

FJ-IDE LOW LEVEL FORMAT UTILITY
Version 1.10
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LOW LEVEL FORMAT UTILITY

Program Name : FJ-IDE Low Level Format Utility
 Latest Version : Version 1.10 (July 1997)

DESCRIPTION:

FJ-IDE Low Level Format Utility is a program tool for FUJITSU AT/IDE hard disk drives which can perform a *low level (factory) format* operation to valid FUJITSU IDE drive models. A defect scan option is also provided for error verification only. --- With version 1.10, all models of PB9 and PB10 (3.5" drives) as well as the HN6 and HN7 (2.5" drives) series are being supported.

PURPOSE / OBJECTIVE:

This utility is aimed for the end users of FUJITSU IDE drives for them to execute a *low level format* in the field when the need for it arises. Efforts have been made to make this program as user-friendly as possible and one that provides simple and easy-to-follow instructions.

HOW THE PROGRAM WORKS

When the program file is executed, it first tries to identify all the IDE drives connected in the system. All the necessary parameters and drive information are then automatically obtained by the program for its own use.

There are two major functions which this program implements:

- a) Defect Scan; and
- b) Low Level Format

The *Defect Scan* only verifies the drive for errors using the READ VERIFY command. This command is issued starting from the minimum CHS/LBA, depending on the current addressing mode (LBA being the default), to the maximum CHS/LBA address. When an uncorrectable (UNC) or Address Mark Not Found (AMNF) error occurs (this error also means a Sync Byte Not Found error), the program treats the sector where the error occurred as a bad sector. After the verification process is completed, the number of bad sectors found is then displayed.

In the *Low Level Format* function, the program first performs the same function with the *Defect Scan*. However, all the bad sectors found during the verification process are then converted to their equivalent Physical Address using the ADDRESS TRANSLATION factory command, and then added to the Primary Defect List Table in the SA Area. This new PLIST information will then be used during the *Low Level Format* routine, which executes another factory command, the FORMAT UNIT command. The FORMAT UNIT command will effectively remap all these bad sectors and also reinitialize the drive to its factory format with all the user data being 0.

Error recovery is being implemented in case when the *low level format* routine is not completed successfully (e.g. power shutdown while formatting). The program will detect this condition the next time it is executed.

USER INTERFACE :

This utility is made in such a way that the user interface will be as easy as possible to use and comprehend. Described and illustrated below are some of the major interface windows of the program.

When FJ-IDE Low Level Format program file is executed, the **Disclaimer Window** (starting from Version 1.10 above) first pops up.

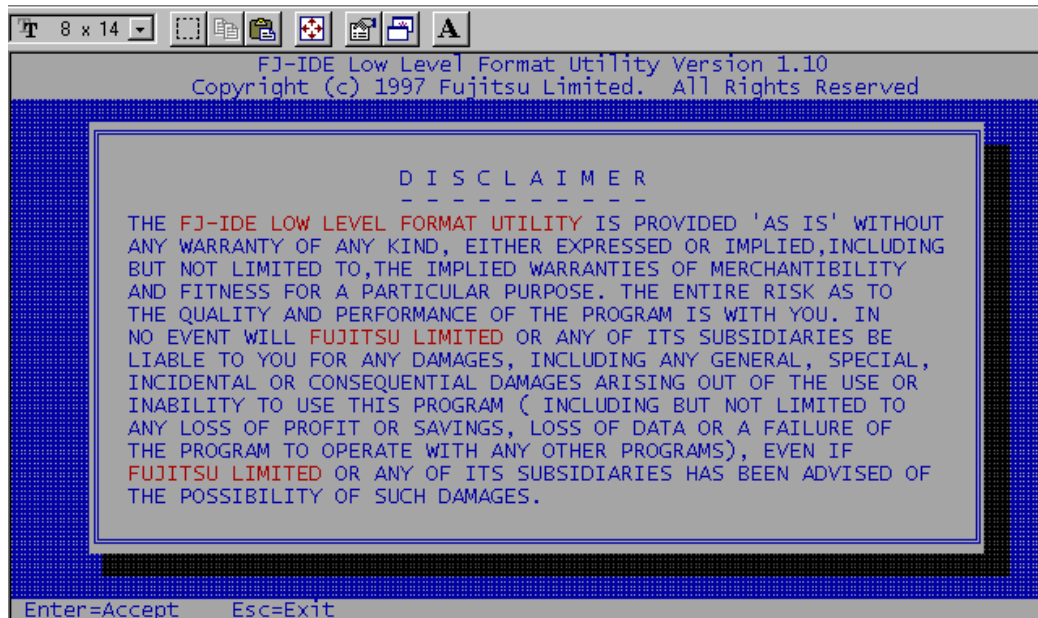


Fig. A) Disclaimer Window

When the user *accepts* the terms and conditions stated in the Disclaimer Window, this brings up the **Main Menu Window** shown below, otherwise, the program terminates.

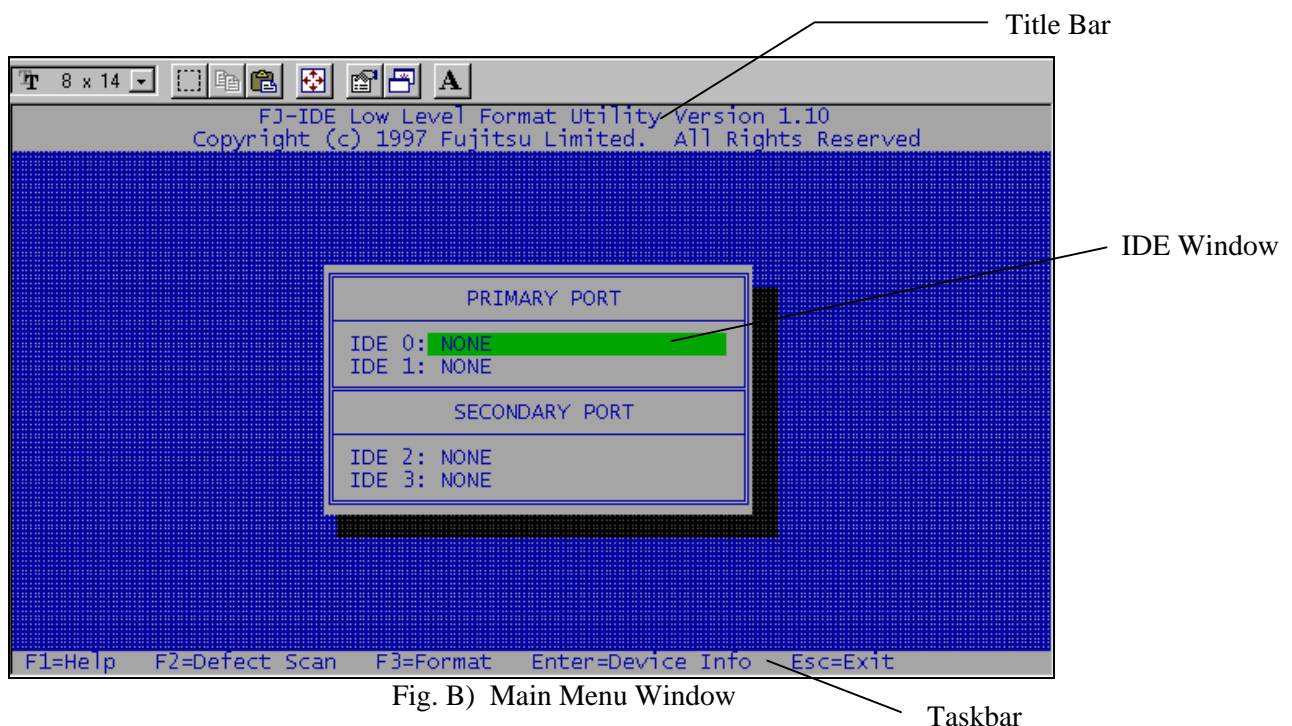


Fig. B) Main Menu Window

There are three (3) major parts of the Main Menu Window:

- Title Bar - displays the utility name, current version and copyright notice
- IDE Window - shows all the drives identified during program's initialization process. The Model Number of the drive is shown if it is connected, NONE is displayed otherwise.
The current highlighted drive is the active drive where desired operations will be performed. Up arrow and Down Arrow keys are used to change the current active drive.
- Taskbar - displays the primary hotkeys available for the current window

When a particular hotkey is pressed, a corresponding window, if necessary, will pop up for that purpose. Shown below is an example when F2 is pressed, which brings up the **Scan Defect Window**:

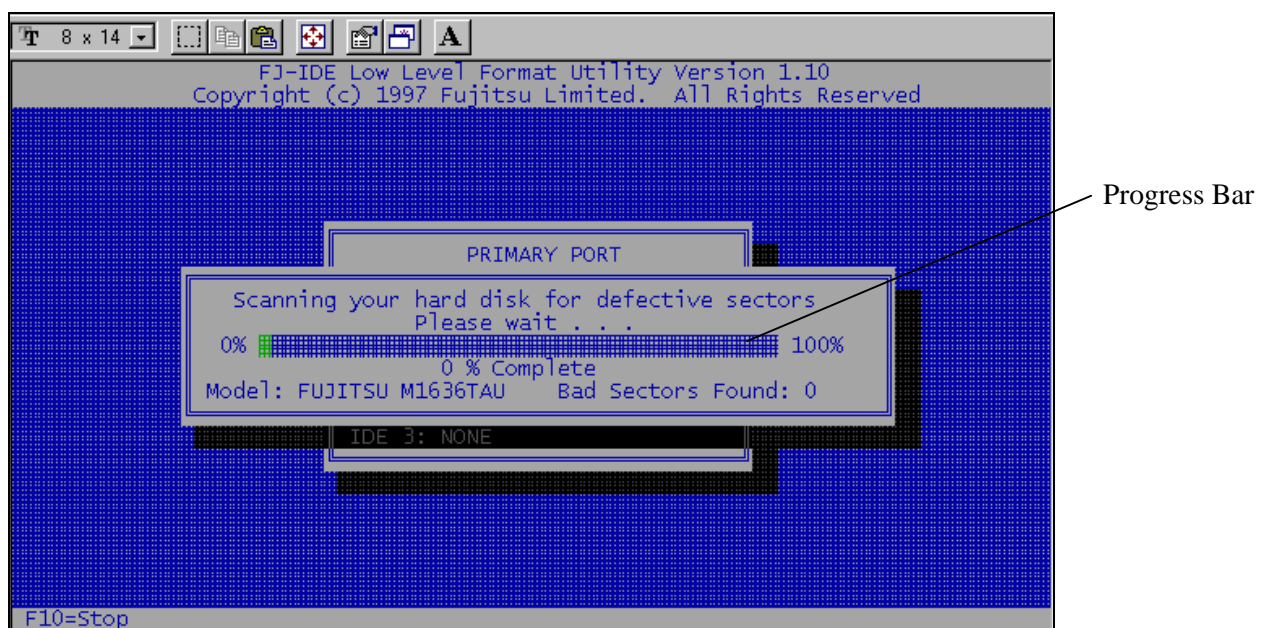


Fig. C) Scan Defect Window

This window describes the current operation the program is doing, and with the help of the *progress bar*, tells the user the completion percentage of the operation.

All other operations inside the program are guided by message windows, hotkeys (always shown in the taskbar) and pop-up windows which will help the user to easily perform desired operation.