
Hints and Tips

IBM Personal System/2* Model L40 SX

**READ THIS DOCUMENT BEFORE INSTALLING MICROSOFT WINDOWS 3.0 OR
QUARTERDECK QEMM 5.11**

It is imperative that you read this document, which contains important information affecting the operation of the IBM PS/2* L40 SX, before installing:

Microsoft Windows** 3.0** **Quarterdeck OEMM 5.11**
OS/2* Standard Edition (SE) 1.3 **OS/2 Extended (EE) 1.3**

Versions 1.3 of the OS/2 Standard and Extended Editions are supported at refresh level 1.31 or higher.

Microsoft Windows 3.0 Installation

For Windows to operate properly on your L40 SX, it is necessary to make changes to the Windows installation. Some changes are made during the Windows SETUP procedure; others are made after installation. Be sure to read this entire section before installing Windows for the first time.

Do not install Windows 3.0 unless you have a DOS 3.3 (or higher) diskette available.

Setting Keyboard Type

When you install Microsoft Windows, the Windows SETUP program automatically detects your machine's hardware configuration. Running Windows SETUP on the L40 SX without the numeric keypad plugged in, SETUP detects your keyboard as:

All AT type Keyboards (84 - 86 keys)

This selection does not allow some keyboard functions. To have Windows detect the proper keyboard, override keyboard detection in SETUP. When SETUP presents the list of detected hardware, highlight the keyboard type and press Enter for a list of choices. Select: **Enhanced 101 or 102 key US and Non US keyboards**

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Changing the HIMEM.SYS Statement

A driver, called HIMEM.SYS and installed by SETUP in the CONFIG.SYS file, is used to access extended memory in your computer. HIMEM.SYS requires a special command to work properly on the L40 SX. If this command is not present, HIMEM.SYS locks out the keyboard.

You avoid this problem, by adding a parameter to the HIMEM.SYS command during Windows installation. After SETUP finishes copying files to your system, it asks to modify AUTOEXEC.BAT and CONFIG.SYS files. Setup can make the modification for you, let you review and edit changes, or let you make modifications later. Select: **let you review and edit changes** and press Enter.

You need not change AUTOEXEC.BAT, so press Enter to proceed with changes to the CONFIG.SYS file. Modify CONFIG.SYS. by putting the cursor at the end of the line that reads: DEVICE=C:\HIMEM.SYS

and add **/M:2** to change this line to read:

```
DEVICE=C:\HIMEM.SYS /M:2
```

Press Enter and continue with Windows installation.

Changes Required to the Windows SYSTEM.INI File

For Windows 3.0 to operate properly in 386 Enhanced mode, you must change the SYSTEM.INI file located in the Windows directory. Change the SYSTEM.INI file by editing it with a non-formatting text editor. Start Windows by typing: **WIN /R** and press Enter.

In the Windows Program Manager, pull down the File menu and select Run. In the resulting dialog box, type SYSTEM.INI and press Enter. This runs the Windows 3.0 Notepad program and loads the SYSTEM.INI file.

Scroll through the SYSTEM.INI file to find the section with the header: [386Enh]. With the cursor at the end of the [386Enh] press Enter to create a new line. Type the following lines exactly as shown and press Enter at the end of each line.

```
EMMEXCLUDE=E000-EFFF  
DMABUFFERSIZE=64  
DEVICE=PM_BIOS.386
```

Pull down the **Notepad File** menu and select Save.

Windows 3.0 and the L40 SX Power Management Feature

The Reference Diskette supplied with your L40 SX includes a driver to enable Windows to work properly with Suspend and Resume. If this driver is not used, unpredictable results can occur when power is suspended and later resumed.

Install this driver by copying the driver file from the Reference Diskette to the Windows 3.0 SYSTEM subdirectory. Make the necessary changes to the SYSTEM.INI file. These procedures are described above.

With the Reference Diskette in the diskette drive and the DOS prompt displayed, type: **COPY A:PM_BIOS.386 C:WINDOWS\SYSTEM** and press Enter. This assumes you have installed Windows 3.0 in a directory called WINDOWS. If you named the directory something else, modify the above command appropriately. For example, if Windows is installed in C:\WIN3, copy the file to C:\WIN3\SYSTEM instead.

This also assumes that you have modified the SYSTEM.INI file as described in the previous section.

Restart the system (**Ctrl+Alt+Del**) to activate the Power Management driver PM_BIOS.386.

QEMM 5.11

You must use Quarterdeck Expanded Memory Management** 5.11 (or later) for proper operation on the IBM Personal System/2 L40 SX. If you plan to run Windows 3.0 with QEMM 5.11, you must also edit the Windows 3.0 SYSTEM.INI file as described above.

A change to the **DEVICE=QEMM386.SYS** statement in the CONFIG.SYS file is required for proper operation of Windows with QEMM on the L40 SX. Failure to make this change can cause unpredictable results.

Edit the file named CONFIG.SYS using an editor. CONFIG.SYS is in your Root subdirectory. Three changes are required to the CONFIG.SYS file installed by QEMM. In the CONFIG.SYS file, find the statement: **DEVICE=QEMM.SYS**

Change it to:

```
DEVICE=QEMM386.SYS X=B000-B7FF
```

Next, remove the statements:

```
DEVICE=HIMEM.SYS
```

```
DEVICE=SMARTDRV.SYS
```

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Notes:

1. The DEVICE=HIMEM SYS can be left in the CONFIG.SYS but will not be active. If you leave it there, be sure to add **/M:2** as described earlier.
2. SMARTDRV.SYS causes a Divide Overflow when running with QEMM.SYS.

Restart the system (**Ctrl+Alt+Del**) to activate the Quarterdeck QEMM 5.11.

Battery Considerations

Your system has two rechargeable nickel-cadmium batteries:

1. A user-replaceable battery pack. (Its life can be extended by editing the CONFIG.SYS file and deleting the statement: **DEVICE=ANSI . SYS**)
2. A small internal backup battery (dealer replaceable) that permits you to swap the user-replaceable battery pack when the machine is in suspend mode.

If your computer has been idle for a month or more, ensure correct operation by recharging the batteries before using battery operation. The *Quick Reference Guide* explains how to charge or recharge the batteries. The working time of your new battery improves after it has been fully charged and discharged several times. This is a characteristic of nickel-cadmium batteries.

Note: Some software programs only permit a partial suspend. A battery swap **cannot** be performed with these programs. An example of a partial suspend is Quarterdeck QEMM when it is actively managing extended memory. When the laptop enters partial suspend, two beeps can be heard. If Windows 3.0 is using QEMM as its memory manager **and** you have followed the instructions concerning PM_BIOS.386 outlined in the Windows section of this document, the laptop does a full suspend (one beep) and battery swapping is permitted

Parallel or Serial Port Power

To turn off the power to the serial and parallel ports, execute the PS2.EXE program on the Reference Diskette. By typing **PS2**, you can check the power status of these ports.