of copying result. After finishing copying, function "7.1 Copy HDD", go to Function, "7.2 Compare HDD", and press <OK> to start executing comparing processing from source to target (bit-by-bit).

3-Copy+Compare

This function provides a more convenient option. Instead of going to function "7.2.Compare" and pressing <OK> again after copying, function, "7.3.Copy&Compare" will automatically run the compare function after finishing copying to make sure if the copied result is correct.

Caution The user is responsible to verify the targets' quality. Please pick a few completed targets for testing in a mass production environment for QC.

System Info

• Enter function "<u>5.Utility</u>"-->"<u>System Info</u>", by pressing "OK", the firmware version shown on the screen.



Change the first Start-up Menu.

• Enter function "<u>6.Setup</u>"-->"<u>Start-up Menu</u>" to reset selected function as the first to show on LCD. Choose the most frequently used one as start-up item. Select from function 1 to 7. (1.Copy/2.Compare/3.Copy+Compare/4. Erase/5. Utility/6. Setup/7.Log Manager) Reboot the system and setting will effective immediately.





Restore factory default.

Enter function "6.Setup"-->"Restore Default" .

Press <OK>. The system will clear all parameter back to the original factory default settings.



System Update.

This function is to execute firmware updating of system. Please unzip latest BIOS and save it to the root directory.

Two methods for update- please select more convenient device for you to update.

Update by USB Drive

Step 1: Create Update USB

Download the latest firmware and save it to the root directory of the USB drive.



Note	Make sure the partition format of USB drive as FAT 16/32.

Step 2: Attach to USB port

Insert USB drive into USB port located at the side panel of erase.



Step 3: Enter "Update System"

Select and enter function "7.6 Update System". Press <OK> to start updating. Update will be completed in one minute.

Caution Please do not disrupt during BIOS update, otherwise it would cause irretrievable error on duplicator. We are not held responsible for any damage.

Troubleshooting When Duplication Fails

- Check if too many bad tracks on HDDs can cause duplication failures.
- Check the setting of function "Skip Error". Enter function "5.Utility"-->""Skip Error".



- Make sure all HDDs are properly and firmly connected.
- Make sure the capacity of source HDD is smaller than target.
 Enter function "5.Utility"-->""Show Disk Info". Press ▲ ▼UP/Down keys to check HDD info connected to each port.

How to Use Log Report

Log Report is a very important management tool to assist users in monitoring, recording and managing the whole duplication process and the result. It shows all the information details for each port, which is a powerful tool for sorting out the slowest writing HDD and keeping the operation running efficiently.

Explanation of Log Report



Output Log by USB Drive

The USB port of duplicator is able to perform firmware update and also for exporting Log Report. After finishing all the task of duplicator, enter function "9<u>. Log Manager</u>", and then choose among 3 options, to export log report of day, to recent log report or to select a period of time.

```
Note The USB has to be FAT16/FAT32 format.
```

1. Export Log Report of Today

Export log report of today via USB port to a USB drive.

[Loe #1-#6] 1.Out Today Report

2. Export Recent Log Report

To output the log report in recent 1 to 28 days via USB port to a USB drive.

[Los #1-#6] 2.Out Recent Report

3. Export Report from a Period of Time

To output the log report of a period time via USB port to a USB drive.

[Los #1-#6] 3.Out Period Data

How to Print Out Eraser Report

Connect printers to printout reports via console port

RS232 console port of the eraser connects to printer to printout real-time eraser report of each port. Log report can be printed from

- Printout eraser report for each working port immediately after erasing tasks passed.
- When users do not want to print real-time log, just turn off the printer.
- > The Eraser printer supports printing language either Chinese or English.

2How to Print out Proof:

- Print Erase Report via POS Printer
 - 1. Connect the TP Eraser to HDDs for disposal. Execute one Erase mode. After Erase completed, the tasks record working information to the HDD of each port.



Erase HDDs

2. Attach TP Erase to one POS printer via console port.



Attach to POS printer

3. Select function table "7.4 Show Disk Info", and then press <GO>. The POS printer immediately prints out erasing proof.



Overview of using POS printer

- Print Event Log Report via USB drive
 - 1. After Erase tasks completed, insert one USB drive to USB port of the machine.
 - 2. Enter function "9. Log Manager", and then choose time range (9.1/9.2/9.3) to output complete log report.



Output event log reports to USB drive

3. After output data to the USB drive, removing the USB away from the machine, insert into your computer. Read and print out Event Log Reports from your computer.



Read log on computer

Contents of Reports:

Include items such as HDD serial number, bad-sector number, erase time, erase mode, task status, and etc.

Erase Report of each port

Erase reports printout erasing status of single port.



Eraser Report of single port

Event Log Report

Event log reports printout tasks status of the machine which show erasing information for all ports and all HDDs.

Date/Time	0000118 [Port:02] 2014-05-2	16:45:27 Elapsed Time	00:00:03 (QUICK ERASE)	(PASS)	Capadity: 298.1GB(625142447)
	0000119 [Port:02] 2014-05-2	16:46:08 Elapsed Time	00:00:03 (QUICK ERASE)	(PASS)	Capadity: 298.1GB(625142447)
	0000120 [Port:02] 2014-05-2	17:10:56 Elapsed Time	00:00:05 (QUICK ERASE)	(PASS)	Capadity:465.868(976773167)
Tasks	0000121 [Port:02] 2014-05-2	17:20:30 Elapsed Time	00:06:06 (FULL ERASE)	(FAIL(35h))	Capadity:232.9GB(488397167)
	0000122 [Port:02] 2014-05-2	17:27:10 Elapsed Time	00:05:35 (FULL ERASE)	(FAIL(35h))	Capacity:232.9GB(488397167)
	0000117 [Port:01] 2014-05-2	5 14:07:06 Elapsed Time	00:00:22 (SECURE ERAS	E)	(PASS)	Capacity:60.2GB(126189567)
	0000118 [Port:02] 2014-05-2	16:45:27 Elapsed Time	00:00:03 (QUICE ERASE)	(PASS)	Capacity:298.1GB(625142447)
Result	0000119 [Port:02] 2014-05-2	3 16:46:08 Elapsed Time	00:00:03 (QUICE ERASE)	(PASS)	Capacity:298.1GB(625142447)
Nesult	0000120 [Port:02] 2014-05-2	17:10:56 Elapsed Time	00:00:05 (QUICE ERASE)	(PASS)	Capacity:465.8GB(976773167)
HDD Info	0000121 [Port:02] 2014-05-2	17:20:30 Elapsed Time	00:06:06 (FULL ERASE)	(FAIL(35h))	Capacity:232.9GB(488397167)
	0000122 [Port:02] 2014-05-2	17:27:10 Elapsed Time	00:05:35 (FULL ERASE)	(FAIL(35h))	Capacity:232.9GB(488397167)
	0000118 [Port:02] 2014-05-2	16:45:27 Elapsed Time	00:00:03 (QUICE ERASE)	(PASS)	Capacity:298.1GB(625142447)

Event Log Report

Advanced Function

1. Function "Clear ALL Logs"

After entering the password, the log report saved in duplicator can be wiped out.

[Los #1-#6] 4.Advanced Function

2. Function "Setup Password"

Users can reset password to protect log records. To execute function **①**❷, you must use ▲▼ keys to input password. The default password is "123456".





It can save up to 30,000 logs at one time. One HDD record is equal to one recorded log. (E.g. duplication from 1 to 21 HDDs will be recorded to 21 logs.

3. Function " Adjust Clock "

Enter function <u>6.Setup</u>--><u>Advanced Setup</u>--><u>Adjust Clock</u>.

Use $\blacktriangle \nabla$ UP/Down keys to adjust the correct date and time on the system.

2016/02/02 10:10:10

Specification Table

Model TP400-G					
Target/Port		4-port synchronous erase, 1 to 3 duplication			
	Buffer memory	128MB			
	maximum speed	9.0 GB/min			
	Operating type	Stand alone operation			
Conoral Spac	Language	Chinese/English			
General Spec	Display	Monochrome LCD display			
	LED status	LED (Red/Green) on each slot			
	Control key	5 types of keys: \blacktriangle (up), \triangledown (c	lown), OK (confirm/enter),		
	Control key	ESC(exit/cancel), GO(erase/	fast key/continue)		
	Frase	Quick Erase, Full Erase, DoD Erase, Secure Erase,			
		7 Full Erase			
Function	Conv	Quick Copy (System and Files), All Partitions, Whole			
		HDD, Percentage			
	Compare	Yes, bit-for-bit			
	OS	All OS (Windows, Linux, and other stand alone systems)			
		Quick Copy: FAT16/32/64, NTFS, Linux(Ext2/3/4),			
	Copy format	Mac(HFS/HFS+/HFSX)			
		Whole area/All partitions copy: all formats			
Compatibility		SATA supported directly.(require SATA I supported			
	Interface	devices)			
		Or IDE, eSATA, CF, SD via adapters.			
	Support MBR, GPT	Yes			
		Auto power control			
	Power	Power consumption: 60W			
		Power supply: Adjustable voltage 100V-240V, 50/60Hz.			
Hardwara	Dimension (cm)	19.5 x 9.5 x 3			
naiuwaie	weight (g)	700			
	Temperature	Operation: 5°C ~ 45°C	Storage: -20°C ~ 85°C		
	Humidity	Operation: 20% ~ 80% Storage: 5% ~ 95%			
	Certification	FCC、CE、RoHS			

*Specifications subject to change without notice.