Windows Millennium Edition (Windows Me) for IBM ThinkPad Notebooks Install & Upgrade Set up and Technical Guide

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Introduction

This document describes the steps for installing and upgrading to Microsoft Windows Millennium Edition (Windows Me) operating system and updating the system BIOS; and provides helpful hints and tips for ThinkPad computer users who use this operating system.

NOTE: IBM does not warrant that every function and operation described in the IBM or Microsoft documentation will work or be free from limitations when the Windows Millennium Edition Upgrade is used with your ThinkPad computer. This document contains a list of hints, tips, and limitations that IBM is aware of on specific ThinkPad models with the Windows Millennium Edition Upgrade installed. If you have not already installed Windows Millennium Edition please follow the ThinkPad Windows Millennium Edition Upgrade or Installation instructions available below.

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Supported Windows Me ThinkPad Models

IBM has tested a number of ThinkPad models and has determined that they support Windows Me. Customers' computers must meet all the minimum hardware requirements in order for Windows Me to operate properly. Running Windows Me without the minimum hardware requirements might cause unpredictable results. Customers' computers must also meet the minimum recommended memory size of 32 megabytes (MB). If the computer memory is less than the recommended 32 MB, Windows Me will not perform properly. On some ThinkPad models without the recommended hardware and memory, Windows Me will take significant time to complete. For more information on whether your ThinkPad model meets the minimum hardware requirements for installing or upgrading to Windows Me, please refer to the \setuptip.txt and \win9x\setup.txt included on the Windows Me CD.

Windows Me supports the following two types of Power Management:

- Advanced Power Management (APM)
- Advanced Configuration and Power Interface (ACPI)

Each ThinkPad model will be designated as either an APM or ACPI-supported computer under Windows Me. The type of power management your ThinkPad model supports will determine the overall power consumption controls and Plug-and-Play capabilities your computer and operating system will offer while running Windows Me.

The following ThinkPad models have been tested and designated as either APM or ACPI - supported systems running Windows Me:

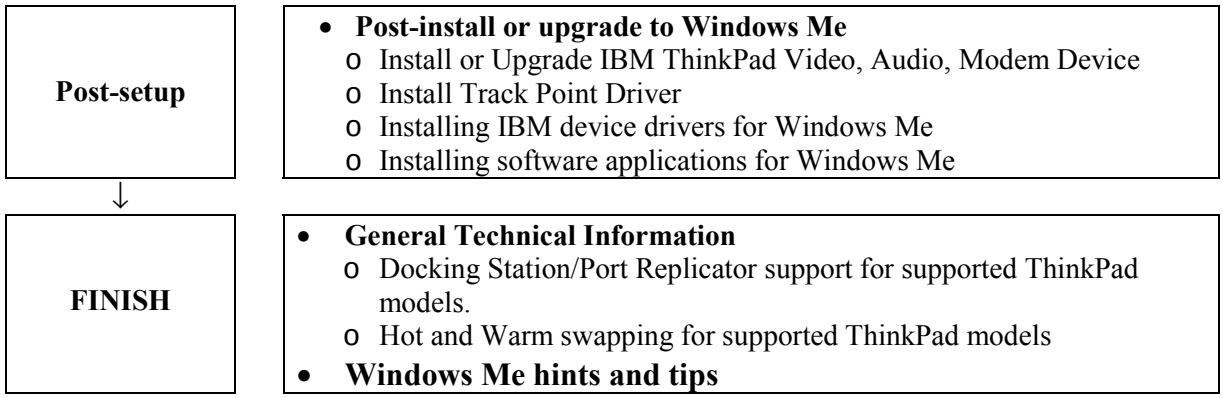
ThinkPad Model	Advanced Power Management	Advanced Configuration and Power Interface
240, 240X	X	
390, 390E, 390X	X	
570, 570E	X	
600, 600E, 600X	X	
i Series 1400 2611-410/450/411/451	X	
i Series 1400/1500 2611-412/452/472/512/552	X	
i Series 1400/1500 2621-420/42U/460/46U/480/48U /540/421/441/541		X
i Series 1400/1500 2621-422/442/482/483/492/4E2 2651-542/562/592		X
i Series 1200/1300 1161-21x/23x/25x/26x 1171-31x/32x/34x/35x/33x/37x		X

T20		X
A20m, A20p		X
X20		X

Before Installing or Upgrading to Windows Me

Before proceeding further into the guide, review what steps should be completed before, while, and after installation or upgrading to Windows Me. Use the following chart as a quick reference when preparing to upgrade to Windows Me:

START	Clean Install	Upgrade Install
↓		
Preparation	• Read this document and the Windows Me Release Notes for Setup (\Win 9x\Setup.txt) • Determine if your ThinkPad computer meets all the minimum hardware requirements for running Windows Me. • Review the Hardware Compatibility List (HCL) to determine if your hardware is supported while running Windows Me. • Decide to clean install or upgrade install Windows Me.	
↓		
"Update" computer	• Back-up all data files and information on the computer before starting clean install or upgrading. • Undock and remove any optional devices. • Build the System Program Service (BIOS) Diskette and update the system BIOS and initialize the BIOS setting to default. • Download appropriate drivers required from IBM Web site • Install at least 32 megabytes (MB) of system memory on your ThinkPad computer.	
↓		
Pre-setup	• Create Startup Diskette. • Partition and format the Hard Disk.	• Verify space on hard disk drive o Refer to setuptip.txt, depending on your system configuration for minimum hard disk space. • Uninstall all unsupported applications and utilities. • ThinkPad 600, 600E, upgrade ThinkPad ACP Modem included in the Windows Me CD
↓		
Installing or upgrading to Windows Me	• **Install Windows Me using the Startup Disk.**	**Upgrade to Windows Me**
↓		



"Preparation"

There are two choices in installing Windows Me: **clean** installation and **upgrade** installation. Through out this documentation, **clean install** is referred to as installing Windows Me on clean or formatted hard drive with no previous Operating System. Refer to Windows Me CD \Win9x\cleanhd.txt for more details on clean install. **Upgrade install** is refered to as installing Windows Me on previous Windows 9x Operating System and in which saves all the current settings and data. If your system meets any one of the following items, you cannot perform upgrade install.

- Any pre-installed Operating System is other than Windows 95 or Windows 98
- If OS/2 Boot Manager is installed.
- Primary partition is not FAT format.
- If the system has less than 32 MB memory or Hard Drive space is less than what's specified in the Windows Me CD \win9x\Setup.txt

"Update Computer"

Updating the ThinkPad system BIOS for Windows Me

Before you install or upgrade your system to Windows Me, you **must update the BIOS (basic input/output system) of your ThinkPad computer.** To take full advantage of all the features offered by Windows Me, it is strongly recommended that you update your ThinkPad's system BIOS. If you do not update the system BIOS before installing Windows Me, you will encounter problems with the Setup utility and Windows Me will not operate properly on computers with an outdated BIOS.

Below is a list of BIOS versions that needs to be updated prior to clean or upgrade install. The latest Flash BIOS Update Diskette (System Program Service Diskette) file and installation guide can be obtained from the IBM ThinkPad support Web site:

http://www.pc.ibm.com/support

Note that the BIOS versions listed in the following list may not be the latest as IBM keeps updating the BIOS. Please make sure to download and update to the latest BIOS available on the web.

ThinkPad Model	BIOS Name	BIOS Version
240		IRET72WW
240X	KSET32WW	1.03.10
390	IJB109WW	V1.0 R01-G7
390E	ILB100WW	V1.0 R01_C5
390X		ISB052WW
570		IMET62WW
570E		IUET22WW
600		IBET46WW
600E (266/300MHz)		IHET41WW
600E (366MHz or greater)		INET30WW
600X		ITET48WW
i Series 1400 2611-410/450/411/451	IKB123WW	V3.0 R01-A7E
i Series 1400/1500 2611-412/452/472/512/552	IQB125WW	V3.0 R01-A4D
i Series 1400/1500 2621- 420/42U/460/46U/480/48U/540/421/441/541	IXB137WW	R01-A3B
i Series 1400/1500 2621-422/442/482/483/492/4E2 2651-542/562/592	KRB121WW	R01-A5H
i Series 1200/1300 1161-21x/23x/25x/26x 1171-31x/32x/34x/35x/33x/37x	KQUF25WW	V1.00L
T20	IYET42WW	1.06b
A20m	IWET50WW	1.05a

A20p	IVET58WW	1.02b
X20	IZET58WW	1.13

Downloading Device Drivers for Post install or upgrade

The latest device driver file can be obtained from the IBM ThinkPad support Web site:

http://www.pc.ibm.com/support

Prior to installing or upgrading to Windows Me, it is strongly recommended to obtain the following list of device drivers for post install or upgrade. Note that each device driver and utility is model-specific (Chart 1):

Chart1 - ThinkPad Device Drivers List

ThinkPad model 240 series and 390 series device drivers list

Drivers name and version	240	240X	390	390E	390X
Windows Me Supplement File	X	X	X	X	X
TP 390, 172x - Utility Feature for Windows Me			X		
TP 390E/X - Configuration Utility for Windows Me				X	X
TP 240/XConfiguration Utility for Windows 95/98/2000	X	X			
TP 240/X, 570/E – Hibernation Utility Package for Win95/98/NT	X	X			
Hibernation Utility (Shipped with TP390)			X		
TP390/E/X - Swap Master Driver for Windows 95/98			X	X	X
TP390, 172x – Video driver for Win95/98			X	X	X
TP 240X - Video Features Package for Windows Me		X			
TP 390, 172x, 1400, 1500 DVD Video Player Upgrade for Windows Me (For DVD model)			X *1	X *1	X *1
TP 240X – Audio driver for Windows 2000		X			
TP General – TrackPoint Driver I for Win95/98/NT4			X	X	X
TP240,380Z,560Z – TrackPoint Driver Package II for Win95/98/NT4	X	X			
TP390E - Modem Ring driver Package for Windows 95/98				X	
TP 390X - Modem Ring Driver for Windows Me					X
TP390, 172x - Modem Ring Diskette for Windows 95/98			X		

*1: It is an optional depending on your system's configuration.

ThinkPad model 570 series and 600 series device drivers list

Driver name and Version	600	600E	600X	570	570E
Windows Me Supplement File	X	X	X	X	X
TP General – Configuration Utility for Win95/98/2000	X	X	X	X	X
TP240/X,570/E – Hibernation Utility Package for Win95/98/NT				X	X
TP600,700 – UltraBay Utility Driver for Win95/98	X	X	X		
TP 570 – UltraBase Utility Driver II for Win95/98				X	X
TP600X, A20, T20 - Intel® SpeedStep™ Technology Applet			X		
TP380,385,560X/Z,600 – Video Feature Diskette III for Win95/98	X				
TP380Z,570/E,600E – Video driver (NM2200) for Win95/98		X		X	X
TP600X – Video driver (NM2360) for Win95/98			X		
TP600E/X,570/E,A20,T20 – Mediamatics DVDExpress video		X *1	X *1	X *1	X *1

player update (For DVD model)					
TP General – TrackPoint Driver I for Win95/98/NT4	X	X	X	X	X

*1: It is an optional depending on your system's configuration.

ThinkPad models A20m, A20p and T20 drivers list

Drivers name and version	T20	A20m	A20p	X20
Windows Me Supplement File	X	X	X	X
TP General – Configuration Utility for Win95/98/2000	X	X	X	X
TP570E, A20, T20 - PM Driver for Win98/ME/2000	X	X	X	X
Fast-Swap Feature for Windows Me (ACPI)	X	X	X	X
TP600X, A20, T20 – Intel® SpeedStep™ Technology Applet	X	X	X	X
TP T20 - Video Features (SavageIX8) for Win95/98	X			
TP A20m - Video Features (Mob-M/M1) for Win95/98		X		X
TP A20p - Video Features (Mobility-128) for Win95/98			X	
TP X20 - Audio Features IV for Win98 SE/Me				X
TP600E/X, 570/E, A20, T20 – Mediamatics DVDExpress Video Player update (For DVD model)	X *1	X *1	X *1	X*1
TP General – TrackPoint Driver I for Win95/98/NT4	X	X	X	X
Xircom MPCI+Modem 56 WinGlobal for Win98 SE (*WDM) (For Mini PCI combo card (Intel®)	X *1	X *1	X *1	X*1
TP A20, T20 – Intel® PRO/100 Mini PCI Software for Win95/98/NT4/2000 (For Mini PCI combo card (Intel®)	X *1	X *1	X *1	X*1
Intel® Priority Packet for Win95/98/NT4/2000 (For Mini PCI combo card (Intel®)	X *1	X *1	X *1	X*1
3COM V.90 WDM Modem Driver for WinME (For Mini PCI combo card (3Com))	X *1	X *1	X *1	X*1
TP A20, T20 – IBM 3COM 10/100 Ethernet Mini PCI Adapter with 56K Modem for Win95/98/NT4/2000 (For Mini PCI combo card (3Com))	X *1	X *1	X *1	X*1
TP A20, T20 - CMD Ultra DMA IDE driver for Win95/98/NT4/2000 (For ThinkPad Dock)	X *1	X *1	X *1	X*1
CCD Camera driver for Win95/98/ME/2000	X *1	X *1	X *1	X*1

*1: It is an optional depending on your system's configuration.

ThinkPad i Series device drivers list

MT-model Drivers name and version	2611-410, 411, 450, 451	2611-412, 452, 472, 512, 552	2621-420, 42U, 460, 46U, 480, 48U, 540, 421, 441, 541	2621-422, 442, 482, 483, 492, 4E2 2651-542, 562, 592	1161-21x, 23x, 25x, 26x 1171-31x, 32x, 34x, 35x, 33x, 37x
Windows Me Supplement File	X	X			
TP1400 - Notebook Manager Utility Package for Windows 98	X				
TP1400 – ShortCut Keys Utility Package I for Windows 98	X				
TP1400 - Sleep Manager Package I for Windows 98	X				
TP1400,1500 (2611) Notebook Manager Utility Package II for Windows 98		X			

Notebook Manager for Windows 98					X
Sleep Manager for Windows 95/98					X
TP1400,1500 (2611) ShortCut Keys Utility Package II for Windows 98		X			
TP1400,1500 (2611) Sleep Manager Package II for Windows 98		X			
TP1400,1500 (2611) SafeOFF for Windows Package II 98	X	X			
TP1400,1500 (2621/2651) Notebook Manager for Windows 98			X	X	
TP1400,1500 (2621/2651) Sleep Manager II for Windows 98			X	X	
TP1400,1500 (2621) - Easy Launch Buttons for Windows 98/2000			X1400 X1500		
TP1400,1500 (2621/2651) IBM Easy Launch Buttons for Windows 98/2000				X1400 X1500	
IBM Easy Launch Buttons for 1200 Windows Me					X1200
IBM Easy Launch Buttons for 1300 Windows Me					X1300
TP1400,1500 (2611) – Video driver (NM2200) Package II for Windows Me		X			
TP1400,1500 (2621) Video driver I for Windows 98			X	X	
Video Features (SMI Lynx) for Windows Me					X
TP1400,1500 – DVD-Video Player Upgrade for Windows Me (For DVD Model)		X *1	X *1	X *1	
TP1400 - Y-Station Audio Software I for Windows 98	X				
TP1400,1500 (2611) – AudioRack Package II for Windows 98		X			
TP1400,1500 (2621) ESS Audio Rack32 for Windows 98			X		
TP1400,1500 (2621/2651) ESS Audio Rack32 II for Windows 98/2000				X	
TP General – TrackPoint Driver I for Win95/98/NT4	X	X	X	X	X
Audio Features IV for WinMe					X
TP 1400(2611) - Modem Ring Driver for Windows Me	X				
TP 1400,1500 (2611) – Modem Ring Package II for Windows 98		X			
TP1400,1500 (2621) Modem Ring Driver I for Win98			X		
TP 1400,1500 (2621/2651) - Modem Ring Driver II for Win98				X	
Modem Features III for WinME					X
Ethernet Features II					X
PCMCIA Setup Utility for Windows Me	X				

“Pre-Setup”

If you decided to do the **Clean Install**, refer to the Section 1 for the instructions. If you decided to do the **Upgrade Install**, refer to the Section 2.

Section 1: Creating the Startup Diskette (Clean Install)

If you want to do the clean install of the Windows Me operating system, you must create the Startup Diskette which provides the access to the CD-ROM/DVD-ROM drive. The easiest way to create the Startup Diskette is to create a book disk from Windows Operating system. Most of the cases, it provides the access to the CD-ROM/DVD-ROM drive in your ThinkPad.
If you don’t have the internal CD-ROM/DVD-ROM drive and would like to use the external CD-ROM/DVD-ROM connected through the PC Card, make sure that you install the DOS device driver for the PCMCIA and the external CD-ROM /DVD-ROM drive.

Section 2: Uninstalling or upgrading the unsupported applications and device drivers (Upgrade Install)

Uninstalling Unsupported Applications and Device Drivers

The following is a list of known applications that will no longer function after you upgrade to Windows Me. It is recommend to uninstalled the following applications prior to upgrading to prevent any upgrade problems from occurring:

- Agate Tioman (390, 390E)
- Access ThinkPad in all ThinkPad Models
- IBM Global Network Dialer Version 4.21.3 (ThinkPad models 240, i Series 1400/1500 2621-420/42U/460/46U/480/48U/540/421/441/541)
- Norton AntiVirus
- IBM USB Portable Diskette Drive Driver (I Series 1161/1171)

To uninstall Agate Tioman on ThinkPad 390, 390E follow the instructions below:

1. Start the Operating System
2. Click **Start → Settings → Control Panel**
3. Double-click **Add/Remove Programs** icon
4. Select Agate Tioman and Click “Add/Remove”
5. Once the software is removed, reboot when prompt.

To uninstall Access ThinkPad, follow the instructions below:

1. Start the Operating System
2. Click **Start → Settings → Control Panel**
3. Double-click **Add/Remove Programs** icon
4. Select Access ThinkPad and Click “Add/Remove”
5. Once the software is removed, reboot when prompt.

To uninstall IBM Global Network Dialer Version 4.21.3 (ThinkPad 2621-420, 240), follow the instructions below:

1. Start the Operating System

2. Click **Start → Settings → Control Panel**
3. Double-click **Add/Remove Programs** icon
4. Select IBM Global Network Dialer and Click "Add/Remove"
5. Once the software is removed, reboot when prompt.

To uninstall Norton AntiVirus on ThinkPad follow the instructions below:

1. Start the Operating System
2. Click **Start → Settings → Control Panel**
3. Double-click **Add/Remove Programs** icon
4. Select Norton AntiVirus and Click "Add/Remove"
5. Once the software is removed, reboot when prompt

To uninstall IBM USB Portable Diskette Drive Driver on ThinkPad I Series 1161/1171, follow the instructions below:

1. Turn off the system and detach USB Portable Diskette Drive if it is attached..
2. Start the Operating System
3. Click **Start → Settings → Control Panel**
4. Double-click **Add/Remove Programs** icon
5. Select TeacUsbFloppyDiskDriver and Click "Add/Remove"
6. Once the software is removed, reboot when prompt

Upgrading ThinkPad ACP Modem (ThinkPad models 600, 600E)

Prior to upgrading to Windows Me, you need to upgrade the following software to complete the upgrade:

- ThinkPad 600 & 600E ThinkPad ACP Modem

The device driver for the ThinkPad ACP Modem is included on the Windows Me CD, however, it will not be automatically upgraded by the Windows Me Setup program. Check the version of the ThinkPad ACP Modem driver. If the version is 2.60 build 36 or older, you need to update your ThinkPad ACP Modem driver prior to upgrading to Windows Me.

To check the version of ThinkPad ACP Modem Driver:

1. Click **Start→ Programs → ThinkPad Modem → Modem Quick Test**
2. Once the driver version is determined, follow the directions below.

If you driver is version 2.50, 2.51 or 2.60.xx (xx is Build 36 or older) follow the instructions provided below:

1 Start your computer
2 Insert the Windows Me CD to the CD-ROM/DVD-ROM drive. The OS will automatically detect the CD and will prompt the Windows Me Setup wizard to begin the upgrade process. Click [No].
3 Click "Browse This CD"
4 Double-click "Drivers"→ "Modem" → "IBM" → "Disk1"
5 Double-click "Setup"
6 If the Setup program detects a previous version of the ThinkPad Modem driver software already installed, click [OK].

7 Click the “Utilities” tab, then click [Remove ThinkPad Modem driver software]
8 Click [Yes] to proceed with removing the ThinkPad Modem driver software.
9 After the driver software is uninstalled, click [OK].
10 Double-click Setup.exe again. The “Add New Hardware Wizard” window will open. Click [Next] in this window.
11 Click "Search for the best driver for your device (recommended)" option; and then click [Next].
12 Select “Specify a location” and type ***D:\Drivers\Modem\IBM\Disk1*** where the letter D is the driver letter destination for your computer’s CD-ROM/DVD-ROM drive.
13 Click [Next].
14 After Windows finds a driver for this device, click [Next].
15 When prompt for disk labeled “ThinkPad Modem Diskette2”, Click [OK]
16 Type ***D:\Drivers\Modem\IBM\Disk2*** and Click [OK]
17 After windows finishes copying the file, Click [Finish]
18 New Hardware Found wizard will detect and automatically install the modem.

If you driver is version 2.35 or 2.36 follow the instructions provided below:

1. Start your computer
2. Insert the Windows Me CD to the CD-ROM/DVD-ROM drive. The OS will automatically detect the CD and will prompt the Windows Me Setup wizard to begin the upgrade process. Click [No].
3. Click Browse This CD
4. Double-click “Drivers”→ “Modem” → “IBM” → “OldMwave”
5. Double-click “Setup”
6. Click [Yes] to confirm remove the driver software.
7. If there is an information that need to be saved, Click [No] and repeat the steps, otherwise click [Yes] to continue
8. Click [No] when message appears “Information: If you have not closed the Windows Operator Agent, you will get a dialog box …”
9. Click [OK] to continue
10. Click [OK] when the software is removed from the system
11. Click [Yes] To continue with the software upgrade.
12. Click [OK] to reboot
13. After restarting the computer, Windows 95 will prompt the user with “Update Device Driver Wizard”. Click [Next] to continue. Windows 98 will prompt the user with “Add New Hardware Wizard.” Click [Next] to continue.
14. Windows 95 will attempt to detect and install the driver and will be unable to locate the driver. Click “Other Locations…” to specify the path for the driver. For Windows 98, click "Search for the best driver for your device. (recommended)" option; and then click [Next] and select “Specify a location”
15. Type ***D:\Drivers\Modem\IBM\Disk1*** where the letter D is the driver letter destination for your computer’s CD-ROM/DVD-ROM drive for both Windows 95 and Windows 98.
16. Click “Next” or “OK” after typing the correct path.
17. To continue the installation for Windows 95 or 98, either Click [Finish] or [Next].
18. Windows 95 or Windows 98 will prompt for disk labeled “ThinkPad Modem Diskette1” or ‘ThinkPad Modem Diskette2”. Click [OK]. For Windows 98 to go step 21.
19. Windows 95, type ***D:\Drivers\Modem\IBM\Disk1*** Click [OK]**.**
20. Windows 95 will prompt for disk labeled “ThinkPad Modem Diskette2”, click [OK].
21. Type ***D:\Drivers\Modem\IBM\Disk2***. Click [OK].

22. Windows 95 will compete the setup by detecting and installing the Modem. Click [Finish] to compete the setup for Windows 98.

“Installing or Upgrading to Windows Me”

If you decided to do the Clean Install, refer to the Section 1 for the instructions. If you decided to do the Upgrade Install, refer to the Section 2.

****IMPORTANT NOTICE****
This document pertains only to ThinkPad’s as a standalone system – i.e., UNDOCKED configuration. It is recommended that all attachable devices, except for an external diskette drive, be removed from your ThinkPad before upgrading to Windows Me. This includes all PC Cards (LAN, Modem, ATA, SCSI, etc), docking stations, port replicators, and PC Card Enablers. If any of these devices are attached to your ThinkPad during the upgrade installation, Windows Me may not run as explained in this document.

Section 1: Installing Windows Me (Clean Install)

This section provides information on how to install Windows Me on your ThinkPad. This information applies to the following situations:

- Installing Windows Me on a blank hard drive.
- Replacing an existing Windows operating system with Windows Me.

If you choose to install Windows Me on hard disk that contains application and personal files, back up all important data files before beginning the installation. If you do not have a Recovery CD or Backup CD with a CD-ROM/DVD-ROM drive, use a diskette backup program to create recovery diskettes of the preinstalled Windows operating system, device drivers, and applications.

For more information about installing Windows Me on your ThinkPad computer, please refer to the \Win9x\Setup.txt included on the Windows Me CD.

Prior to upgrading ThinkPad 240X and 570E, copy APMINST.INF file in the Start up or Recovery diskette by following the steps:

1. Download the “Windows Me Supplement File” from the IBM ThinkPad support Web site:
2. Unzip “Windows Me Supplement File” on your desktop or the diskette A.
3. Copy the file “APMINST.INF” in APM directory that is unzipped to the Startup/Recovery Diskette.
4. Other files (APA2APM.REG and HIDEHIBE.EXE) should be kept in the diskette to later use.

To Install Windows Me on your ThinkPad, follow the instructions below:

1. Insert the Startup Diskette to the diskette drive and Power on the system (If an error message appears, make sure Start Up Option is set to Floppy Drive in the BIOS).
2. Select options to boot with CD-ROM Support if applicable.
3. If the Hard Drive Disk is already partitioned and want to using existing partition, just format the primary partition by typing the following: “format c:” Press Enter.
4. If the Hard disk Drive is not partitioned or want to create new partitions follow the instructions below:
    a. Type the following: “fdisk”, Press Enter
    b. Enter “4” to view any existing partitions and Press Enter.

c. View the list partitions. If no partitions exist, than Press Esc go to step g. If partitions are listed, the partitions must be deleted sequentially from non-DOS, Logical DOS Drives, Extended DOS partitions to Primary Partitions. Press Esc to return to main fdisk menu
d. Type "3" to delete the partition and Press Enter
e. Depending on the existing partitions select the appropriate selection. Press Enter. Repeat this step however many partitions you need to delete.
f. Once all partitions are deleted, you need to new create partitions.
g. When creating partitions, the partitions need to be created sequentially from Primary to Secondary partition. To create partition, Type "1" and press Enter
h. Select the appropriate selection, Press enter.
i. When prompt for maximum use of the size, select yes to create the maximum size partition. Select no to set your own partition size.
j. When all logical drives are created, Be sure to set the primary partition as Active
k. Reboot the system with the boot disk and format each drive by typing the following: "format c:" press Enter.

5. Once all partitions are created and formatted, reboot the system with the Boot disk inserted.
6. Insert Windows Me CD in the CD-ROM/DVD-ROM Drive
7. Type the following "X:\setup" or for ThinkPad 240X and 570E type the following "X:\setup A:APMINST.INF where the letter "X" is the drive letter destination for your computer's CD-ROM/DVD-ROM drive. This will initiate the setup and will guide you rest of the installation.

Section 2: Upgrading to Windows Me (Upgrade Install)

This section contains information to assist you in upgrading from Microsoft Windows 95/98 to Windows Me operating system on IBM ThinkPad systems. Please be certain Windows 95/98 is functioning properly on your system before upgrading to Windows Me. If you are unsure whether the OS is functioning properly, IBM recommends that you save all-important data and use the Recovery CD to restore your system to Windows 95/98 prior to starting the upgrade process.

Caution: If you are planning to upgrade to Windows Me be cautious of the fact that if the Setup fails during any portion of the Windows Me upgrade you will not be able to recover back to the previously installed operating system. Anytime you upgrade the computer's operating system, there's always a risk that the upgrade will fail. When you upgrade, you migrate any problems that may exist in the previous operating system configuration thus potentially placing the upgrade process at risk. In doing so, once the upgrade fails, you will lose the entire previously install operating system along with all user data. Therefore, **if you are planning to upgrade to Windows Me, it is strongly recommended that you back-up all important data and system files beforehand**. If the upgrade fails, you will have no other choice but to install Windows Me from scratch.

During the upgrade, Windows Me will replace all existing Windows files. It will also attempt to preserve your existing user settings and preferences and applications. However, most Windows 95 and Windows 98 applications that were designed specifically to run on ThinkPad hardware will not function properly after you upgrade to Windows Me.

For more information about upgrading your ThinkPad computer to Windows Me, please refer to the \Win 9x\setup.txt README files included on the Windows Me CD.

Also, some preloaded applications that came with the IBM ThinkPad computer and Windows 95 and Windows 98 will not work with Windows Me. It's suggested that you contact the application's software vendor to receive an updated release designed for Windows Me.

ThinkPad A20 Series, T20, X20: Under Windows 98, these systems are supported as APM. IBM strongly recommends installing Windows Me on a blank hard drive for these systems. However, if upgrade to Windows Me from Windows 98, in order to take advantage of upgrading from APM to ACPI, follow the upgrade steps below:

1. Delete hibernation file in "Hibernation" tab of Power Properties in Control Panel.
2. Delete "PhDskWin" via "Add Remove Program" in Control Panel.
3. Delete "Hot/Warm Swap driver" via "Add Remove Program" in Control Panel.
4. Insert Windows Me CD to CD-ROM/DVD-ROM drive
5. When Windows automatically detect the CD, select "No". Click **Start → Run** and type the following **D:\Setup /p j** and press Enter. (For ThinkPad A20p, type **Setup /p j** from MS-DOS command prompt)
6. Letter "D" represents the drive letter designated for your computer's CD-ROM/DVD-ROM drive.
7. Follow the instructions presented by Windows Me setup.

To upgrade your computer from Windows 95/98 follow these instructions:

1. Turn on your computer and logon into the current Windows operating system with an internal or external CD-ROM/DVD-ROM drive installed.
2. Insert the Windows Me CD into the CD-ROM/DVD-ROM drive. If Windows automatically detects the CD, the Windows Me Setup wizard will begin the upgrade process. Otherwise do the following:

    a. Click: **Start → Run**.
    b. Type ***D:\Setup*** in the 'Open' field, where the letter D is the drive letter designation for your computer's CD-ROM/DVD-ROM drive.
    c. Press "Enter".
    d. Follow the instructions presented by Windows Me Setup wizard.

For additional help and information on how to upgrade to Windows Me, refer to the "Release Notes for Setup" included on the Windows Me CD.

“Post Setup”

If you did Clean Install the Windows Me, refer to the Section 1 for the instructions. If you did Upgrade Install, refer to the Section 2.

Section1: Installing Device Drivers (Clean Install)

When you **clean installed** Windows Me, almost all of the basic device drivers will be installed automatically. However, to fully take advantage of Windows Me and to prevent any problems, follow the **3 Step** guide to install all the necessary drivers and applications provided by IBM.

Step 1:Refer to the following chart for your specific model. If not already done so, obtain the drivers for your system for the fields with IBM. The field definition as follows:

IBM: Obtain IBM provided driver from IBM Web site.
Windows Me: Upgrade the driver to the one in the Windows Me CD.
-: Does not apply to your specific system or Windows Me setup already installed the appropriated driver.

ThinkPad Model	Supplement File	Video	Audio	Modem	IBM PM	Bay Swap
240	IBM	-	-	-	-	-
240X	IBM	IBM	IBM	-	-	-
390	IBM	IBM	-	-	-	IBM
390E	IBM	IBM	-	-	-	IBM
390X	IBM	IBM	-	-	-	IBM
570	IBM	IBM	-	-	-	IBM
570E	IBM	IBM	-	-	-	IBM
600	IBM	IBM	-	Windows Me	-	IBM
600E	IBM	IBM	-	Windows Me	-	IBM
600X	IBM	IBM	-	-	-	IBM
i Series 1400 2611-410/450/411/451	IBM	-	-	-	-	-
i Series 1400/1500 2611-412/452/472/512/552	IBM	IBM	-	-	-	-
i Series 1400/1500 2621-420/42U/460/46U/480/48U/540/421/441/541	-	IBM	-	-	-	-
i Series 1400/1500 2621-422/442/482/483/492/4E2	-	IBM	-	-	-	-

2651-542/562/592						
i Series 1200/1300 1161- 21x/23x/25x/26x 1171- 31x/32x/34x/35x/33x/37x	-	IBM	IBM	IBM	-	-
T20	-	IBM	-	-	IBM	IBM
A20m	-	IBM	-	-	IBM	IBM
A20p	-	IBM	-	-	IBM	IBM
X20	-	IBM	IBM		IBM	IBM

Step 2: Install the Device Drivers in the following **sequential** order for a successful install for all the device drivers that apply to your system. Note: Installation guide is included when the drivers are obtained from IBM Web site.

1. Windows Me Supplement File
2. Video driver
3. Audio driver
4. Modem driver (Refer to the following section for installation guide)
5. Bay Swap Driver
6. IBM PM driver

Step 3: Install the remaining drivers and applications from Chart 1 to complete Windows Me setup for your system. For the DVDExpress, follow the instructions in the following section. Now setup ends.

To install ThinkPad ACP Modem Driver for 600 & 600E

1. Start your computer, and then logon to Windows Me.
2. Insert Windows Me CD to the CD-ROM/DVD-ROM drive.
3. If Windows automatically detects the CD, the Windows Me Setup wizard will prompt the user to begin the upgrade process. Click [No].
4. Click **Start → Settings → Control Panel**
5. Double-click **System** icon and click "Device Manager" tab
6. Double-click "Unknown Device" to install driver.
7. Click "Specify the location of the driver (Advanced) and Click "Display a list of all the drivers in a specific location, so you can select the driver you want"
8. Click [Have Disk] and provide the following path e:\driver\modem\ibm\disk1. "e" is the driver letter for CD-ROM/DVD-ROM and click [OK]
9. Select "ThinkPad Digital Signal Processor" in the list and click [Next]
10. When prompt for Disk 2, type the following e:\driver\modem\ibm\disk2.
11. When all files are copied, click [Finish] to complete the setup.

To Install DVDExpress on your ThinkPad for Windows Me

Require two-step installation.

1. Original DVDExpress from Software Selection CD (SSCD).
2. ME upgrade version downloaded from Web site.

Step One:

1. Verify that the DVD-ROM drive is inserted into your computer. If the DVD-ROM drive is not installed, install it before continuing
2. Exit all windows programs before running the DVDExpress Setup program.
3. Insert the SSCD into the DVD-ROM drive and select the Media Matics DVD Express.
4. Click: **Start → Run**.
5. Type in ***E:\Setup.EXE*** in the 'Open' field, where E is the drive letter designed for your computer's DVD-ROM drive.
6. Press "Enter".
7. The DVDExpress Player installation program will start. Click [Next] in the Welcome screen.
8. The Software License Agreement window will open.

Note: Before continuing with the installation, make certain you have read through and agree to all the terms of the license agreement.

9. Click [Yes] to continue.
10. To install DVDExpress in the default folder, click [Next].
11. The Setup program will begin copying files to your system.
12. After all files are copied to your computer, click [Finish] to automatically restart your computer for the changes to take effect.
13. When your computer restarts, the DVDExpress is installed and ready to be upgrade for Windows Me.

Step Two: Upgrading DVDExpress for Windows Me

14. Extract the upgrade package which is downloaded from Web site onto the hard rive C:\WinME\DVD\(Example: any place you want to.).
15. Click: Start -> Run.
16. Type in C:\WinME\DVD\SETUP.EXE in the 'Open' field.
15. Press "Enter".
16. The DVDExpress installation program will start. Click [Next] in the Welcome screen.
17. The Software License Agreement window will open.
18. Click [Yes] to continue.
19. To install DVDExpress in the default folder, click [Next].
20. The Setup program will begin copying files to your system.
21. After all files are copied to your computer, click [Finish] and restart your computer for the changes to take effect.
22. When your computer restarts, the DVDExpress is installed and ready to be used for Windows Me.

Section 2: Installing and Upgrading Device Drivers (Upgrade Install)

After a successful upgrade to Windows Me, not all of the basic device drivers will be automatically upgraded. Devices such as video, audio, and the internal modem may not be upgraded. To fully take advantage of Windows Me and to help prevent any problems, follow the 4 Step guide to upgrade to Windows Me and to install all the necessary drivers and applications provided by IBM.

Step 1:Refer to the following chart for your specific model. If not already done so, obtain the drivers for your system for the fields with IBM. The field definition as follows:

IBM: Obtain IBM provided driver from IBM Web site.
Windows Me: Upgrade the driver to built-in Windows Me.
-: Does not apply to your specific system or Windows Me setup already installed the appropriated driver.

ThinkPad Model	Supplement Files	Video	Audio	Modem	IBM PM	Bay Swap
240	IBM	Window Me	Windows Me	-	-	-
240X	IBM	IBM	IBM	-	-	-
390	IBM	IBM	-	-	-	IBM
390E	IBM	IBM	Windows Me	-	-	IBM
390X	IBM	IBM	Windows Me	-	-	IBM
570	IBM	IBM	Windows Me	-	-	IBM
570E	IBM	IBM	Windows Me	-	-	IBM
600	IBM	IBM	Windows Me	-	-	IBM
600E	IBM	IBM	Windows Me	-	-	IBM
600X	IBM	IBM	Windows Me	-	-	IBM
i Series 1400 2611-410/450/411/451	IBM	Windows Me	-	-	-	-
i Series 1400/1500 2611-412/452/472/512/552	IBM	IBM	Windows Me	-	-	-
i Series 1400/1500 2621-420/42U/460/46U/480/48U/540/421/441/541	-	IBM	Windows Me	-	-	-
i Series 1400/1500 2621-	-	IBM	Windows Me	-	-	-

422/442/482/483/492/4E2 2651-542/562/592						
i Series 1200/1300 1161-21x/23x/25x/26x 1171-31x/32x/34x/35x/33x/37x	-	IBM	IBM	IBM	-	-
T20	IBM	IBM	Windows Me	-	IBM	IBM
A20m	IBM	IBM	Windows Me	-	IBM	IBM
A20p	IBM	IBM	Windows Me	-	IBM	IBM
X20	IBM	IBM	IBM	-	IBM	IBM

Step 2: Follow the upgrade guide on the following section to upgrade all the drivers for the fields with **Window Me** that apply to your system.

Step 3: Install the device drivers with the field with **IBM** in the following **sequential** order for a successful install for all the device drivers that apply to your system. Note: Installation guide is included when the drivers are obtained from IBM Web site.

1. Windows Me Supplement File
2. Video Driver
3. Audio Driver
4. Bay Swap Driver
5. IBM PM Driver

Step 4: Install or upgrade the remaining drivers and applications from Chart 1 to complete Windows Me setup for your system.
Now setup ends.

To upgrade Video (NeoMagic MagicMedia 128AV/256AV) to Windows Me built-in driver (ThinkPad 240)

1. Turn on your computer, and then logon to Windows Me.
2. Click **Start →Settings → Control Panel.**
3. Double-click **Display** icon to open "Display Properties".
4. Click 'Settings' tab and click [Advanced…].
5. Click 'Adapter' tab and click [Change…].
6. Click [Specify the location of the driver (Advanced)] at the 'Update Device Driver Wizard' and click [Next].
7. Select [Display a list of all the drivers in a specific location, so you can select the driver you want] and click [Next].
8. Select "NeoMagic MagicMedia 128XD/256AV [6-8-2000]"
9. Click [NEXT]

10. Click [Finish] to complete the upgrade.
11. Click [Yes] to restart the system.

To upgrade Video (NeoMagic MagicGraph 128ZV+) to Windows Me built-in driver (ThinkPad i Series 1400 2611-410/450/411/451)

1. Turn on your computer, and then logon to Windows Me.
2. Click **Start →Settings → Control Panel.**
3. Double-click **Display** icon to open "Display Properties".
4. Click 'Settings' tab and click [Advanced…].
5. Click 'Adapter' tab and click [Change…].
6. Click [Specify the location of the driver (Advanced)] at the 'Update Device Driver Wizard' and click [Next].
7. Select [Display a list of all the drivers in a specific location, so you can select the driver you want] and click [Next].
8. Select "NeoMagic MagicGraph 128XD [6-8-2000]".
9. Click [NEXT]
10. If Version conflict message appears than click [No]
11. Click [Finish] to complete the upgrade.
12. Click [Yes] to restart the system.

To upgrade Audio (Ess Solo1) to Windows Me built-in driver (ThinkPad models 240, 390E, 390X, i Series 2611-412/452/472/512/552, i Series 2621, i Series 2651)

1. Turn on your computer and logon to Windows Me.
2. Click **Start → Settings → Control Panel**
3. Double-click **System** icon and click 'Device Manager' tab.
4. Click [+] "Sound, Video and Game Controller" to expand the devices
5. Double-click "Ess Solo PCI AudioDrive" to open its property
6. Click "Driver" tab.
7. Click "Update Driver"
8. In 'Update Device Driver Wizard' Select "Specify the location of the driver (Advanced)" and Click [Next] to continue.
9. Select "Display list of all the Driver…" and click [Next]
10. Select "ESS Solo PCI AudioDrive (WDM) [6-8-2000]"
11. Click [Next]
12. If Update Driver Warning dialog box appears, then click [Next].
13. If Version conflict message appears than click [No]
14. When finished copying files, click [Finish]

To upgrade Audio (Crystal SoundFusion) to Windows Me built-in driver (ThinkPad models 570, 570E, 600X, A20m, A20p and T20)

1. Turn on your computer and logon to Windows Me.
2. Click **Start → Settings → Control Panel**
3. Double-click **System** icon and click 'Device Manager' tab.
4. Click [+] "Sound, Video and Game Controller" to expand the devices
5. Double-click "Crystal SoundFusion(Im) PCI Audio Accelerator" to open its property
6. Click "Driver" tab.
7. Click "Update Driver"
8. Click "Advanced"

9. Click [Next] to continue
10. Click “Display list of all the Driver…”
11. Select “Crystal Sound Fusion [6-8-2000]”
12. Click [Next]
13. Click [Next] to confirm
14. New Hardware Found wizard will be detected and will install the necessary devices
15. Click [Finish] to finish upgrade process

To upgrade Audio (Crystal SoundFusion) to Windows Me built-in driver (ThinkPad models 600 and 600E)

Note: During upgrade, you will observe yellow bang on some audio devices and new devices will be listed. Once all audio devices are upgrade, the yellow bang will disappear. It is also recommended to reboot the system even though it will not be prompted.

1. Turn on your computer and logon to Windows Me.
2. Click **Start →Settings →Control Panel**
3. Double-click **System** icon and click ‘Device Manager’ tab.
4. Click [+] “Sound, Video and Game Controller” to expend the devices
5. Select “Crystal PnP Audio system CODEC” and click [Properties]
6. Click “Driver” tab.
7. Click “Update Driver”
8. Click “Specify the location of the driver (Advanced)”
9. Click [Next] to continue
10. Click “Display a list of all the driver in a specific location….”
11. Click [Next]
12. Click “Display list of all the Driver…”
13. Select the driver with most recent date stamp such as “Crystal WDM Audio CODEC [6-8-2000]”
14. Click [Next] for next two times to continue
15. Once all the files are copied, click [Finish]
16. Click [Close]. Note: Some Audio Device will appear with a yellow bang. Reboot the system before continuing to upgrade the next device. After reboot, the yellow bang will disappear.
17. Repeat the steps from 5 to 16 for the following device sequentially.
    - Crystal PnP Audio System Control Registers
    - Crystal PnP Audio System Joystick (select “Gameport Joystick [6-8-2000]”)
    - Crystal PnP Audio System MPU-401 Compatible
    - Crystal SoundFusion (tm) PCI Audio Accelerator (600E Only)
18. Once all Devices are update, reboot the system.

General Technical Information

The purpose of this section is to provide the user with some more in-depth technical information on how to use Windows Me on specific IBM ThinkPad computer environments.

Docking Station/Port Replicator support for supported ThinkPad models

There are following three types of docking and undocking scenarios.

- **Hot docking and undocking**
  Under Windows Me, hot docking and undocking enables you to physically attach or detach your computer from a docking station or port replicator while the system is "running". If your ThinkPad model supports hot docking and undocking, it will also support warm docking and undocking.

- **Warm docking and undocking**
  Under Windows Me, warm docking and undocking enables you to physically attach and detach your computer from a docking station or port replicator while in Standby mode. To dock or undock the computer to a docking station or port replicator, the system itself must to be in Standby mode. Once in Standby mode, the computer can then either be docked or undocked.

  When the system-unit is docked and in Standby mode, the user can initiate warm undocking by pressing the hardware eject or turning a hardware switch. Windows Me will wake the system from Standby and then "eject" the computer. After the operating system has "ejected" the computer, your can physically undock the system from the docking station or port replicator.

- **Cold docking and undocking**
  Under Windows Me, cold docking and undocking enables you to physically attach or detach the computer from a docking station or port replicator while the computer is turned off. When the system is off, the user can attach and detach the system-unit as well as add-on devices to and from the docking station or port replicator.

***********IMPORTANT NOTICE*****************************
It is highly recommend to cold dock the system prior to hot docking and warm docking. If cold docking is not done prior to hot docking and warm docking, you will encounter unpredictable problems.

The following table lists the supported ThinkPad models and the docking and undocking methods each supports with various IBM docking stations and port replicators.

	ThinkPad 600, 600E, 600X,	**ThinkPad 390, 390E, 390X**	**ThinkPad 570, 570E**	**ThinkPad T20, A20m, A20p, X20**
SelectaDock-II/III	Hot docking and undocking	-	-	-

PC Card Enabler/PC Card Enable with Advanced EtherJet	Hot docking and undocking	-	-	-
Port Replicator with Advanced EtherJet Port	-	Warm docking and undocking	Hot docking and undocking with the ThinkPad UltraBase	-
ThinkPad Dock	-	-	-	Hot docking and undocking
ThinkPad Port Replicator	-	-	-	Hot docking and undocking

Tips for docking station support on ThinkPad models 570 and 570E:

- On ThinkPad 570 series, Port Replicator with Advanced EtherJet can be attached only through the UltraBase. This section explains how to attach or detach the system to/from the port replicator.

- UltraBase itself is not recognized as the docking station or the port replicator by Windows Me. Even if you attach the UltraBase, Windows Me does not create the hardware profile for the docking or show the "Eject PC" option in the Start menu. Since the UltraBase is just a cable extension for the UltraslimBay, attaching or detaching the UltraBase is more like attaching or detaching the UltraslimBay device. For more information on how to attach/detach the UltraBase, refer to the "Hot and Warm swapping support for supported ThinkPad models" section of this document.

- On the ThinkPad 570 series, Windows Me offers docking support and configuration in two ways:

    1. If you want to undock the computer from the IBM Advanced Port Replicator and UltraBase, press the eject-request button located on the front of he UltraBase unit. When window message appears "System can be removed from UltraBase safely" or the status indicator (green LED) near the eject-request button is turned off, physically detach the system-unit from the UltraBase by the eject levers on side of the UltraBase.

    2. If you want to undock the computer from the IBM Advanced Port Replicator but still have the computer attached to the UltraBase, you must press the eject request marked with a "1" located on the port replicator or by clicking the "Eject PC" option in the Start menu of the Windows Me. By doing this, only the IBM

Advanced Port Replicator will be undocked, leaving the computer and the UltraBase unit still connected by Windows Me.

Tips for docking station support on ThinkPad models 600, 600E and 600X:

- If you dock your ThinkPad to a SelectaDock-II or SelecaDock-III docking station, the "Crystal SoundFusion™ Game Port" or "Gameport Joystick" device will be marked with a yellow exclamation point in the Device Manager menu. Windows Me does this by design, because there is only one game port resource available to the system. When the computer is docked, the system BIOS configures this resource to the game port device located on the docking station rather than the one on the system-unit. Disable the "Crystal SoundFusion™ Game Port" at Device Manager to avoid the resource conflict. You can still attach a game port device to the docking station.

Tips for docking station support on ThinkPad models A20m, A20p, T20 and X20:

- Prior to performing any kind of docking, it is required to install the latest CMD Ultra DMA IDE driver for DOS, Win95/98/NT4/2K. For more information, please refer to readme file that comes with the driver.

Hot and Warm swapping support for supported ThinkPad models

Windows Me is full Plug and play support for devices located in the UltraBay FX, UltraslimBay or Ultrabay 2000 slot of your ThinkPad computer. Such devices include the following:

- LS-120 Super Disk drive
- ZIP 100 drive
- IDE CD-ROM, CD-RW and DVD-ROM drive
- Secondary battery pack
- Diskette drive

Each device can be dynamically inserted and removed from the swappable bay slot without having to completely turn off the computer. Depending on your type of ThinkPad computer, Windows Me supports two types of swapping: Hot and Warm.

Warm swapping:
Under Windows Me, you can perform warm swap while the computer is in Standby mode.

Hot swapping:
Under Windows Me, you can perform a hot swap while the computer is "running". You can remove or insert a device from the swappable bay without turning off or placing the computer into Standby. The user can safely swap in and out different devices from the swappable bay slot.

UltraBay FX device swapping with ThinkPad models 390, 390E and 390X:

- ThinkPad 390 series support only warm swapping under the Windows Me. To enable this feature, you must install the latest Swap Master Driver.

- The UltraBay FX slot holds the diskette and CD-ROM combination drive unit. You can swap a diskette and CD-ROM (or diskette and DVD-ROM) combination drive with a secondary IDE hard disk drive, or a secondary battery pack.
- Swapping the UltraslimBay device under Windows Me is enabled only while the computer is in Standby mode. In order to remove or insert a device designed for the UltraslimBay, you must put the system into Standby. When the system is in Standby mode, physically remove the device or insert another device.

UltraslimBay device swapping with ThinkPad models 570 and 570E:

- ThinkPad 570 series support both hot and warm swapping (attach/detach) under the Windows Me. To enable this feature, you must install the latest ThinkPad UltraBase Utility Driver II.
- On ThinkPad 570 series, the UltraslimBay slot is located in the UltraBase unit. To swap a device from the UltraslimBay under Windows Me, you must first physically detach the UltraBase from the system-unit. This is due to the mechanical design of the system.
- To detach the computer from the UltraBase, press the eject-request button located on the front side of he UltraBase unit. When pop-up window message appears, "System can be removed from UltraBase safely" or the status indicator (green LED) near the eject-request button is turned off, physically detach the system-unit from the UltraBase by the eject levers. Once the device is removed, then swap in or out a device from the UltraslimBay slot. Then attach the system unit back on.

UltraslimBay device swapping with ThinkPad models 600, 600E and 600X:

- ThinkPad 600 series support only the warm swapping under the Windows Me. To enable this feature, you must install the latest ThinkPad UltraBay Utility Driver.
- Swapping the UltraslimBay device under Windows Me is enabled only while the computer is in Standby mode. In order to remove or insert a device designed for the UltraslimBay, you must put the system into Standby. When the system is in Standby mode, physically remove the device or insert another device.

Ultrabay 2000 device swapping with ThinkPad T20:

- ThinkPad T20 supports both hot and warm swapping of the Ultrabay 2000 devices under Windows Me. To enable this feature, you must install the latest ThinkPad Fast-Swap Feature Driver.
- In order to remove an Ultrabay 2000 device, slide the bay-latch located next to the Ultrabay 2000 device. When the bay status indicator is turned off or when the pop-up window message appears, "Device can now be safely removed from the system", pop out the handle and pull the handle to pull out the Ultrabay 2000 device. Remove or add Ultrabay 2000 device.
- Swapping the Ultrabay 2000 device is not supported while the system is in the hibernation mode.
- Swapping the Ultrabay 2000 device in the ThinkPad Dock is not supported.

Ultrabay 2000 device and UltraBase X2 swapping with ThinkPad X20:

- ThinkPad X20 supports both hot and warm swapping of the Ultrabay 2000 device and UltraBase X2 under Windows Me. To enable this feature, you must install the latest ThinkPad Fast-Swap Feature Driver.
- In order to remove an Ultrabay 2000 device, slide the bay-latch located next to the Ultrabay 2000 device. When the bay status indicator is turned off or when the pop-up window message appears, "Device can now be safely removed from the system", pop out the handle and pull the handle to pull out the Ultrabay 2000 device. Remove or add Ultrabay 2000 device.
- Swapping the Ultrabay 2000 device or the UltraBase X2 is not supported while the system is in the hibernation mode.
- Swapping the Ultrabay 2000 device in the ThinkPad Dock is not supported.

Ultrabay 2000 device swapping with ThinkPad models A20m and A20p:

- ThinkPad models A20m and A20p support only warm swapping for Ultrabay 2000 devices under the Windows Me. To enable this feature, you must install the latest ThinkPad Fast-Swap Feature Driver.
- In order to remove an Ultrabay 2000 device, slide the bay-latch located next to the Ultrabay 2000 device. When the system goes into the Standby State and the bay status indicator is turned off, pop out the handle and pull the handle to pull out the Ultrabay 2000 device. Remove or add Ultrabay 2000 device.
- Swapping the Ultrabay 2000 device is not supported while the system is in the hibernation mode.
- Swapping the Ultrabay 2000 device in the ThinkPad Dock is not supported.

Windows Me Hints and Tips

1 Power Management

1.1 Power Meter Icon located on SysTray (by default, this is in the lower right corner) does not update automatically from AC to Battery mode or vice versa

Models: ThinkPad 600X

Issue: Power Meter Icon located on SysTray does not automatically detect AC or Battery Mode

Cause:

Resolution:

1. Double-click Battery Icon on the Sys Tray
2. Uncheck Show Meter on taskbar
3. Click **Start →Settings → Control Panel**
4. Double-click **Power Option** icon
5. Click Advance tab
6. Click Always Show icon on the taskbar
6. Click [Apply]

1.2 Wake-On Ring (WOR) needs to be enabled in the Power Option for ThinkPad 570 and 600 Series

Models: ThinkPad 570 and 600 Series

Issue: Wake-On-Ring needs to be enabled in the Power Option

Cause:

Resolution:

1. Turn on your computer, and then logon to Windows Me
2. Click: **Start → Settings → Control Panel**
3. Double-click **Power Option** icon
4. Click on Suspend/Resume Option tab
5. Check Resume on incoming call
6. Click [OK]

1.3 OS Hibernation on APM system is not supported

Models: ThinkPads with APM power management

Issue: OS Hibernation either through Startup menu or System Timer in Power Option in the Control Panel will not work correctly.

Cause: The operating system does not save System Information during hibernation.

Resolution: Install hidehibe.exe provided by IBM web site to prevent OS Hibernation. The hidehibe.exe is in the "Windows Me supplement File". To initiate hibernation, use Fn + F12. Fn key might differ depending the system model.

1.4 Standby triggered by closing the lid is not supported if any PC Card device is installed.

Models: ThinkPad i Series 1400 2611-410/450/411/451,
ThinkPad i Series 1400/1500 2611-412/452/472/512/552

Issue: If PC Card device is installed, it prevents Standby by Lid Close

Cause:

Resolution:

1. Stop the PC Card device using Unplug or Eject Hardware located on the SysTray
    a. Double-click Unplug or Eject Hardware located on SysTray
    b. Select the device listed and Click [Stop]
    c. Click [OK] to confirm to stop the device
    d. When notified safe removal, click [OK] and remove the device.
    e. Close the Lid to put the system into Standby mode

2. Use Fn+F4 key to put the system into Standby mode.

1.5 The Screen flashes with random characters and patterns for a while when resuming from Hibernation mode.

Models: ThinkPad i Series 1200/1300

Issue: When resuming from Hibernation mode, the screen flashes with random characters and patterns on the screen for a while (within 0.5 second).

Cause: VGA Driver issue

Resolution: The screen resumes correctly appearance automatically.

1.6 Windows Media Player changes to window screen mode when using Power Management.

Models: All ThinkPad models

Issue: Windows Media Player is changed to window screen mode from full screen mode when the system enters Sleep mode or Hibernation mode.

Cause: Windows Media Player's limitation

Resolution: To return to full screen mode, Press ALT+ENTER.

1.7 Standby is not available if select USB printers are installed.

Models: All ThinkPad models

Issue: If a USB printer is installed, it might prevent standby with an error message.

Cause: Hardware Limitation

Resolution: Disable USB Printer or Unplug the USB Printer.
To Disable USB Printer:

1. Click **Start** → **Settings** → **Control Panel**
2. Double-click **System** icon and click "Device Manager" tab
3. Click [+] USB Controller and double-click USB Printer
4. Select Disable and Click [OK]

You may also contact the manufacturer of your printer for an updated driver.

1.8 USB Wake Up is not supported

Models:	All ThinkPad models
Issue:	USB device Wake Up is not supported (e.g. via mouse or keyboard).
Resolution:	To wake up the system from Standby mode, press “Fn” key.

1.9 Fn + F3 key to turn off LCD monitor does not work when playing Windows Media Player.

Models:	ThinkPad models A20m, A20p, and T20, X20
Issue:	Fn +F3 to turn off the LCD screen does not work while Windows Medial Player is running even though the “Preparing to turn off monitor” message appears.
Cause:	Windows Media Player limitation.
Resolution:	To turn off the LCD by pressing Fn+F3, stop playing Windows Media Player.

1.10 System cannot hibernate when using video camera

Models:	ThinkPad models A20m, A20p, and T20, X20
Issue:	When using the video camera related application (for example, NetMeeting), system hibernation is rejected with the message " Your computer cannot hibernate or standby because the USB Video Camera for Intel® ProShare® technology cannot enter into a low power state".
Cause:	Windows Me Limitation
Resolution:	Close the video camera related application prior to putting the system into hibernation.

1.11 System cannot hibernate with some USB cameras

Models:	All ACPI ThinkPad models
Issue:	When using some USB cameras, system hibernation is rejected with the message " Your computer cannot hibernate or standby", or for some USB cameras, system hangs occur when going to hibernate.
Cause:	This is Windows Me or USB camera driver problem
Resolution:	Remove the camera before go to hibernate.

1.12 HDD power off timer does not work intermittently on battery mode

Models:	All ThinkPad models
Issue:	On battery mode, sometimes hard disk does not turn off after the setting time of “Turn off hard disk”.
Cause:	This is a Windows Me problem
Resolution:	None

2 Docking Station/Port Replicator

2.1 Ring Central Fax cannot receive fax data when docked and in Standby mode

Models: ThinkPad 600X

Issue: When the System is docked and in Standby mode, it cannot receive an incoming fax.

Resolution: Option 1: When expected to receive fax, resume from Standby
Option 2: Undock the system and put the system into Standby mode while Resume on Ring is enabled in the Power Option

a) Use Eject Hardware to Eject from docking station. Click Start→ Eject Hardware
b) After successful Eject, Click **Start → Settings → Control Panel**
c) Double-click **Power Option** icon.
d) Click "Suspend/Resume Options" tab
e) Check Resume on Incoming Call
f) Now the system should be ready to be in Standby mode and Resume on incoming fax.

2.2 System makes a clicking sound when starting Windows Me and the system is docked to SelectaDock III.

Models: ThinkPad 600X

Issue: When the system is docked to SelectaDock III, the system makes a continuous clicking sound when the system starts.

Cause: Windows Me or the audio driver problem.

Resolution: None

2.3 The wheel scroll function on some USB mice does not work after hot docking.

Models: ThinkPad models 570, 570E, A20m, A20p, T20, and X20

Issue: When USB mouse with wheel screen function is attached to the docking station, the scrolling wheel on the mouse does not work after the system is hot docked. Other mouse function (moving, clicking) correctly works.
This occurs the following hot dock configuration

- ThinkPad model 570/570E with ThinkPad Port Replicator with Advanced EtherJet Feature
- ThinkPad model A20 Series, T20, and X20 with ThinkPad Dock

Resolution: Wheel scroll function will resume after a system reboot.

2.4 Some USB hubs or USB devices properties show green (?) mark

Models: All ThinkPad models

Issue: When the USB hub or USB device is attached to the system, a green question mark appears on it in the Device Manager.

Cause: By Windows Me design. The green question mark on the device indicates that a compatible hardware ID was used to install the drivers for the device. Windows is not able to find a better match in our default searching paths

Resolution: Ignore green question mark. The device works correctly without any error.

2.5 The system may hang at the boot time when the PCI IRQ steering is changed from 11 (default value) to 9

Models: ThinkPad 600X

Issue: When the user changes the value of PCI IRQ Steering to 9 from 11(default value) with the ThinkPad Utility in order to use the IDE device in SelectaDockII/III, the system hangs at boot time.

Cause: Under investigation. This problem occurs only when Windows Me is clean installed on the system It does not occur when Windows Me is installed during an upgrade.

Resolution: When the user encounters this problem, please change the value of PCI IRQ Steering back to 11. If you still want to use the IDE device in Docking, please change the assignment of IDE device by ThinkPad Utility as below:

Primary Master → Internal HDD

Primary Slave → IDE devices in the Ultra Slim Bay (CD ROM or other IDE devices)

Secondary Master/Slave → For IDE device in Docking

To configure above IDE configuration, follow the following step.

1. Open ThinkPad configuration by double-clicking the icon in Systray.
2. Click DeviceBay -> Disable Warm Swap deices -> Apply -> OK
3. Reboot the system.

2.6 16-bit PC Cards hot plugged to the dock PC Card slot will not be detected after warm docking with an ATA PC Card already installed in the PC Card slot of the dock.

Models: ThinkPad 390

Issue: When the ATA PC Card is already installed in the docking PC Card slot, the system will not detect any 16-bit PC Card device when it's hot plugged on the docking PC Card slot when the device driver is not installed prior to Warm Dock.

Resolution Cold dock the system with 32-bit PC Card device in the dock PC Card slot..

1. Shut down the System
2. Insert 32-bit PC Card device in the dock PC Card slot
3. Power on the System
4. The system should detect the new devices
5. Once the device driver is installed, the device will be detected every time its cold/hot/warm docked.

3 PC Cards and Device Support

3.1 PCMCIA Card Services yellow "!" with Code (1) - Not configured correctly

Models: All ThinkPad Models

Issue: When any PC Card device is installed, the OS detects it and installs the PCMCIA Card Services. When PC Card device is hot plugged for

the first time, yellow "!" will appear on PCMCIA Card Services in the Device Manager as code 1. This does not cause any functionality loss.

Cause: By Windows Me design

Resolution: Continue to use the PC Card. Once the system reboots, the yellow "!" disappears.

3.2 Adaptec SlimSCSI 1480A PC Card causes system hang

Models: ThinkPad models 390, 600X

Issue: System hangs when Adaptec Slim SCSI 1480A in cold or hot inserted.

Resolution: SlimSCSI 1480A is not supported.

3.3 Wake-On-Ring (WOR) might not work when using some PC Card Modems

Models: All ThinkPad models

Issue: When using some PC Card modems under Windows Me, you may notice a power management setting for the device listed in Device Manager. While Wake-On-Ring is enabled in the Power Manager, WOR feature may not function properly.

Cause: OS does not support wakeup capability from Standby mode for an incoming call. This is a current limitation for this release of Windows Me. Only some CardBus modem cards support this function.

Resolution: Do not use the WOR function with PC Card modems.

3.4 Some PC cards might not be detected after resuming from Standby mode.

Models: ThinkPad 240X

Issue: Some PC cards may not be detected when the system resumes from standby.

Cause: This is caused by PC Card device driver.

Resolution: Install any PC cards prior to putting the system into Standby or Hot unplug and then plug PC Card.

3.5 IBM Token Ring PC Card driver is not included in Windows Me.

Models: All ThinkPad models

Issue: IBM Token Ring PC Card driver is not included in Windows Me.

Resolution: Token Ring PC Card driver and the installation guide can be obtained at: http://www.networking.ibm.com.

3.6 ATA PC Card does not work.

Models: ThinkPad 600X

Issue: ATA cards will have a resource conflict if "Warm swap device" for the IBM ThinkPad Ultra Bay is enabled

Cause: Hardware Limitation

Resolution: Warm Swap for the IBM ThinkPad Device Bay must be disabled

1. Click **Start → Settings → Control Panel**
2. Double-click **System** icon
3. Double-Click ThinkPad Configuration

4. Click “Device” Bay
5. Check ‘Disable’ Warm Swap devices
6. Click Apply and click Yes
7. Reboot when prompt.

4 Video/Multimedia

4.1 A version conflict message appears when updating IBM supplied NeoMagic Video driver (NMG5) over the built-in NeoMagic Video driver (NMG5) in Windows Me.

Models:	All ThinkPad, whose video chip is NMG5
Issue:	When trying to install IBM supplied NeoMagic Video driver over the built-in NeoMagic Video driver in Windows Me, the warning message "Version Conflict" appears.
Cause:	The device driver version detected by Windows Me Does not reflect that the IBM device driver is newer.
Resolution:	Please select "No" to force the installation of the IBM supplied NeoMagic Video driver over Windows Me native driver when this error message appears.

4.2 After playing MPEG file by Windows Media Player, the color mode of the screen does not resume correctly when using Dual Display.

Models:	i Series 1200/1300
Issue:	After playing MPEG file with Windows Media Player with Dual Display mode, enter Hibernation **without** closing Windows Media Player. At that time, the screen color pallet becomes strange after resuming from hibernation.
Cause:	VGA driver issue.
Resolution:	If this happens, disable Dual display mode and enable again. Or close Windows Media Player before entering Hibernation.

4.3 Windows Media Player v.7.0 cannot play two or more multimedia files simultaneously

Models:	All ThinkPad models
Issue:	Windows Media Player 7 cannot open two or more multimedia files at the same time.
Cause:	By Windows Media Player design. Media Player V7.0 can play only one multimedia file at the same time.
Resolution:	Select one multimedia files at a time when using Windows Media Player.

4.4 CD Audio volume Control does not work during playing CD Audio on Windows Media Player

Models:	All ThinkPad models
Issue:	CD Audio volume in Volume Control does not work during playing CD Audio on Windows Media Player V.7.0.
Cause:	By Windows Media Player design. This problem happens when the "Digital Playback" in the Options of Windows Media Player V.7.0 is checked.

Resolution: Use the volume control on Windows Media Player V.7.0 instead of CD Audio volume in Volume Control. Or do the following operations, so that CD Audio volume in Volume Control can work.

1 Open "Tools" in Windows Media Player V.7.0.
2 Go → Options → CD Audio tab.
3 Uncheck "Digital Playback"

4.5 Graphics on Windows Media Player stops (freezes) when Windows Media Player is running in full screen mode

Models: All ThinkPad models
Issue: When playing a movie file on Windows Media Player V. 7.0 in the full screen mode and pressing short cut key ALT+F4 to close Media Player, the picture on Windows Media Player stops or freezes. It is not a system hang.
Cause: By Windows Media Player design.
Resolution: Do not use short cut key, Alt + F4 to close Windows Media Player application. First, stop playing the Windows Media Player and than use the short cut key Alt + F4 to close the application.

4.6 Windows Media Player pull down menu does not display in 256-color mode when the movie is playing.

Models: All ThinkPad models
Issue: Windows Media Player pull down menu does not display in 256-color mode when the movie is playing. The blank gray box is displayed when you click ("View" "Play" "Tools" and "Help"). "File" pull down menu contents are displayed correctly.
Cause: This issue is caused by Windows Me or DirectX.
Resolution: Use 16 bit or more color depth, or stop the movie before selecting the pull down menu.

4.7 Volume Control setting change is not restored when the system reboots.

Models: All ThinkPad models
Issue: The setting changes of "Volume Control" such as Wave, Synthesizer, and CD Player, is not maintained when the system reboots
Cause: This is WDM based audio driver, or Media Player 7.0 problem.
Resolution:
1. Select "Tools" in Media Player 7.
2. Select "Options", and "CD Audio" tab.
3. Uncheck "Digital Playback" checkbox

4.8 3D function of Y-Station does not work under Windows Me

Models: ThinkPad i-Series with Y-Station preinstalled in Win98
Issue: When '3D' surround is selected in Y-Station it displays an error message, asking the user to close the application. When prompt to reboot the system to enable '3D' surround function, it does not work after reboot.
Cause: Y-Station is not compatible with Windows Me
Resolution: None: 3D surround function by Y-station is not compatible

4.9 No subtitle on DVD after resuming from Standby mode with some DVD movies

Models: All ThinkPad models
Issue: If system enters Standby mode while DVD is playing, after resuming from Standby mode, the subtitle, if available, is not displayed. This varies from DVD to DVD title.
Cause: This is Windows Me problem. This also occurs in Windows 98.
Resolution: Enable subtitle and play again, or do not use Power Management while playing the DVD.

5 Device Configuration and Setup

5.1 "Crystal SoundFusion Joystick' device will be marked with a yellow "!" in the Device Manager when docked.

Models: ThinkPad 600 Series
Issue: If the system is docked to SelectaDock-III docking station, the "Crystal SoundFusion Joystick" device will be marked with a "!" point in the Device Manager. When the system is docked to Selecta Dock II, than GamePort Joystick has yellow "!".
Cause: By Windows Me design. There is only one game port resource available to the system. When the computer is docked, the system BIOS configures this resource to the game port device located on the docking station rather than the one on the system-unit.
Resolution: Disable the 'Crystal SoundFusion' in the Device Manager and the device can be still attached to the game port device to the docking station. To disable the 'Crystal SoundFusion' follow the steps below:

1. Click **Start → Settings → Control Panel**
2. Double-click **System** icon and click 'Device Manager' tab
3. Click [+] Sound, video and game controllers and double-click Crystal SoundFusion
4. Click [Disable]
5. Click [OK]

5.2 Two Infrared Communication Device will appear after upgrade if the Infrared device is not enabled.

Models: ThinkPad 600E (266/300MHz)
Issue: Two Infrared Communication Device will appear after upgrade if the Infrared device is not enabled.
Cause: Infrared Communication device is disabled by BIOS default. If the system is upgraded while Infrared is disabled, two Infrared communication devices will appear after the upgrade. It does not cause any functionality loss.
Resolution: Prior to upgrade, enable ThinkPad Infrared Device

1. Click **Start → Settings → Control Panel**
2. Double-click **System** icon

3. Click Device Manager
4. Click [+] Infrared Devices
5. Select Infrared Communication Device and Click [Properties]
6. Click to Check Enable Infrared Device
7. If prompt, reboot the system.

If two Infrared Device do appear after upgrade, One of two Infrared Device will be automatically disabled. Leave the default setting. The infrared device will still function without any problem.

5.3 Red X mark in USB Serial Port with IBM USB Multiple Hub.

Models: ThinkPad 570E, I Series 1400
Issue: With IBM USB Multiple hub, Red cross mark appears on IBM USB Serial Port (COM2) of Device Manager.
Cause: This is Windows Me or USB hub driver problem
Resolution: The device works properly, ignore this mark.

6 Communication

6.1 Limitation to Ring Central Voice after upgrading to Windows Me.

Models: ThinkPad 570
Issue: Ring Central Phone application causes a blue screen when it receives a voice phone call, but it can be used to send and receive fax.
Resolution: Do not use Ring Central for voice. Instead, Windows Me comes with Hyper Terminal application which can be used for voice phone call.

1. Click Start → Programs →Applications → Communication →Hyper Terminal
2. Hyper Terminal will guide you the rest of the setup process.

If Hyper Terminal application is not listed under Communication, do the following:

1. Click **Start → Settings → Control Panel**
2. Double-click Add/Remove Programs icon
3. Click "Windows Setup" tab
4. In the list of applications, select Communication and Click [Details]
5. Click the check box next to Hyper Terminal
6. Click [OK]
7. Click [Apply] and Click [OK]
8. Hyper Terminal application~~s~~ is installed.

6.2 NetBEUI connection is lost when resuming from standby or hibernation.

Models: All ThinkPad models
Issue: In the network environment using NetBEUI, the connection to a shared computer is lost after resume from standby or hibernation.
Cause: By Windows Me design.
Resolution: Do not use Standby or Hibernation feature while connecting via NetBEUI.

6.3 IBM Global Network Dialer

Models: ThinkPad 240, i Series 2621-420,42U,421,441,460,46U,480,48U,540,541,560

Issue:

Cause: Not supported

Resolution: Windows Me comes with a software Dial-up Networking which can be used for dial up connection instead of IBM Global Network Dialer.

1. Click **Start → Settings →Dial Up Networking**
2. Dial Up Networking Wizard will guide you through rest of the setup.

6.4 When transferring a file using the Infrared device at 4 Mbps from a computer running Windows Me to computer running Windows 98, the file transfer fails

Models: All ThinkPad models

Issue: When transferring a file using the Infrared device at 4Mbps from a computer running Windows Me to a computer running Windows 98, the file transfer fails.

Cause: This is Windows98 issue.

Resolution: If using the Infrared device to transfer files between computers running Windows 98, and Windows Me set the connection rate between the communicating computers to 115 kbps:

1. Click **Start → Settings → Control Panel**
2. Double-click **Network** icon
3. Click **IBM ThinkPad Fast Infrared Port**
4. Click “Properties”
5. Click “Advanced” tab
6. Click “Maximum Connect Rate” in the Property window
7. Click “115,200bps” in the Value window
8. Click [OK]
9. Click [OK]
10. Click [Yes] to reboot the system

6.5 Ring Central sometimes fails to receive the file after wake up from RI.

Models: ThinkPad i Series 1400 2611-410/450/411/451

Issue: Ring Central sometimes fails to receive a file after resuming from Standby from an incoming call. The system can wake up but Ring Central does not change Receiving mode.

Cause: Ring Central is not completely compatible with Windows Me.

Resolution: Do not use RingCental with WOR function under Windows Me.

7 Upgrade and installation Issues

7.1 Touching Trackpoint causes a hang during clean install

Models: ThinkPad 240

Issue: During clean install, Setup will hang when excessive movement is

done using TrackPoint Mouse.

Resolution: As much as possible, use keyboard instead of Trackpoint.

7.2 Short Cut Key Window will appear during upgrade install

Models: ThinkPad i Series 1400 2611-410/450/411/451
Issue: During upgrade install, Short Cut Key window will appear.
Resolution: When upgrading and Short Cut Key window appears, Click [Cancel] and the setup will continue.

7.3 Windows Me cannot be set up with OS/2 Boot Manager

Models: All ThinkPad models
Issue: Setup cannot continue with error message if OS/2 Boot Manager is present.
Cause: By Windows Me design
Resolution: Do not use the OS/2 Boot Manager while installing Windows Me. The OS/2 Boot Manager is currently not supported under Windows Me.

7.4 Access ThinkPad displays an error message after upgrading from Windows 98 to Windows Me

Models: All ThinkPad models with Access ThinkPad
Issue: After upgrading from Windows 98 to Windows Me, an error message is displayed when the system is turned on:
"Error: 'document.body.filters.0' is null or not an object".
Cause: The version of Access ThinkPad that was preloaded with your system is not compatible with Windows Me.
Resolution: Please download the Access ThinkPad update from the IBM Support Web page.

8 Miscellaneous

8.1 Norton Antivirus Version 4.08 is not supported

Models: All ThinkPad models
Issue: Norton Antivirus Version 4.08 is not supported
Resolution: Upgrade to Norton Antivirus 5.0.

8.2 3D Maze screen saver starts at "Turn off monitor" setting time.

Models: All ThinkPad models
Issue: "3D Maze" screen saver does not startwith the screen saver setting time. Instead it starts with the "Turn off monitor" setting time.
Cause: This is Windows Me screen saver problem.
Resolution: This does not happen with other screen savers.