Intel® Chipset Software Installation Utility

User's Manual

int_el

Revision History

Rev	Comments	Date
1.00	Initial Release	01 Apr 00
1.10	Added Intel® 815, Intel® 815E, and Intel® 820E Chipsets	19 Jun 00
1.20	Added Intel® 815EP Chipset	13 Nov 00
1.30	Added Intel® 850 and Intel® 815EM Chipsets	20 Nov 00
1.40	Added Intel® 810E2 Chipset	03 Jan 01
1.50	Added Intel® 815P Chipset	16 Mar 01
1.60	Added Intel® 815 Chipset (B-step)	23 Apr 01
1.70	Added Intel® 860 Chipset	21 May 01

DISCLAIMER

Table of Contents

1.   Scope of This Document

This Software User's Manual provides the necessary information and describes the procedures used to successfully obtain support for Intel Chipsets utilizing the Intel® Chipset Software Installation Utility.

The information and procedures provided in this guide are only relevant to systems using the Intel® 810, Intel® 810E, Intel® 810E2, Intel® 815, Intel® 815E, Intel® 815EM, Intel® 815EP, Intel® 820, Intel® 820E, Intel® 840, Intel® 850, and Intel® 860 Chipsets along with Windows* 95, Windows 98, Windows 98 Second Edition (SE), Windows Millennium Edition (Me), and Windows 2000. Please note that the Intel® Chipset Software Installation Utility does NOT support Beta or pre-released versions of Windows operating systems.

Customers should always contact the place of purchase or system/software manufacturer with support questions about their specific hardware or software configuration.

2.   How to Identify the Operating System Version

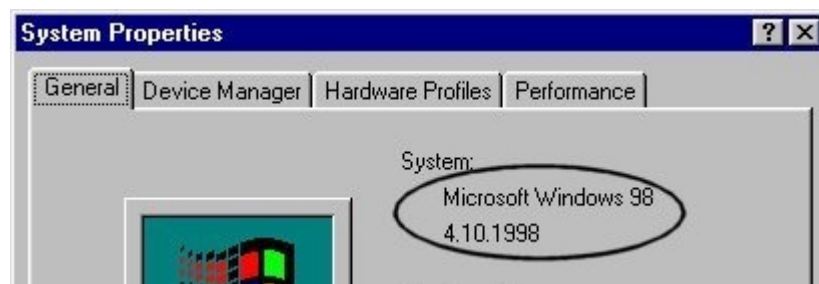To determine which version of Windows is installed on your computer, complete the following steps:

Click on Start Button / Select Settings / Select Control Panel

- Double-click on the System icon that appears in the following window:

- Located on the General tab, look for the operating system version, as shown below:

The version codes are translated in the following table:

Operating System	Code	Release Description
Windows 95	4.00.950	Original Retail Version
Windows 95	4.00.950a	OSR1 Version
Windows 95	4.00.950b	OSR2 w/o USB Supplement
Windows 95	4.00.950b	OSR2 with USB Supplement
Windows 95	4.00.950c	OSR2.5 with or w/o USB Supplement
Windows 98	4.10.1998	Original Retail Version
Windows 98 Second Edition (SE)	4.10.2222	Original Retail Version
Windows 2000	5.00.2195	Original Retail Version
Windows Millennium Edition (Me)	4.90.3000	Original Retail Version
Windows XP	5.10.2465	Beta 2

3.   How to Identify the Intel Chipset

If you are unsure which Intel chipset is located in your computer, you will need to look at the motherboard for the chipset markings.

Note: Some system manufacturers may void your warranty if you open the case. Check with the manufacturer if you have any concerns about this before proceeding.

Caution: Make sure you disconnect the power before opening the case. Avoid touching any of the components inside the system.

The Intel® 800 series of chipsets are comprised of multiple components. The key items to identify are the I/O Controller Hub (ICH), Memory Controller Hub (MCH), Graphics Memory Controller Hub (GMCH), and Firmware Hub (FWH) components. The table below shows the combinations that make up the various Intel chipsets that are supported by the Intel® Chipset Software Installation Utility:

Intel Chipsets with Integrated Graphics

Intel Chipset	I/O Controller Hub (ICH)	Graphics Memory Controller Hub (GMCH)	Firmware Hub (FWH)
Intel® 810 chipset	82801AA or 82801AB	FW82810 or FW82810DC100	82802AB or 82802AC
Intel® 810E chipset	82801AA or 82801AB	FW82810E or FW82810DC100	82802AB or 82802AC
Intel® 810E2 chipset	82801AA or 82801AB	FW82810E or FW82810DC100	82802AB or 82802AC
Intel® 815 chipset	82801AA or 82801AB	FW82815	82802AB or 82802AC

Intel® 815E chipset	82801BA	FW82815E	82802AB or 82802AC
Intel® 815EM chipset	82801BAM	FW82815EM	82802AB or 82802AC
Intel® 815 chipset (B-step)	82801BA	FW82815B	82802AB or 82802AC

Intel Chipsets

Intel Chipset	I/O Controller Hub (ICH)	Memory Controller Hub (MCH)	Firmware Hub (FWH)
Intel® 815EP chipset	82801BA	82815EP	82802AB or 82802AC
Intel® 815P chipset	82801AA or 82801AB	82815P	82802AB or 82802AC
Intel® 820 chipset	82801AA or 82801AB	82820	82802AB or 82802AC
Intel® 820E chipset	82801BA	82820	82802AB or 82802AC
Intel® 840 chipset	82801AA or 82801AB	82840	82802AB or 82802AC
Intel® 850 chipset	82801BA	82850	82802AB or 82802AC
Intel® 860 chipset	82801BA	82860	82802AB or 82802AC

4.   Intel® Chipset Software Installation Utility for Intel Chipsets

4.1   Description

The Intel® Chipset Software Installation Utility was developed for updating Windows* Operating Systems with the Plug and Play feature on Intel chipsets. The Intel Chipset Software Installation Utility is not required or compatible with Operating Systems without the Plug and Play feature, such as Windows NT* 4.0. This utility allows the operating system to correctly identify the Intel chipset components and properly configure the system. The Intel Chipset Software Installation Utility installs specific Windows INF files. The INF files inform the operating system how to properly configure the chipset for specific functionality, such as AGP, USB, Core PCI, and ISA PnP services.

For more details about the specific INF files that are updated, please refer to the README.TXT file that is included with the Intel Chipset Software Installation Utility for Intel chipsets.

4.2   Do You Need the Intel® Chipset Software Installation Utility?

Find your operating system version and the applicable Intel chipset in the table below:

Intel Chipset	Operating System Version						
	Windows 95 (All Versions)	Windows 98 (4.10.1998)	Windows 98 SE (4.10.2222)	Windows NT 4.0 (Build 1381)	Windows 2000 (5.00.2195)	Windows Me (4.90.3000)	Windows XP (5.10.2465)
Intel® 810 chipset	YES	YES	YES	N/A	NO	NO	NO
Intel® 810E chipset	YES	YES	YES	N/A	NO	NO	NO
Intel® 810E2 chipset	YES	YES	YES	N/A	NO	NO	NO
Intel® 815 chipset	YES	YES	YES	N/A	YES	NO	NO

Intel® 815E chipset	YES	YES	YES	N/A	YES	NO	NO
Intel® 815EM chipset	YES	YES	YES	N/A	YES	YES	NO
Intel® 815EP chipset	YES	YES	YES	N/A	YES	NO	NO
Intel® 815P chipset	YES	YES	YES	N/A	YES	NO	NO
Intel® 820 chipset	YES	YES	YES	N/A	NO	NO	NO
Intel® 820E chipset	YES	YES	YES	N/A	YES	NO	NO
Intel® 840 chipset	YES	YES	YES	N/A	NO	NO	NO
Intel® 850 chipset	YES	YES	YES	N/A	YES	YES	NO
Intel® 860 chipset	YES	YES	YES	N/A	YES	YES	NO

"YES," indicates that the listed operating system version might not optimally configure the Intel chipset, and you will need to update your system with the Intel® Chipset Software Installation Utility if it has not been installed.

"NO" indicates that the operating system should optimally configure the Intel chipset. The Intel® Chipset Software Installation Utility does not need to be run.

"N/A" indicates Not Applicable. Do not run the Intel® Chipset Software Installation Utility.

4.3   Obtaining and Installing the Intel® Chipset Software Installation Utility

The Intel® Chipset Software Installation Utility for Intel chipsets can be downloaded from the following Intel web site:

http://developer.intel.com/design/software/drivers/platform/inf.htm

The Intel® Chipset Software Installation Utility (infinst_enu.zip or infinst_enu.exe) is available for all Windows Operating Systems with the Plug and Play feature. The infinst_enu.zip file is approximately 1.3Mb in size and the infinst_enu.exe file is approximately 1.4Mb in size. The infinst_enu.zip requires a compression utility such as WinZip* or PKZip* to unzip the file. The README.TXT file covers topics such as system requirements, contents of the distribution package, installation instructions, troubleshooting hints, and other notes. The RELNOTES.TXT file covers topics such as new features, fixes, and known issues for that Release.

4.3.1 Before Installing the Software

Please review the README.TXT document before installing the Intel® Chipset Software Installation Utility.

Before installing the Intel® Chipset Software Installation Utility for Intel chipsets, you should also confirm that all devices in the System Properties / Device Manager listing are enabled. There should not be any yellow exclamation points or red "X"s, which could indicate a certain device is disabled or experiencing a driver conflict. The Intel® Chipset Software Installation Utility may not work properly if there are devices in the system that are disabled.

This software can be installed in two modes: Interactive or Silent. The Interactive Mode requires user input during installation; the Silent Mode does not.

Additionally, this software offers a set of command line flag options that enable extended installation functionality. The command-line flags are not case-sensitive.

Two distribution formats are available for the Intel® Chipset Software Installation Utility -- self-extracting .EXE files (INFINST_ENU.EXE) or compressed .ZIP files (INFINST_ENU.ZIP). Due to the different distribution formats available for the Intel® Chipset Software Installation Utility, the command line flag syntax may vary. See Section 4.3.2 for more information.

After the Intel® Chipset Software Installation Utility has completed updating your system, you must reboot the system. The first time you reboot, Windows* should detect new hardware and you might be prompted to reboot your system again until all new hardware has been detected. After all the new hardware has been detected, verify that all the devices in Device Manager have been optimally configured. Please refer to Section 4.4 for confirmation.

Note: advanced users that have a specific need for Interactive installation should only use the following sections that describe extended installation functionality. Skip to Section 4.4 in this document if you do not require Interactive installation instructions.

4.3.2 Command-Line Options

The Intel® Chipset Software Installation Utility supports several command line flags for various installation options. All command line flags and parameters must be separated by a space, except for the language code after the '-L' flag.

Note: Below is a list of all the available command line flags that may be used with the program call. Note that the '-L' and the '-S' flags MUST be specified at the end of the command line flag list.

Self-Extracting .EXE Distribution:

> When installing this software using the .EXE distribution, an extra '-A' must be appended to the INFINST_ENU.EXE program call (i.e. INFINST_ENU.EXE -A) to successfully pass command line parameters. The extra '-A' flag for the self-extracting .EXE package is DIFFERENT from the '-A' command line flag option described below.

> Example: To extract INF files using the '-A' flag described below, the installation program should be invoked as follows:

> INFINST_ENU.EXE -A -A (optional -P)

Compressed .ZIP Distribution:

> When installing this software using the .ZIP distribution, there is no need to append any extra flags to the SETUP.EXE program call in order to pass command line flags.

> Example: To extract INF files using the '-A' flag described below, the installation program should be invoked as follows:

> SETUP.EXE -A (optional -P)

Below is a list of the available command line flags that may be used with the program call. Note that the '-L' and the '-S' flags MUST be specified at the end of the command line flag list.

Flag	Description
-?	Help flag. Displays the list of available command line flags. This parameter works in the interactive mode only.
-A	Extracts the INF files, README.TXT, RELNOTES.TXT, and instructions for OEM preload (PRELOAD.TXT) to either "C:\ProgramFiles\Intel\InfInst" Or the directory specified using the '-P' flag. The software will NOT install These INF files to the system. This flag can be combined only with the '-P' flag option. All other options will be ignored if the '-A' flag is specified. This parameter works in either Silent mode or interactive mode.
-B	Automatically reboots the system after installation. This parameter works in either Silent mode or interactive mode.
-P <Dir Name>	Specifies the HDD location to which the INF program files are copied. If this flag is used without the '-A' option, only README.TXT and RELNOTES.TXT will be copied to <Dir Name>. The directory name can include spaces. In this case, however, a pair of double quotes (") must enclose the directory name. This parameter works in either Silent mode or interactive mode.
-S	Runs the Installer in silent mode. No user interface is displayed. This flag and the '-L' flag must be placed at the end of the command line flag list.
-L<LangCode>	Forces the InstallShield user interface to display the specified language during setup. Note that there should be NO spaces between '-L' and the 4-digit language code (see below). This flag and the '-S' flag must be placed at the end of the command line flag list. This parameter works in interactive mode only.

Language	<LangCode>
Chinese (PRC)	0804
Chinese (Taiwan)	0404
Danish	0006
Dutch	0013
English (US)	0409
Finnish	000B
French (Canadian)	0C0C
French (Standard)	040C
German	0007
Italian	0010
Japanese	0011
Korean	0012
Norwegian	0014
Polish	0015
Portuguese (Brazilian)	0416
Portuguese (Standard)	0816
Russian	0019
Spanish	000A
Swedish	001D
Thai	001E

Use the following table to determine which mode(s) of operation can be used in conjunction with the desired command-line flag option(s):

FLAG	INTERACTIVE MODE	SILENT MODE
-?	X	
-A	X	X
-B	X	X
-P	X	X
-S		X
-L\<LangCode\>	X	

4.3.3 Installing the Software in Interactive Mode

- Check the System Requirements. The operating system must be fully installed and running on the system before running this software.

- Close any running applications. Otherwise, you may experience difficulties.

- Run the InstallShield* installation program:

   Self-extracting .EXE distribution: INFINST_ENU.EXE

   Compressed .ZIP distribution: SETUP.EXE

- You will be prompted to agree to the license agreement. If you do not agree, the Installer will exit before extracting any files.

- Follow the on-screen instructions and use the default settings to complete the setup, once the Operating system has rebooted.

- This completes the installation of the Intel® Chipset Software Installation Utility.

4.3.4 Installing the Software in Silent Mode

- Check the System Requirements. The operating system must be fully installed and running on the system before running this software.

- Close any running applications. Otherwise, you may experience difficulties.

- Run the InstallShield installation program:
   For silent install with auto-reboot:
       Self-extracting .EXE distribution: INFINST_ENU.EXE -a -b -s
       Compressed .ZIP distribution: SETUP.EXE -b -s
    - OR -
   For silent install without auto-reboot:
       Self-extracting .EXE distribution: INFINST_ENU.EXE -a -s
       Compressed .ZIP distribution: SETUP.EXE -s

- The utility will perform the necessary updates and record the installation status in the following system registry key:

HKEY_LOCAL_MACHINE\Software\Intel\INFInst

- If the utility was invoked with the "INFINST_ENU.EXE -a -b -s" mode, the system will automatically reboot if the update was successful.

  Note: The system MUST be rebooted for all device updates to take effect.

4.4   Confirming Installation of the Intel® Chipset Software

After installing the Intel® Chipset Software Installation Utility, Device Manager should indicate that your system is now using the Intel Chipset Devices. For Windows 95, Windows 98, Windows 98SE, and Windows Me, Device Manager can be accessed by going to: Start Button / Settings / Control Panel / System / Device Manager. Select the radio button next to 'View devices by connection.' Expand the 'Plug and Play BIOS' listing, and then the 'PCI bus' listing:

For Windows 2000, Click on Start, Select Settings, Select Control Panel, Double-click on system icon, click on Hardware tab, click on Device Manager button, from the View menu, select menu item Devices by connection, click on Standard PC, or Advanced Configuration and Power Interface (ACPI) PC, Click on PCI bus.

Example: Intel® 820 Chipset
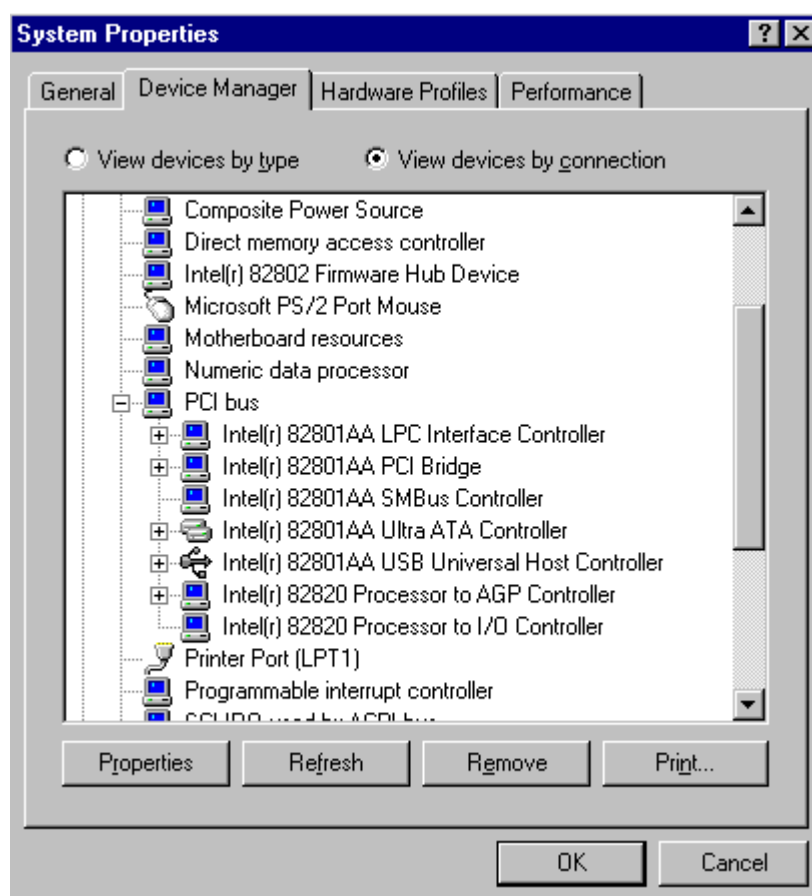
Note: After the Intel® Chipset Software Installation Utility is installed, there should not be any yellow exclamation points (!) associated with any of the Intel chipset devices.

Also note, the INF name strings/descriptions may vary, depending upon the Intel Chipset in your system

5.   Troubleshooting

After installing the Intel® Chipset Software Installation Utility for Intel chipsets, certain symptoms may be seen depending on the system configuration. The following sections detail each of these symptoms as well as possible causes and resolutions:

Issue*:*   *System locks up during Device Manager remove or during restart.*

Solution: System lockup can occur during Restart as a result of several possible system issues. In the event of system lockup, restart the machine and view Device Manager. If devices are listed properly and the system does not experience any other issues, then the .INF file restore process was successful. If devices are not configured correctly, try rerunning the procedures outlined in the Readme.txt file.

If this does not fix problems or further problems are experienced, reinstall the operating system.

Issue*:*   *After running the setup program and rebooting the machine, Windows reports that it cannot find one of the following files:*
                ESDI_506.pdr

Solution: Click Browse in the dialog box where this problem occurs. Locate the <Windows>\System\IOSubsys directory, and click OK.
The system should be able to locate this file in this directory and continue re-enumerating for the new devices.

Issue*:*   *After running the setup program and rebooting the machine, Windows reports that it cannot find one of the following files:*
                UHCD.SYS
                USBD.SYS
                USBHUB.SYS

Solution: Click Browse in the dialog box where this problem occurs, locate the <Windows>\System32\drivers (for Windows 98)
                - OR -
<Windows>\System (for Windows 95) directory, and click OK.
The system should be able to locate this file in this directory and continue re-enumerating for the new devices.

Issue*:*   *During setup, installation stops and prompts for one of the following files:*
                UHCD.SYS
                USBD.SYS
                USBHUB.SYS

Solution: Ensure that the Windows 95 USB Supplement has been installed prior to running the Chipset Software Installation Utility setup program.

Issue*:*   *After running the setup program and rebooting the machine, Windows reports that it cannot find the following file: isapnp.vxd*

Solution: Click Browse in the dialog box where this problem occurs, locate the <Windows>\System directory, and click OK.
The system should be able to locate this file in this directory and continue re-enumerating for the new devices.

Issue: *After performing the silent install, the HKLM\Software\Intel\InfInst key was not created or the data of the value "install" is not "success".*

Solution: This is caused by one of the following scenarios:
- The current system does not contain a supported operating system, or
- The current system does not contain a supported chipset.

Verify the System Requirements in outlined in the Chipset Software Installation Utility Readme.txt file.