IBM ®

Storage Technology Division

Drive Fitness Test v2.30
With Firmware download

Usage Instructions

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Table Of Contents

What is Drive Fitness Test?

IBM has a long track record of innovation in the hard disk drive industry, starting with the development of the first disk drive in 1958. Many technologies common today in disk drives were first introduced on IBM disk drives, pursuing goals of providing highest performance and capacity in highly reliable mechanisms within industry standard form factors.

One of the latest innovations has been the introduction of Drive Fitness Test (DFT), now available on the Worldwide Web. The purpose of DFT is to test a hard disk drive while it remains inside a personal computer, even when the primary operating system may no longer be bootable. This is suggested when it is suspected that there is a malfunction that could be related to the hard disk drive. This is helpful, as often problems occur with data content and management unrelated to the function of the disk drive itself. In these cases, a reload of the operating system, or similar recovery action, is all that would be required to recover the computer. This avoids unnecessary disturbance of the disk drive and usually will preserve other existing data belonging to the user, which may not have been backed up.

This specific version of the utility provides a means of automatically scanning your system for IBM manufactured ATA hard disk and where necessary providing the option to update the firmware on the drive according to a pre-defined criteria.

More information and background about DFT is available from
http://www.storage.ibm.com/hdd/support/download.htm

DFT System Fundamentals

The Drive Fitness Test provides for in-depth testing of IBM disk drives. This new version will support the download of Firmware to specified IBM ATA hard disk drives. The firmware update will not overwrite customer data, however as a precaution it is recommended that you backup all your data before performing any firmware update.

The Drive Fitness Test (DFT) application is designed to run under DOS and has been provided as an executable file *DFT-xxxx-yyyy-zzz.exe* (where *xxxx, yyyy and zzzz* may vary according to customer target product and code level). You should use this file to create a working diskette by following one of the procedures below. If you have received a prepared floppy, proceed to the section below entitled **DFT Hardware Support and Restrictions**.

Creating a DFT Diskette

Windows 9x, Me, NT & Win2000

The Drive Fitness Test set-up program (*DFT-xxxx-yyyy-zzz.exe*) includes IBM PC DOS2000 and the Drive Fitness Test. In order to run the set-up program you will need to have access to a system that is running any of the following operating systems, Windows'95, Windows'98, Windows Millennium, Windows NT, or Windows 2000 and a formatted 1.44-MB diskette. Running the set-up program creates an IBM PC DOS2000 bootable diskette that contains the Drive Fitness Test.

It is recommended that before starting the set-up program, all open Windows applications should be closed.

The following represents two examples of how the DFT diskette can be created.

Method A.

1. Insert a formatted diskette into the Floppy drive, (**A:** or **B:**).
2. Using Windows Explorer, locate the program *DFT-xxxx-yyyy-zzz.exe* supplied by your system manufacturer or IBM.
3. To start diskette creation double-click on the program icon and follow the on screen instructions. **Note:** you have the option to select your country location and keyboard layout, the default for these options is United States.

Method B.

1. Click Start, then select Run.
2. Click the Browse button to locate the *DFT-xxxx-yyyy-zzz.exe* set-up program.
3. Click on the filename, then click Open.
4. Click OK to run the *DFT-xxxx-yyyy-zzz.exe* set-up program.
5. Insert a formatted 1.44-MB diskette into the required floppy drive (A or B if your system has 2 floppy drives), select the target floppy on the set-up screen then click next to continue.
6. Follow the on screen instructions.

DFT hardware support and restrictions

This version of DFT is supported for updating firmware on IBM ATA hard disk drives only, and can be used when the drives are attached to the IDE ports on your system motherboard or any of the following. UDMA/33, UDMA/66, and UDMA/100 plug-in PCI-to-ATA adapters from Promise Technologies, CMD and adapters based on the HIGHPOINT HPT366 and HPT370 chipset.

Drive configurations **NOT** supported: drives attached using ATA RAID controllers.

Running DFT

Place the prepared floppy disk in the system to be tested and boot the system either by powering off then back on or pressing the reset button or alternatively by pressing the <Ctrl><Alt><Delete> keys.

When the system restarts **IBMDFT** will be loaded automatically and you will be presented with License Agreement as shown below.
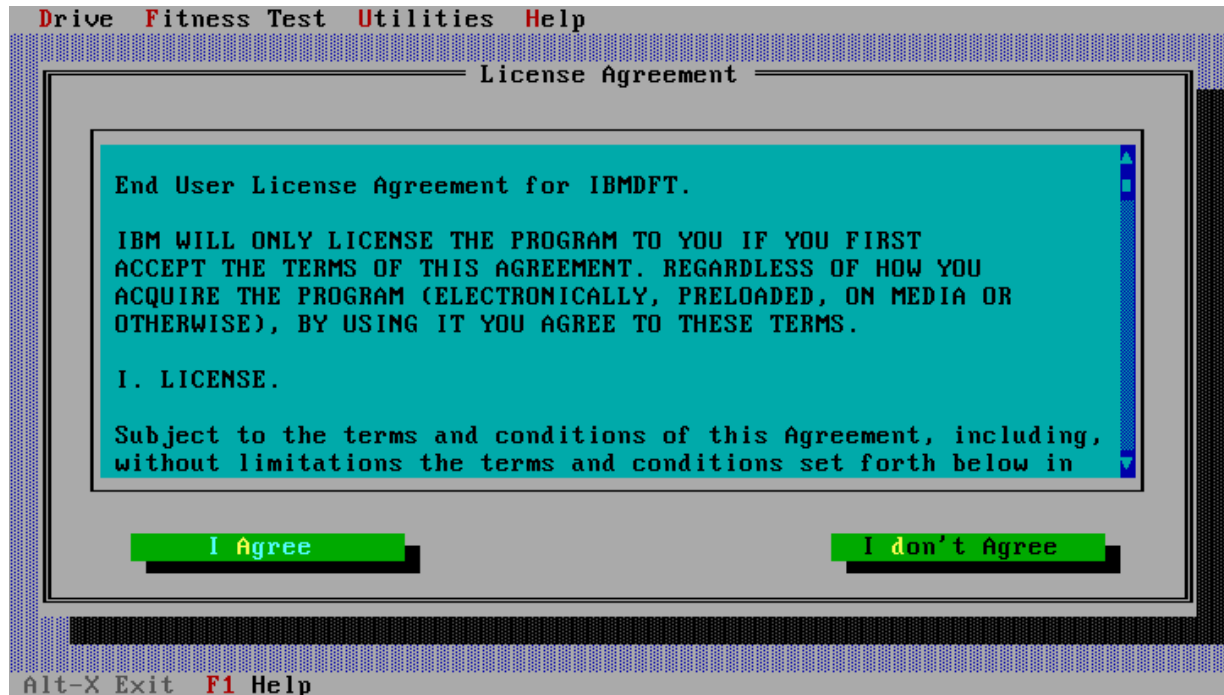
This is a license agreement, which you should review prior to accepting using the "**I Agree"** button. The positioning and tab keys can be used to navigate through the license agreement and buttons.

The program will progress only if the user accepts the license using **I agree**.
DFT will then analyse the connected drives and proceed to the screen below

The following picture shows the main DFT Firmware Update screen,
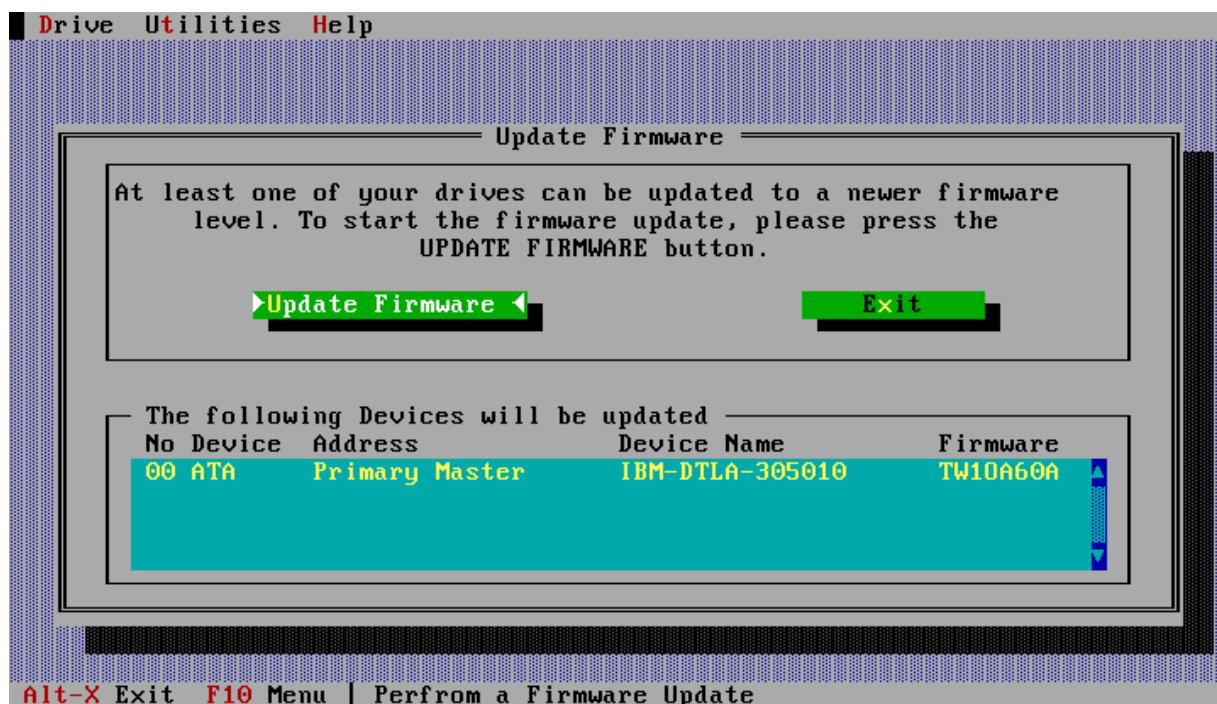
Each drive installed in the system that requires a firmware update will be listed in the device box, in the above example, there is only one drive present in the system that requires a firmware update. The drive model and current firmware level will be displayed.

To proceed with the firmware update, make sure the **Update Firmware** button is highlighted (use the Tab, Cursor or Hot keys) and hit the enter key on your keyboard. If you choose not to update the drive firmware select the **exit** button and confirm that you wish to exit the program.

After choosing to update the drive firmware you will then be presented with a **confirmation** screen similar to that below
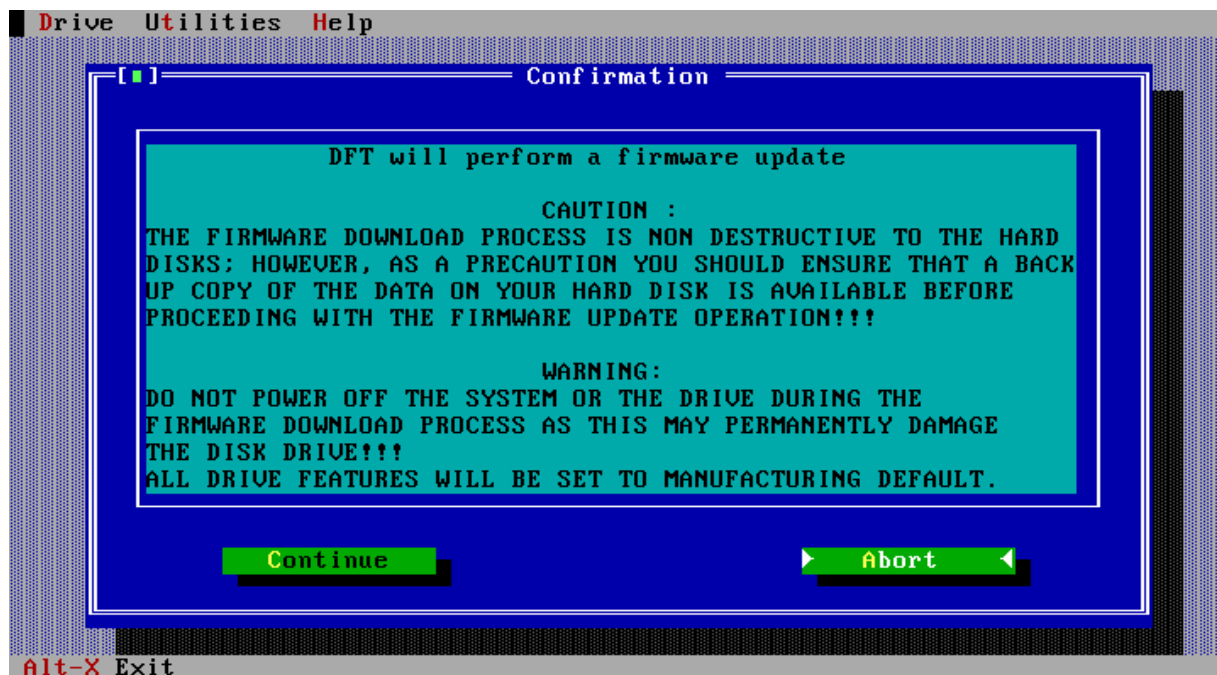
Select **Continue** to start the update process.

The screen below shows the progress of the firmware update, this screen will be seen for each drive in the system that is updated. This can be verified by checking the model and serial number information displayed in the screen below.
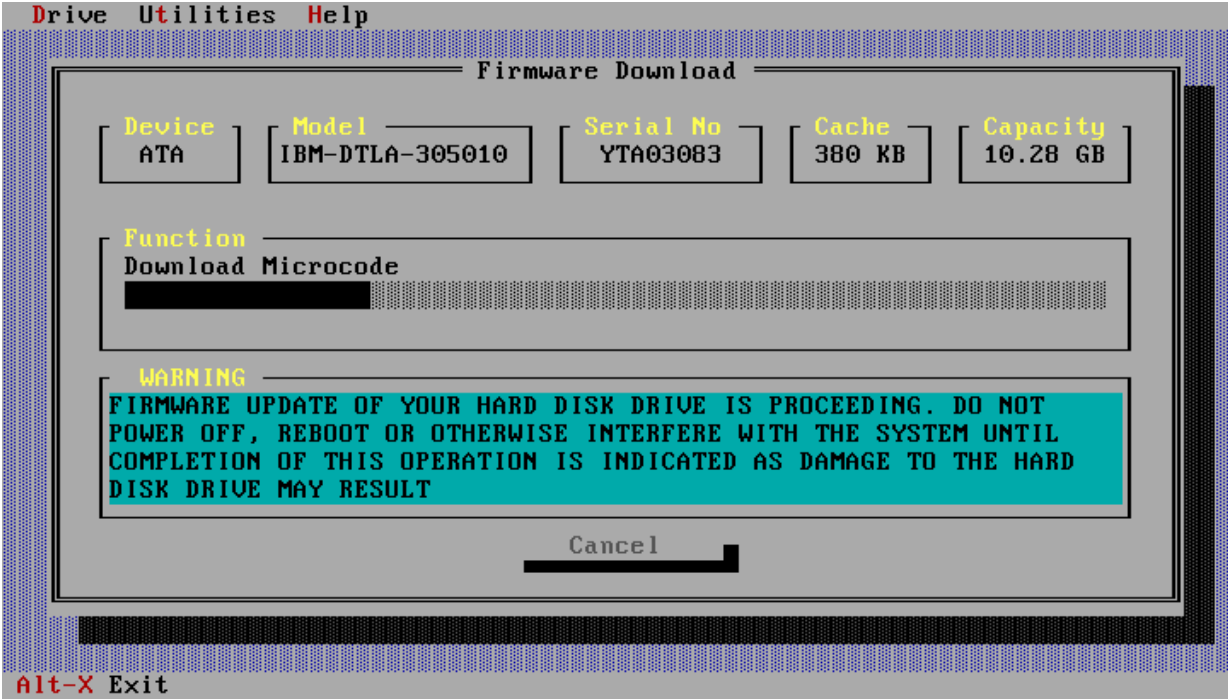
On successful completion of the firmware update the screen below will be displayed.

When the enter key is press to acknowledge the completion of the firmware update, the DFT Utility will perform a rescan of the devices installed in the system to confirm all that needing updating have actually been updated. On completion of this scan a screen similar to that below will be displayed.
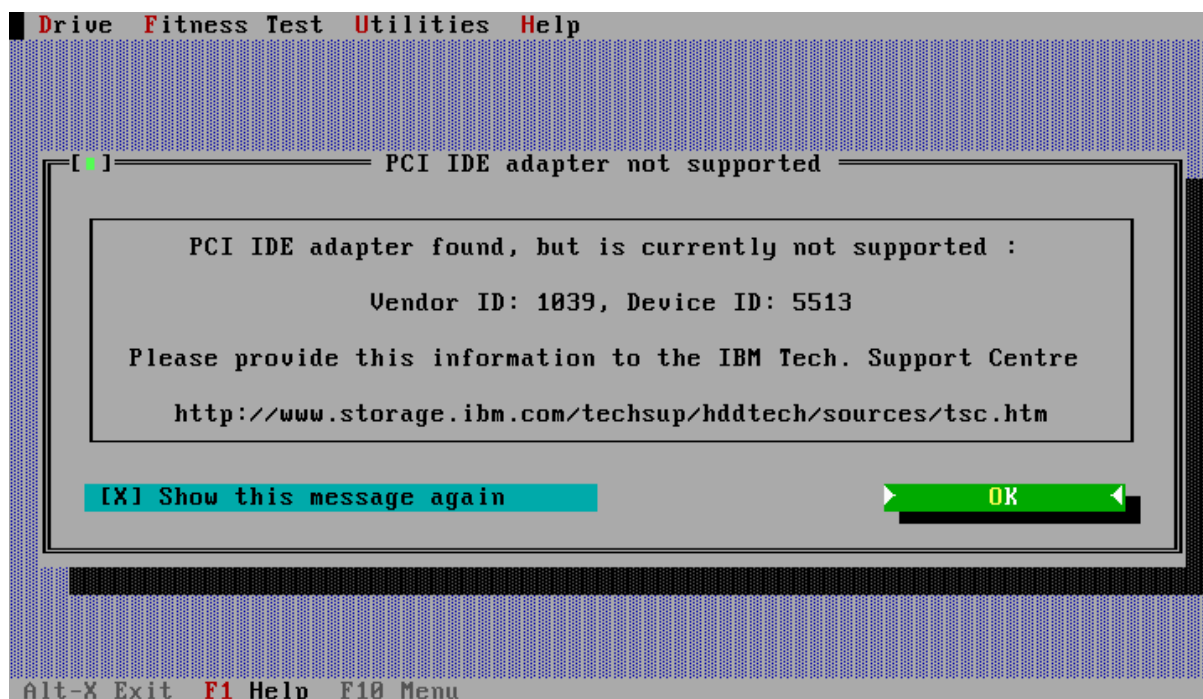
Press **exit** to exit from the DFT Utility.
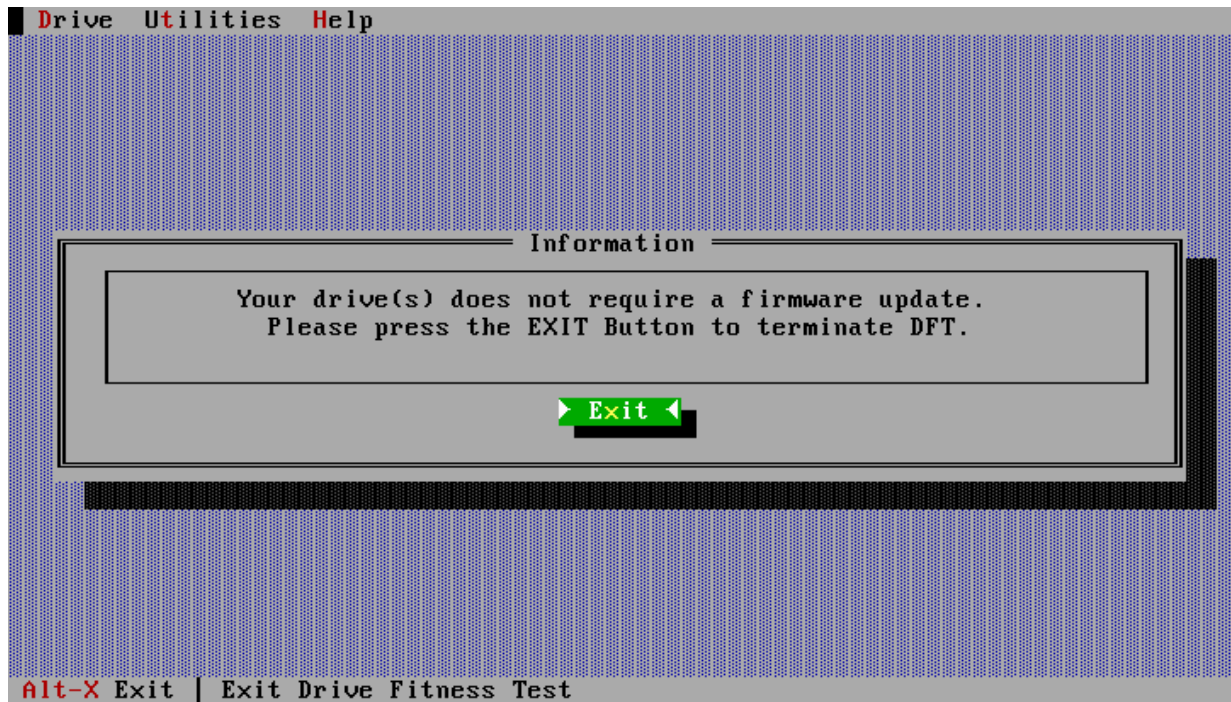
Troubleshooting

Unsupported PCI IDE Adapter

There are some instanced where DFT when loading may display a message similar to that below. Note this is not an error condition but just a message to alert you that DFT does not recognise the chipset being used to control the PCI IDE Buses in your system. It is also a request for you to send the Vendor and Device ID codes to IBM Technical Support as indicated in the message so that future releases of DFT can cater for this chipset.

```
 Drive  Fitness Test  Utilities  Help

  ┌[ ]══════════════ PCI IDE adapter not supported ══════════════┐
  │                                                                │
  │    PCI IDE adapter found, but is currently not supported :    │
  │                                                                │
  │             Vendor ID: 1039, Device ID: 5513                   │
  │                                                                │
  │    Please provide this information to the IBM Tech. Support Centre │
  │                                                                │
  │       http://www.storage.ibm.com/techsup/hddtech/sources/tsc.htm │
  │                                                                │
  │ [X] Show this message again              ►   OK   ◄           │
  └────────────────────────────────────────────────────────────────┘

 Alt-X Exit  F1 Help  F10 Menu
```

Drives Attached to PCI IDE Adapter not seen by DFT

If using a Plug-in PCI IDE adapter that uses the Highpoint HPT366 or HPT370 chipsets in some systems DFT will fail to detect drives attached to this adapter. To fix this problem ensure that the PCI IDE adapter BIOS is upgraded to the latest level. For example if using the EPUSB66 adapter then you will need to have BIOS level 1.25 or above.

BIOS updates can be obtained from the following web site: -
http://www.highpoint-tech.com/drivers.htm

ASUS A7V

If using a system which utilises the ASUS A7V Motherboard and the drives are attached as primary or secondary master to the Promise UDMA/100 ports in some instances the drive may not be detected by this utility. Should this occur, the drive(s) should be attached to the standard IDE port(s) or jumper as slave devices and proceed with the firmware update. On completion of the update the drive(s) should be returned to their original state i.e. re-connected to the UDMA/100 ports or reset the jumper(s) for master mode.