

MHDD Usage Manual

Version 2.8

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As it is usual, I remove from myself the responsibility for the harm caused by this program. Read docs more closely. They are rules!

Remember: I write this program not for killing your HDDs, but for simplification of repair and diagnostics, i.e. to use it as the tool.

For understanding how HDDs works, you need, at least, to read the documentation which has been laid out in section "free download" on a site <http://www.ancelab.ru/>. Also it would be quite good to familiarize with ATA/ATAPI the standard (<http://www.t13.org>).

What is MHDD?

In first time it has been written for fast and evident diagnostics of anyone IDE HDD. But, eventually, she has acquired with any things necessary to me and other people.

The program works with additional UDMA-controllers, since version 2.8.

Do not start MHDD from the same HDD which you will test.

All work with HDD is conducted exclusively through ports. That is, NOT any BIOS, NOT any interrupts! All is made directly. So MHDD all the same, what OS is established on the diagnosed HDD, she has access to ALL HDD from the first to last sector in independence of, whether there is there any information whether or not.

Do not try to start MHDD from CD or other write-protected devices!!!

So, the first start. After drive selection (SHIFT+F3) we get in a command line [mhdd>]. In MHDD there is no "menu", all is entered by commands. Pressing combinations of keys simply automatically enter a command. From above blinks bulbs - a little about them.

In the left part - the State Register. Here the condition of the HDD is displayed. The most important bits:

BUSY - the store is busy and to commands does not react,
WRFT - write fault,
DREQ - the store wants to exchange the data with a host (PC),
ERR - as a result of last operation there was an error.

When this lamp lights up, pay attention to the right top part of the screen. There the type of an error will be displayed.

AMNF - Address Mark Not Found,
TONF - Track 0 Not Found,
ABRT - command aborted,
IDNF - Sector ID Not found,
UNCR - Uncorrectable Error.

Between these two fields, in the middle, are an empty place. And so, if the store is password-locked, here lights up a bulb "PWD", and if "cut off" by procedure HPA, the bulb "HPA" will appear.

Under line with all these bulbs there is a line of HDD parameters. The left part displays the current

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parameters of the store. The right part displays the current heads position (while scan).

At start of check of a surface ("scan") the window on the right will appear. In the first line of this window the current speed of work with a surface will be displayed. In last - two values in percentage. The first value shows percent of performance of the current test in the set interval, and the second displays, as far heads "have left" from 0 cylinders and came to the last.

During testing a surface one box is equal to 255 sectors (in LBA testing mode), or to number of sectors in a line of parameters HDD (it is usual 63, - at testing in mode CHS).

The darkest box - the more time to store was required for reading this block of sectors. If have gone color boxes - means, the store was not entered in allocated to him for work a time interval. Color boxes displays an abnormal condition of a surface (but still without "BAD's").

Red color - an attribute of that that on this place already "was almost generated" BAD block.

Everything that is lower than a "question mark" are surface damages or errors (BAD block). And if they appear during testing, means, on a surface is physical defects. It is necessary to notice, that old HDD work slowly.

Therefore, if you testing the old HDD (up to 2-3 Gb), green boxes - normal.

The description of the commands entered in a command line:

```
exit <ALT+X> S Exit from the program
id S Drive detect
scan <F4> S Surface scan
Log = mhdd.log
[Remap: On/Off] - Bad Blocks remapping
```

From version 2.8 the opportunity to reset the store has appeared during scanning in any place a key "R" (conveniently if the HDD hangs). The opportunity to include attempt of record in group of sectors which are astably read or are damaged also has appeared(ERASE WAITS). It is very convenient to use on IBM HDDs with BAD blocks. Be careful because it is destructive function for the data.

```
aerase S Erasing of a disk by sector. But works very slowly
hpa S Host Protected Area - HDD Cutting off
rhpa S Shows Native HPA ("Real" size of HDD)
cls S
pwd S Password-lock set
unlock S Unlock password-locked drive
dispwd S Disable password on password-locked drive
```

Before removing the password, it is necessary to open (unlock) the HDD.

```
rpm S Rotate-per-minute measurement
ff S puts image from file to disk directly (up to 2 gb)
nhpa S Restore full size of HDD
aam S Automatic Acoustic Management
```

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tof S Creates disk image (up to 2 gb)
init S Drive reset
fdisk S Creates one big volume on current drive
smart S Try "smart" without params to get help
port <SHIFT+F3> S Drive select
stop <SHIFT+F4> S Stop spindle
i <F2> S Drive detect + reset
cx S SeekTest until <ESC>
erase S Drive erase
ibme B IBM Explorer. Reads defectlists from IBM drives
fujlst B FUJITSU Explorer. Reads defectlists from FUJITSU drives

Whatsnew

2.7.9b

! bug with ABORTs while scanning in CHS mode - fixed!
+ Defect lists readers on HDD IBM, FUJITSU.
- in MHDD now is no COPY procedure.

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+ the estimation of time of scanning is entered.
+ PCI UDMA-controllers support.
+ ERASE WAITS in Scan procedure.