[0023] 2. providing a PDA OS, which is pre-loaded into a storage device of the notebook PC, e.g. an HD, a CD-ROM, memory or other analogous recording media, to start a PDA operating environment and its utilities;

[0024] 3. providing a PDA booting procedure, which is pre-loaded in a BIOS chip of the notebook PC for starting the PDA OS and opening a PDA utilities screen; and

[0025] 4. providing a button detecting procedure, which is pre-loaded into the BIOS chip of the notebook PC and runs immediately after power is turned on for detecting whether the PDA hot key is depressed and running the corresponding PDA booting procedure if the hot key is depressed.

[0026] In addition, the notebook may include the step of installing a basic OS (such as the Windows OS) to start the basic OS and its utilities, so that the user can selectively start a PDA OS or the basic OS normally installed in the notebook. This step is to pre-load a basic OS, its booting procedure, and its utilities in the notebook. A power on button for starting the pre-loaded basic OS is further installed in the notebook PC. Therefore, users can selectively start the PDA OS or the basic OS by directly pressing the PDA hot key **20** or the power on button, respectively. The button detecting procedure detects which button is depressed. Once a depressed key is detected, the corresponding booting procedure is utilized to start the OS. For example, if the PDA hot key is detected to be depressed, the PDA booting procedure is utilized to start the PDA OS and its utilities. On the contrary, if the power on key is being depressed, then the basic OS normally pre-loaded in the portable computer is executed to start the basic OS and its utilities.

[0027] As shown in **FIG. 2**, the disclosed hardware structure is based upon the basic hardware devices in currently available notebook PC's, but adds an additional PDA hot key **20** for directly starting the PDA OS. The basic hardware devices of the notebook PC mentioned here include at least: a CPU (Central Processing Unit) **10**, a BIOS chip **11**, main memory **12**, storage device **13** (such as an HD, a CD-ROM, memory or some other equivalent recording medium), a power on button **14**, and other peripheral devices **15**.

[0028] **FIG. 3** shows the system structure of the invention. The system also includes a basic OS (e.g. Windows OS) **31** pre-loaded in the notebook PC, a basic OS booting procedure **32**, and a utilities **33** for the basic OS **31**, drivers **34** for the basic OS **31**. In addition, the system further contains:

[0029] a PDA OS **40**, which is stored in a storage device **13** (such as an HD) of the notebook PC;

[0030] utilities **41** for the PDA OS **40**;

[0031] a PDA booting procedure **42**, which is pre-loaded into a BIOS chip **11** of the notebook PC for starting the PDA OS **40** and PDA utilities **41**;

[0032] drivers **43** of the PDA OS **40**; and

[0033] a button detecting procedure **44**, which is pre-loaded into the BIOS **11** of the notebook PC for detecting whether the PDA hot key **20** is depressed and running the corresponding PDA booting procedure **42** and the utilities **41** for the PDA OS **40** if the hot key **20** is depressed.

[0034] The software related to the basic OS **31** includes its utilities **33** and drivers **34**. The software related to the PDA OS **41** includes its utilities **41** and drivers **43**. The software is preferably stored in different partitions **131**,**132** of the HD of the notebook PC. The PDA booting procedure **42** and the basic OS booting procedure **32** are stored together in the BIOS chip **11** of the notebook PC.

[0035] With reference to **FIG. 4**, the notebook PC using the disclosed techniques has the following operation procedures after the power is turned on:

[0036] A. When the button detecting procedure **44** detects that the hot key **20** is depressed, the pre-loaded PDA OS **40** is loaded to the main memory **12**;

[0037] B. Start the PDA OS **40** and run its utilities **41**;

[0038] C. When the button detecting procedure **44** detects that the power on button **14** is depressed, a POST (Power On Self Test) procedure is executed;

[0039] D. Load the basic OS **31** into the main memory **12**; and

[0040] E. Start the basic OS **31** and run its utilities **33**.

[0041] If the notebook PC is started with the basic OS **31** because of the power on button **14** is depressed, then complicated hardware diagnostic steps programmed in the booting procedure **32** are executed. This is the so-called POST. It mainly tests the size of the memory, the defects in the memory, the keyboard functions, the display interface card type, the types and models of the hard disk drive and floppy disk drive, and the functions of the interrupt controller and timer. If there is any conflict between the interface card settings and the host, a warning message will be displayed or the machine cannot be started. For printers, the tests include determining whether the print head is movable, if any paper is jammed inside, and whether the printer is connected to a computer. On the other hand, if the PDA OS **40** is started through the PDA booting procedure **42**, the complicated hardware diagnostic steps will be skipped and the PDA system **40** pre-loaded into the storage device **13** (e.g. HD) of the notebook PC is directly started. The PDA utilities **41** are also loaded to quickly enter the PDA operating environment.

[0042] Finally, please refer to **FIG. 5** for another embodiment of the invention based upon the steps demonstrated in **FIG. 4**. A few steps are inserted before step A in **FIG. 4** to detect whether the PDA hot key **20** can correctly start the designated PDA OS **40**. These steps can be implemented by refreshing the contents in the BIOS chip. These inserted steps are:

[0043] A1. Read information of the OS's pre-loaded into the notebook storage device **13** from an MBR (Main Boot Record);

[0044] A2. Determine whether there are multiple OS partitions. If there are, the next step follows; otherwise, continue directly to step C;

[0045] A3. Detect PDA OS's **40** in the multiple OS partitions; and