SiSoft Sandra Help Contents

Welcome to SiSoft Sandra, one of the best Windows information and diagnostic utilities.

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Foreword

There are tens of million PC Compatibles world-wide, all due to the enormous popularity of the standard IBM PC. All these are supposed to be 100% compatible to the "real thing". However, nowadays, as IBM is no longer sets the standard, there is no such thing as a true IBM compatible; this term might mean, today, the most popular specification, i.e. a certain processor, graphics card, sound card, printer, etc. which is widely used - therefore supported by most software. A true PC compatible might mean the one (if available) that the software companies use (e.g. Microsoft) - if it works on theirs it should work on yours, too.

Worse, there were (and still are) many types and versions of DOS, DOS emulators, quite a few versions of Windows and Windows emulators. Also, there are 100's of thousand of software utilities - each doing its own thing. As you can deduce, it is very hard to make a program work on all systems. Just take a look at DOS games for example, and the problems of supporting different sound cards, joysticks, mice, video cards, memory managers, caches, etc.

Now Windows! Windows has brought us the key to all this - your program is supposed to work on every machine if you stick to the operating system calls (API). (Other operating systems like Windows NT, OS/2, UNIX, Linux, etc. all do much the same thing or have done long before Windows; I will stick to Windows as Sandra is targeted at this operating system) In a way this is true, most programs now work on systems under Windows that they would not have under DOS.

As far as SiSoft Sandra is concerned, or other diagnostic programs, the situations has not become that much better... Yes, it is easier to detect the characteristics of the system components (if the respective drivers are installed) but not always - the drivers have bugs themselves and sometimes tell lies for whatever reason. There are still holes in Windows, in the way that you still have to do much of the detection yourself. Worse, Windows is far cleverer than DOS and you can't get away with the things that some DOS programs do. As you still need DOS for many things, it gets a bit complicating to juggle virtual & protected mode, ring 0 & ring 3, VxDs & callgates and all other things...

While Windows 95 was supposed to replace DOS entirely, that was not possible.   As long as we will need to run DOS stuff, DOS is here to stay. Most games are still written for DOS than Windows DirectX, and many hardware utilities are DOS based. Long live DOS!

Also, while we play with 32-bits now, and all new programs appear in 32-bit "clothing" there will be considerable time until Windows will no longer run them (like Windows 3.1 dropping the support for real-mode Windows apps).   So, as you see Sandra has to show you information on 16-bit as well as 32-bit systems. In fact, as Windows95 is more than 50% 16-bit (still)   you may actually be better off with a 16-bit system information utility (like SAW, "The System Analyser for Windows"!).

Anyway, we'll find out soon enough what the future holds in store...

Have fun with SiSoft Sandra and I hope it will be useful to you. I also hope that it will help you learn more about your computer and so make you more aware of what's going on as well as improving your productivity. In any case don't lose too much sleep over it...

Introduction

SiSoft Sandra (The "System ANalyser, Diagnostic and Reporting Assistant") is a Windows 95/NT information/diagnostic utility. It provides more information (including undocumented) than some commercial diagnostic software, usually included with a tools/utilities package.

SiSoft Sandra was designed to run on Windows 95. It is a 32-bit native application which takes advantage of all the improvements made to the operating system. It should run on Windows NT on Intel (x86) platforms with slightly less features. This is module dependant. Incompatible modules will not appear in the listing or will shut-down automatically depending on system characteristics.

The Sandra Program Interface

This picture is similar to what you should see when you execute Sandra:
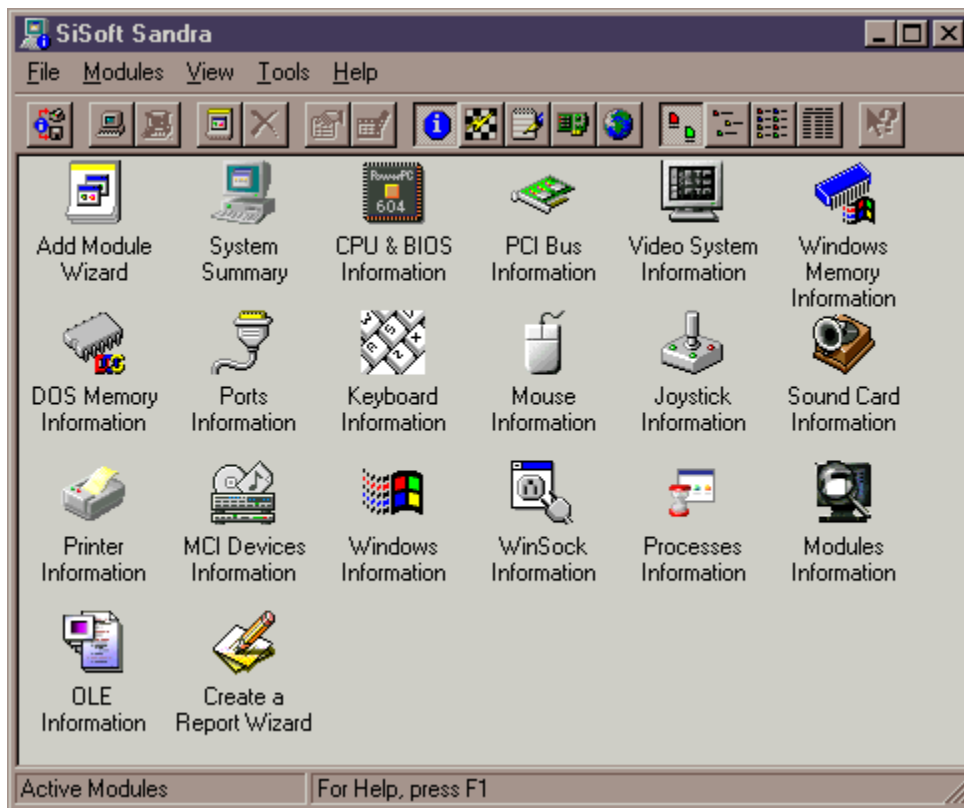
As you can see, SiSoft Sandra looks and behaves like any other Windows application - nothing different.
If you don't recognise most of the elements featured you should read your Windows manual.

Module List

The modules in SiSoft Sandra are divided into **4** classes:

- Information Modules
- Benchmarking Modules
- Listing Modules
- Testing/Diagnostic Modules

A special class is the Wizard class which interfaces with all the above classes:

- Wizard Modules

Information Modules

- System Summary
- Computer (CPU/Bus/BIOS/Chipset) Information
- Video System Information
- Printers Information
- WinSock (Internet) Information
- Joystick Information
- Sound Devices (Sound Card) Information
- Mouse Information
- Keyboard Information
- MCI (Multimedia) Devices Information
- APM (Advanced Power Management) Information
- PCI Bus & Devices Information
- Windows & DOS OS Information
- DOS Memory Information
- Windows Memory Information
- Ports (Serial/Parallel) Information
- OLE Servers Information
- Modules Information
- Processes/Threads Information
- DOS Device Drivers Information
- Drives Information
- DirectX Information

Benchmarking Modules

- CPU Benchmark
- Video (2D/3D) Benchmark
- Drives Benchmark
- CD-ROM Benchmark

Listing Modules

- Config.sys Listing
- AutoExec.bat Listing
- MsDos.sys Listing
- System.ini Listing
- Win.ini Listing
- Control.ini Listing
- Protocol.ini Listing

Testing/Diagnostic Modules

None at the moment.

Wizard Modules

- Add Module Wizard
- Create a Report Wizard
- Connect Wizard
- Registration Wizard

Command Line Options

SiSoft Sandra supports a variety of command line options:

● Create a Report in Batch Mode
> Syntax: **sandra.exe /r <report script>**
> Click here to load a sample script.

You can click **F1** for each module to find out the respective command-line option, or try **Module Properties**.

● Load up and display a module
> Syntax: **sandra.exe /m <module command-line option>**
> You can use this for shortcuts and other things. The module will only load if it is compatible with the system's set-up.

Sandra does support other command line options. However they are for internal use only so they are undocumented. Please don't use them even if you figure them out. You have been warned...

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	BadBunny@city.ac.uk *(Quake)*
	ce146@city.ac.uk *(older, SAW)*

Finger Address:	**finger ax515@city.ac.uk**
	finger ce146@city.ac.uk

UNIX Finger:	**finger ax515@city.ac.uk -l | more**
	finger ce146@city.ac.uk -l | more

Sandra WWW Pages:	**http://www.city.ac.uk/~ax515/sandra.html**
	http://www.city.ac.uk/~ce146/sandra.html

SAW WWW Pages:	**http://www.city.ac.uk/~ax515/saw.html**
	http://www.city.ac.uk/~ce146/saw.html

SiSoft Software Ltd. WWW Pages:	**http://www.city.ac.uk/~ax515/**
	http://www.city.ac.uk/~ce146/

FTP:	ftp://ftp.city.ac.uk/pub

Very Important Notes:

• Please consult the Read Me! topic for up-to-date information.

• The subject of the e-mail message should begin with the word "**Sandra**" followed by the type (Standard, Professional or Enterprise) and version, e.g. "**SiSoft Sandra Enterprise Version 1.10 : Program Errors**". E-mail is sometimes re-routed via different accounts and it may get lost otherwise...

• No snail mail will be answered unless a S.S.A.E (Stamped Self Addressed Envelope) is enclosed. Be sure that the postage is correct, I will not check it or affix the correct stamp. If you do not send an envelope or International Reply Coupons at all, do not expect a reply**!** No excuses**!**

Hardware & Software Compatibility Document

This document was written to answer questions about Sandra's hardware & software compatibility. Sandra was tested and no problems have been noticed on the listed devices. Of course, this does not mean that it will work on similar configurations...

Click here to open the document.

Read Me! Document

This document contains the latest information about SiSoft Sandra, including bugs, features, options, compatibility and various other information which does not appear elsewhere. You are strongly advised to read it.

Click here to open the document.

License Information Document

The License document, describes the terms and conditions by which **SiSoft Software Ltd.** (**C. A. Silasi**) will license other parties to distribute this software program which is intended solely for distribution as "**shareware**". No use, reproduction or distribution of the Program, or of copies of the Program, is authorised except in compliance with the terms and conditions set forth.

Click here to open the document.

Ordering Information Document

This document is the most important of them all**!**. It tells you how to order **SiSoft Sandra** and all the other things .

Click here to open the document.

Sandra vs. SAW Comparison Document

This document was written to answer questions about the differences between **SiSoft SAW** (The System Analyst for Windows) and **SiSoft Sandra** (System ANalyst, Diagnostic & Reporting Assistant). If you never heard about SAW, then do not read it - you won't learn anything new.

SAW (The System Analyst for Windows) is still available from most archives, including CICA, SimTel, WinSite, in the **/windows3/utils** or **/windows3/sysutil** folders. Look for file **saw110.zip** (latest version **1.10**) or **saw103.zip** (older 1.03). While it works best on Windows 3.1X, it works fine on Windows95. Try it, you may find that it can actually complement Sandra in some ways.

Click here to open the document.

Add Module Wizard

This wizard allows you to add modules to your display list if they are not already present (deleted) or were not compatible with your system.

• To see all the available modules make sure the 'Display Class' reads 'All Modules'. To change the display class list select the **View** menu and then click **All Modules**.
• Select the modules you want to add by holding down **Shift** while clicking on the module.
• You can select individual modules by holding down **Control** while clicking on the module.
• Click **Finish** to add the modules.
• Click **Cancel** to abort the operation.

System Summary

Shows a summary of all your system's characteristics and status. This is useful when you want to see at a glance the main features of the system. You can find detailed information elsewhere.

- Computer Type, Name
- CPU, BIOS, BUS(es) Type
- Memory Installed
- Monitor & Video Adapter(s) Installed
- Sound Card Installed
- Modem(s) Installed
- Floppy Disks, Hard Disks, CD-ROM & other drives
- Ports
- Input Devices - Keyboard, Mouse
- Windows & DOS
- Network(s) Support

- **Command Line Switch**: SummaryInfo
- **Requirements:** See elsewhere
- **OS Support**: Windows 95, NT (partially)

CPU, Motherboard and BIOS Information

Shows detailed information about the following devices and general characteristics:

- System BIOS Information
- CPU Information & Features
- Motherboard & Chipset Information
- BUS(es) Information

- **Command Line Switch**: CPUInfo
- **Requirements:** Modern BIOS, CPU, Bus
- **OS Support**: Windows 95, NT (partially)

Video System Information

Shows detailed information about the monitor, video adapter(s) and video drivers installed in the system:

- Monitor Information Characteristics
- Video Adapter Characteristics
- Video Driver Information
- Video BIOS Information
- Video Device Characteristics

- **Command Line Switch**: VideoInfo
- **OS Support**: Windows 95, NT (partially)

Printer & Fax Information

Shows detailed information about the printer(s) and fax device(s) available to this system either local or remote:

- Printer Information
- Printer Settings
- Printer Driver Support
- Printer Driver Settings
- Printer Device Characteristics

- **Command Line Switch**: PrinterInfo
- **Requirements:** Printer or Fax & drivers installed
- **OS Support**: Windows 95, NT

WinSock (Internet) Information

Shows detailed information about the Windows Sockets Interface which conects your computer to the Internet via various protocols:

• WinSock Library Information
• Local Host Information
• Network Services Information

• **Command Line Switch**: WinSockInfo
• **Requirements:** Internet connection, 32-bit WinSock stack
• **OS Support**: Windows 95, NT

Joystick Information

Shows detailed information about the joystick(s) connected to the system and the driver software:

• Joystick Driver Characteristics
• Joystick General Characteristics
• Joystick Current Status Information
• Joystick Calibration Settings

• **Command Line Switch**: JoystickInfo
• **Requirements:** Joystick, game port, joystick driver
• **OS Support**: Windows 95, NT

Sound Card Information

Shows detailed information about the sound card installed, and the various sound drivers installed:

• Wave Devices - Recording and Playback
• MIDI Devices - Control (input/output) and Playback
• Mixer Devices
• Auxiliary Devices

• **Command Line Switch**: SoundInfo
• **Requirements:** Sound card, multi-media drivers installed
• **OS Support**: Windows 95, NT

Mouse Information

Shows detailed information about the mouse input device and drivers installed:

• Mouse Information
• Mouse Driver Information
• Configuration Settings
• Windows for Pens Support
• Accessibility Features

• **Command Line Switch**: MouseInfo
• **Requirements:** Mouse or pen present
• **OS Support**: Windows 95, NT

Keyboard Information

Shows detailed information about the keyboard input device and drivers installed:

• Keyboard Information
• Keyboard Driver Information
• Configuration Settings
• Accessibility Features

• **Command Line Switch**: KeyboardInfo
• **Requirements:** Keyboard present
• **OS Support**: Windows 95, NT

Media Control Devices (MCI) Information

Shows detailed information about the Media Control Devices installed in your system:

• AVI, MPEG, VideoCD, Motion Video
• Animation
• Video Cassette Recorder (VCR)
• Laser Disc
• Wave Audio
• MIDI Sequencers
• CD Audio

• **Command Line Switch**: MCInfo
• **Requirements:** Multimedia drivers installed
• **OS Support**: Windows 95, NT

Advanced Power Management (APM) Information

Shows detailed information about the APM interface and drivers installed:

• APM Interface Information
• Power Status
• Battery Status
• System Status

• **Command Line Switch**: APMInfo
• **Requirements:** APM BIOS, APM support enabled
• **OS Support**: Windows 95, NT (partially)

PCI Bus and Devices Information

Shows detailed information about the PCI Bus(es) and the devices (cards) connected to them:

• PCI Bus Interface Information
• Device Information & Capabilities

• **Command Line Switch**: PCInfo
• **Requirements:** PCI system, version 2.00 or higher
• **OS Support**: Windows 95

Windows Operating System Information

Shows detailed information about Windows and its subsystems:

• Windows Operating System Information
• DOS Sub-System Information
• OS Properties
• OS Folders
• Regional Settings

• **Command Line Switch**: WinInfo
• **OS Support**: Windows 95, NT

DOS Memory Information

Shows information about the DOS memory available to a process in a DOS virtual machine:

- Base Memory (Low) Information
- UMB Memory Information
- EMS Memory Information
- XMS Memory Information
- HMA Memory Information
- DPMI, VCPI Memory Information

- **Command Line Switch**: DosMemInfo
- **OS Support**: Windows 95

Windows Memory Information

Shows information about the system's memory, resources, heaps and drivers:

• Physical and Virtual (Swap File) Information
• Heaps Information
• Resources Information (16-bit as well)
• Windows Base Memory Information

• **Command Line Switch**: WinMemInfo
• **OS Support**: Windows 95, NT (partially)

Ports Information

Shows detailed information about the parallel (LPT) and serial (COM) ports available to your system:

- Port Device Information
- Port Driver Information & Settings
- Device(s) Connected to Port
- Port Configuration
- Provider Capabilities

- **Command Line Switch**: PortsInfo
- **OS Support**: Windows 95, NT

OLE Servers Information

Shows detailed information about the OLE object types installed in your system and the servers which provide them:

- Object Information
- Server Information

- **Command Line Switch**: OLEInfo
- **Requirements:** OLE servers installed
- **OS Support**: Windows 95, NT

Processes Information

Shows detailed information about the processes, i.e. jobs running in your system. A process can create many threads and tasks:

- Process Information
- Module Information
- Threads Owned Information
- Modules Used Information
- Memory Footprint Information

- **Command Line Switch**: ProcessInfo
- **OS Support**: Windows 95

Modules Information

Shows detailed information about the modules loaded in your system. Tasks, processes, drivers, libraries, etc. are modules themselves:

- Libraries (DLL, etc.)
- Processes (EXE)
- Device Drivers (DRV)
- Fonts (FON)

- **Command Line Switch**: ModuleInfo
- **OS Support**: Windows 95

Drives Information

Shows detailed information about the drivers connected to your system either removable, fixed or remote.

- Drive & Controller Information
- Volume Information & Properties
- Logical Drive Information
- Disk Cache Information
- Physical Drive Information
- Extended Information
- Partition Information
- Drive Statistics & Slack Information

- **Command Line Switch**: DrivesInfo
- **OS Support**: Windows 95, NT

DOS Device Drivers Information

Shows detailed   information about the DOS device drivers installed in your system. While most have been replaced with 32-bit drivers in Windows 95 (VxDs) they still include memory managers, disk, CD-ROM drivers and other various drivers.

• Device Driver Type
• Device Driver Attributes

• **Command Line Switch**: DosDrvInfo
• **OS Support**: Windows 95

DirectX Information

Shows detailed information about the DirectX interface, devices and drivers installed in the system.

- DirectDraw Video Devices Information
- Direct3D Hardware 3D Accelerators Information
- DirectSound Sound Card Information
- DirectPlay Connections Information

- **Command Line Switch**: DirectXInfo
- **OS Support**: Windows 95, NT

CPU Benchmark

Shows how your CPU/Motherboard stacks up to other typical combinations:

- Dhrystone (MIPS) CPU Benchmark 32-bit
- Whetstone (MFLOPS) Co-Processor Benchmark 32-bit

- Test takes about 30 seconds on 586-class PCs.
- Test is repeated 3 to 5 times to get a realistic result.
- Results outside the confidence limits (5%) are discarded.

- **Command Line Switch**: CPUBench
- **OS Support**: Windows 95, NT

Video Benchmark

Shows how your Video Adapter compares to other popular video adapters in a typical system:

• Windows GDI API 2D Video Benchmark 32-bit
• DirectX (Direct3D) API 3D Video Benchmark 32-bit

• Test takes about 2 minutes on 586-class machines with 64-bit video adapters.

• **Command Line Switch**: VideoBench
• **Requirements:** DirectX 2 or later installed
• **OS Support**: Windows 95, NT

Drives Benchmark

Shows how your drive(s) and controller(s) compare to other devices in a typical system:

• Read Test: Buffered, Random, Sequential
• Write Test: Buffered, Random, Sequential
• Seek Test

• Test needs up to 512KB or more free space on the floppy disk tested.
• Test needs up to 10MB or more free space on the removable drive (ZIP/JAZZ) tested.
• Test needs up to 40MB or more free space on the hard-drive tested.
• Test needs up to 10MB or more free space on the remote/network drive tested.
• Test needs up to 4MB or more free space on the memory-drive tested.

• Test takes about 2 minutes on 586-class machines with 1GB hard disks.

• **Command Line Switch**: DriveBench
• **OS Support**: Windows 95, NT

CD-ROM Benchmark

Shows how your CD-ROM drive and controller compares to other CD-ROM drives in a typical system:

• Read Test: Buffered, Random, Sequential
• Seek Test

• Test needs a VideoCD (not CDI unless the drive supports it) of 300MB or more.

• Test takes about 2 minutes on 586-class machines with 4x (quad speed) CD-ROM.

• **Command Line Switch**: CDROMBench
• **Requirements:** CD-ROM installed
• **OS Support**: Windows 95, NT

Config.sys Listing

Shows information about the MS-DOS initialisation file **Config.sys** and its contents:

• **Command Line Switch**: Config.sys
• **OS Support**: Windows 95

AutoExec.bat Listing

Shows information about the MS-DOS initialisation file **AutoExec.bat** and its contents:

• **Command Line Switch**: AutoExec.bat
• **OS Support**: Windows 95

MsDos.sys Listing

Shows information about the MS-DOS initialisation file **MsDos.sys** and its contents:

- **Command Line Switch**: MsDos.sys
- **OS Support**: Windows 95

System.ini Listing

Shows information about the Windows initialisation file **System.ini** and its contents:

- **Command Line Switch**: System.ini
- **OS Support**: Windows 95, NT

Win.ini Listing

Shows information about the Windows initialisation file **Win.ini** and its contents:

- **Command Line Switch**: Win.ini
- **OS Support**: Windows 95, NT

Control.ini

Shows information about the Windows initialisation file **Control.ini** and its contents:

- **Command Line Switch**: Control.ini
- **OS Support**: Windows 95, NT

Protocol.ini Listing

Shows information about the Windows network initialisation file **Protocol.ini** and its contents:

- **Command Line Switch**: Protocol.ini
- **OS Support**: Windows 95, NT

Create a Report Wizard

Runs the Create a Report Wizard which helps you create a system report quickly. You can:

- Print, Fax, Save or E-Mail the report
- Create a script with the choices made for batch-mode runs
- Select only the modules that you require
- Adjust the information type/amount each module provides
- Schedule reports (System Agent)
- Run batch-mode reports (**/r** command)

Open Module

Loads (runs/executes/activates/updates) the selected module.

Run Control Panel

Loads the Windows **Control Panel** utility. This utility allows you to change your system's settings.

Click here ![icon] to run **Control Panel**.

Run Scan Disk

Runs the disk testing and fixing Windows utility **ScanDisk**. ScanDisk can detect and repair most disk problems.

Click here to run **ScanDisk**.

Run Disk Defragmenter

Runs the disk defragmenter Windows utility **Defrag**. By defragmenting your hard disk you speed it up thus improving the system's performance.

Click here to run **Defrag**.

Run System Files Configuration Editor

Runs a program which allows you to view and edit the system files (Config.sys, Autoexec.bat, Win.ini and System.ini) as well as back them up. Should be used with case as it is not a supported program.

Click here to run **System Editor**.

Run Registry Editor

Runs the registry editor utility which allows you to view, add, delete and modify registry keys and values. Unless you know what you're doing you should not try it as you may destroy the system set-up.

Click here to run **Registry Editor**.

Run Policy Editor

Runs the policy editor which allows you to grant or revoke user privileges including using system programs, changing system configuration and many other things. Useful only to system administrators and multiple users of the same system.

You must install this program yourself manually from the Windows CD. See the Admin directory. If you have the Plus! Pack you can install it using the install program.

Click here to run **Policy Editor**.

Run the IP Configuration Editor

The TCP/IP configuration editor allows you to view and set various settings which mainly relate to the Internet and/or Network connection. These should be done once at the beginning and left well alone unless you change your set-up.

You must have the TCP/IP network protocol installed.

Click here to run **IP Configuration Utility**.

Run WordPad

Runs **WordPad**, the basic word-processor application included with Windows.

Click here to run **WordPad**.

Run NotePad

Runs **NotePad**, the basic text editor application included with Windows.

Click here to run **NotePad**.

Run BackUp

Runs **Windows BackUp**, the disk back-up application. You should use this regularly (or another back-up application) to back your hard disk(s) to tape(s) or other removable media. Just in case...

If you haven't install it run **Control Panel\Add-Remove Programs\Windows Setup\Disk Tools** and select **Backup** to install it.

Click here to run **Windows Backup**.

Run Registration Clean-up

Runs the **Registration Clean-up Wizard** which is an application which checks and removes garbage from the system's registry as well as checking the validity of keys and data to a certain extent.

You need to get this yourself from Microsoft's Web Site. Search for it.

Click here to run **Registration Clean-up Wizard**.

Run System Monitor

Runs the **System Monitor**, an application which monitors system resources and shows you various graphs so you can check your system's load. This may tell you that you need more memory or a faster processor, etc.

If you haven't install it run **Control Panel\Add-Remove Programs\Windows Setup\Accessories** and select **System Monitor** to install it.

Click here to run **System Monitor**.

Run the System Analyst for Windows

Runs the **System Analyst for Windows**, a 16-bit Windows utility developed by SiSoft Software in the "recent" past. This may prove useful for information on the 16-bit Windows sub-system and 16-bit application and libraries.

See the Read Me! document for more information about it.

Run the Microsoft System Information

Runs the **Microsoft System Information**, a 32-bit Windows utility which provides most of the information Sandra provides. You may want it to compare results and make sure.

The program comes with **Microsoft Office**.

Loads SiSoft Sandra's WWW Page

Starts up your default World-Wide-Web browser and loads up the SiSoft Sandra WWW page.

If this does not work, try entering the address manually in your WWW browser. See <u>Technical Support and Points of Contact</u> topic for more information.

Update SiSoft Sandra

Starts up your default FTP client (usually you World-Wide-Web browser) and connects to a anonymous FTP server and downloads the latest version of SiSoft Sandra if available.

If this does not work, try entering the address manually in your FTP client/WWW browser. Try other WWW/FTP servers as well. See <u>Technical Support and Points of Contact</u> topic for more information.

Connect

Runs the Connect Wizard which helps you select the computer you wish to connect to using SiSoft Sandra Enterprise. Then all the information Sandra displays refers to the remote computer.

To connect to more than one computer simultaneously or run the statistics wizards you need the Enterprise version and the respective add-ons.

Disconnect

Disconnects from the current SiSoft Sandra's connection(s). This does not disconnect you from the Internet or your other network(s).

Set Sandra's Options

Allows you to set SiSoft Sandra's options. At the moment there are no options to set, all are automatic.

View Module Properties

Shows the Sandra module's properties and various other information:

• Module Information
• Display Capabilities
• Command Line Option
• OS Support
• Module Settings

View Information Modules

Shows only Information Modules.

View Benchmarking Modules

Shows only Benchmarking Modules.

View Listing Modules

Shows only Listing Modules.

View Testing/Diagnostic Modules

Shows only Testing/Diagnostic Modules.

View All Modules

Shows all modules, including Wizards.

Large Icons

Use Large Icons for the module list.

Small Icons

Use Small Icons for the module list.

List

Shows modules in a list.

Details/Report

Shows modules in a report and shows module information.

Refresh

Refreshes the module list.

Arrange modules by name

Arranges modules by name.

Arrange modules by description

Arranges modules by their description.

Auto Arrange

Auto arranges the module list

Exit Application

Closes Down SiSoft Sandra. It also disconnects all Sandra connections if any.

View Toolbar

Shows or hides the Sandra's standard toolbar.

View Status Bar

Shows or hides Sandra's status bar.

Help Topics

Displays the SiSoft Sandra's help topics.

Tip of the Day

Shows a tip of the day from Sandra's tip database. This is a standard feature on modern Windows applications.

About SiSoft Sandra

Displays program information, version and copyright details. See the <u>License Details</u> topic for more information.

Click the **Register** button to register your copy of SiSoft Sandra when you have registered and have your user ID. See the <u>Ordering Information</u> topic for more information.

Change Module Options

This Wizard allows you to:

• Select the tests the module runs. This is useful if some tests lock the computer or you don't require them.
• Adjust the amount of information to your requirements. Some information may not be needed or may be too large for some reports.

• Check or un-check the checkboxes next to the option you want to select/de-select.
• Options are saved for later use.
• While the options come into effect immediately, you may need to click the **Update** button to refresh the module's information.

Create a Report Wizard - Steps 1 to 4

This wizard allows you to select which modules you want to include in the report:

• Hold down the Shift key and click on each module you want to include in the report.
• All modules are selected by default.
• Your selection is saved for later use.
• If you want to set a module's options, click the module and then the **Options** button.

Create a Report Wizard - Step 5

Enter your comments in the edit box, where it says "Enter your comments here". If you don't type anything, that phrase will not appear in the report.

Create a Report Wizard - Step 6

Here you can choose the way you want the report to be delivered:

• **Print or Fax** - you will be able to choose the Printer or Fax you want to send the report to and also set the device settings, number of copies, etc. A print or fax needs to be installed.
• **Save to Disk** - you will be able to select the drive, path and filename for the report.
• **E-Mail** - you will be able to enter the message subject and the recipient's name(s). The report will be send as a Text file attachment. A 32-bit MAPI compatible client needs to be installed.
• **Save choices as script** - a script will be created using the current options defined in the wizard. You can run the script later using the command: **Sandra /r <script file name>**

• **Append to existing Report -** check it if you want the new report to be appended to the selected file instead of overwriting the file.

• **Encrypt Report** - available only if you save the report to disk. Only useful if you want to send the report encrypted to the author (of SiSoft Sandra). The engine is proprietary and you will be unable to read it or convert it back to text. The size of the report may increase slightly.

• **Compress Report** - available only if you save the report to disk. The report will be compressed in the ZIP 2.0 format. As the file is text the saving may be appreciable (90% saving). If you also select encrypt, the report will not be ZIP encrypted, but using Sandra's own algorithm.

Create a Report Wizard - Last Step

Here you can choose:

• **E-Mail Message's Subject** - type your own subject or accept the default.
• **E-Mail Recipient(s)** - type the address(es) of the recipients for the message. They are usually separated by ',' or ';'. You don't need to type the person's name, only the address.

• If you want to send the message to SiSoft Sandra's author, click the E-Mail Program Author button. The fields will be set-up for you.

• The field's contents will be saved for later use.

Benchmarking Status

This window notifies you that SiSoft Sandra is benchmarking your system and you should not disturb the system while this is going on. If you do the results will be lower than expected. Therefore, **don't**:

• Press any keys
• Move the mouse or click the buttons
• You should not have any background processes running (MIDI/Wave/Video playback, Internet transfers, Network transfers, etc.)

• Please wait until the test is done. Most take less than 1 minute and no test lasts more than 5 minutes

Creating Report Status

This window shows the status of report creation:

• The type of report created and on what device
• Report creation status
• Current running module
• Any warnings encountered
• Completion percentage

• At any time you can click the **Cancel** button to abort the report.

• The animations tells you if Sandra is running properly or it has locked.
• If the animation is running, don't worry if the creation takes a long time: if you include all modules (especially the disk benchmarks) the total time may be well over 10 minutes.

Tip of the Day

This window shows a tip of the day.

• Click the **Next Tip** button to see the next tip.
• Click the **Close** button to close the window.
• Un-check the **Show Tips at Startup** checkbox if you don't want the Tip of the Day window to appear each time you start SiSoft Sandra.

Registered SiSoft Sandra Required

Sorry, this module only runs on the **Registered** versions of Sandra, either **Professional** or **Enterprise**. You will need to register your version to activate this module.

To find out how to do that, see the Ordering Information topic.

Register SiSoft Sandra

This Wizard will help you register your copy of SiSoft Sandra quickly and painlessly. Just follow the instructions listed below:

• Your name, company and system id have been entered for you in the first 3 fields.
• Enter the user id you received in the 4th field and click the **OK** button.
• If the id is valid, Sandra will refresh the display list and modules.

Note: You may need to close down Sandra and re-start it in order for some modules to initialise properly when registered. If some modules fail to appear, run the **Add New Module Wizard**.

Delete Module(s)

Delete/remove the selected module(s). This operation will remove them from the display list and will unload them from memory. Note that you cannot delete Wizard modules.

To add the module(s) back, use the **Add New Module Wizard**.

No Help Available

No help is available for this area of the window.

No Help Available

No help is available for this message box.

Why isn't the CPU type/manufacturer right?

Only CPUs which existed in public-available systems before SiSoft Sandra was launched are detected. It is not feasible to "anticipate" future CPUs or even the ones at the "experimental" stage.

If the CPU is a new one which can identify itself, then it will be correctly detected.
Otherwise:

• Most CPUs will be classified as "Generic" as the manufacturer cannot be determined easily. AMD, UMC 486 CPU's are identical to Intel's, so they cannot be detected accurately.

• Some 486DX4/DX2s may be incorrectly detected as DX2/DX.

• Cyrix has licensed its CPU designs to IBM, SGS Thompson, Texas Instruments (etc.) but the chips are virtually indistinguishable so they will be all labelled as Cyrix CPUs.

• The IBM Blue Lighting DX3 is considered a Cyrix 486DX4.

• Due to the huge number of Cyrix 486 CPU variations (DX, DRX, SLC, etc.) they are not differentiated, but are classified as 486DX/DX2/DX4 or SX/SX2 only! Also, the large number of 286-to-486 and 386-to-486 upgrade chips are classified in the same way.

Why isn't the CPU clock speed right?

Only CPUs which existed in public-available systems before SiSoft Sandra was launched are detected. It is not feasible to "anticipate" future CPUs or even the ones at the "experimental" stage. Newer, higher-speed CPUs may be incorrectly detected as they may use various new techniques to achieve this speed.

If the CPU is detected correctly, but the speed is lower than expected:

• MIDI/Wave/Video playback in the background
• Other background programs
• Frantic mouse movement - yes, it's true
• Turbo switch off
• APM power saving enabled and active
• No Level 2 cache
• Incorrect BIOS set-up or BIOS settings in worst-case mode
• Bug in Sandra itself!

Why isn't the Memory Bus Speed Right?

Firstly check if the CPU type and speed are detected correctly. If the CPU is not detected correctly, the memory bus details will be erroneous too.

SiSoft Sandra does not do memory bus speed timing to determine the speed. This is not feasible in this environment. Sandra tries to determine the motherboard chipset and then queries it about various system settings.

While Sandra detects most chipsets available on the market today, it cannot detect chipsets launched after its release date. If it cannot determine the chipset, Sandra takes a guess which may be incorrect sometimes...

To keep up-to-date, make sure you update your copy of Sandra regularly.

The Dhrystone CPU Benchmark

The original Dhrystone benchmark is still widely used to measure CPU performance in industry under various versions/variants. The benchmark is designed to contain a representative sample of types of operations, mostly numerical, used by applications. Unfortunately this does not always represent a true real-life performance, but is useful to compare the speed of various CPUs.

The Dhrystone benchmark used here is a 32-bit variant of the original one which runs under UNIX. The result is determined by measuring the time it takes to perform some sequences of instructions. Due to various changes, the result is not directly comparable with other Dhrystone benchmarks. However the MIPS (**M**illion **I**nstructions **P**er **S**econd) should be the same for the same system (+5-10% variation) between benchmarks.

While the original benchmark does not compute anything, this version does check the results with the expected ones just in case there are problems with the CPU/memory.

The Whetstone Co-Processor Benchmark

The Whetstone benchmark is widely used in the computer industry as a measure of FPU or Co-Processor performance. Floating-point arithmetic is most significant in programs that require a Co-Processor. These are mostly scientific, engineering, statistical and computer-aided design programs.

The Whetstone benchmark used here is a 32-bit variant of the original one which runs under UNIX. The result is determined by measuring the time it takes to perform some sequences of floating-point instructions. Due to various changes, the result is not directly comparable with other Whetstone benchmarks. However the MFLOPS (**M**illion **FL**oating **OP**erations per **S**econd) should be the same for the same system (+5-10% variation) between benchmarks.

Why does the rating vary between sequential runs?

On most systems, the value of the rating shouldn't change by more than about +5 percent from run to run. On systems with limited memory it may vary by +10 percent due to memory swapping. If you're seeing variations higher than this, some hardware or software is probably to blame.

Do note that "limited memory" depends on operating system, installed drivers, running programs, etc. A badly configured system with 32MB may be worse memory-wise than an 8MB system...

Software Causes

• Do not move the mouse**!** Playing with the mouse will affect the result considerably**!**

• Do not play MIDI, Wave or other music playing/generating programs. AVI, MPEG or other type of movies (or TV) are out too...

• Other programs running. Close all programs. If this doesn't solve the problem, check for programs that are loaded in the Startup group, Win.ini (load and run lines) or in the AUTOEXEC.BAT file.

• Problematic device drivers. Some drivers which are not correctly configured or incompatible may slow-down the system. Also some drivers "poll" the system for various reasons, e.g., the CD-ROM auto-run feature.

• Power-saving options are turned on (APM). These options may cause the CPU to automatically slow down after even a few seconds of inactivity. Often, "inactivity" is defined as nobody typing on the keyboard or moving the mouse, even if a program is working away.

Hardware Causes

• Check that Turbo is on. Otherwise your system may run at AT-compatible speed to allow older programs to function.

• Insufficient memory for program to function properly. Close all programs. Also, you may try unloading some drivers which you don't need anymore.

• Insufficient secondary (L2) cache memory or "poor" cache controller. Some old 486 motherboards do not have enough cache (tag) to cache all the system RAM (core). Other have limited logic to cache only 8-16MB. Even many new ones cannot cache above 64MB. Evidently, at the low-price end of the motherboard market there are Pentium boards which behave the same way. Programs which reside in un-cached memory (or are moved there by Windows) will run very slowly.

• Usually you need: 256KB L2 cache for up to 32MB, 512KB cache for up to 128MB and 1MB cache for anything larger. The bigger the cache the faster the machine so if you can specify a larger cache do so.

Why does the rating vary between random runs?

You may find that running the program straight after Windows loads you get a higher benchmark rating than after running and closing programs. This should not happen in practice very often, but it does sometimes.

Software Causes

• Programs which do not clean up after closing down. Crashed programs leave "orphaned" objects which take up system resources. While Windows does garbage-collecting, sometimes you just have to restart...

• Memory fragmentation. After programs load and close down, memory may still be fragmented after memory is taken and freed. Again, due to various reasons the de-fragmentation does not yield 100% results.

Hardware Causes

• Insufficient secondary (L2) cache memory or "poor" cache controller. Some old 486 motherboards do not have enough cache (tag) to cache all the system RAM. Other have limited logic to cache only 8-16MB. Evidently, at the low-price end of the motherboard market there are Pentium boards which behave the same way. Programs which reside in un-cached memory (or are moved there by Windows) will run very slowly.

Reset All Sandra Options

If you have played with the Sandra's options and messed them up, here's how you can reset them to the built-in defaults (no need to reinstall):

- Click here to run the **Registry Editor** utility
- Double-click **HKEY_USERS**
- Double-click **.Default**
- Double-click **Software**
- Double-click **SiSoft**
- Right-click **Sandra** and select **Delete**
- Answer **Yes** to the confirmation dialogue box
- Close the Registry Editor

Reset the Module List

If you have played with the module list (swapping icons back and forth) or other module options you can reset them to the default this way:

• Click here to run the **Registry Editor** utility
• Double-click **HKEY_USERS**
• Double-click **.Default**
• Double-click **Software**
• Double-click **SiSoft**
• Double-click **Sandra**
• Right-click **Modules** and select **Delete**
• Answer **Yes** to the confirmation dialogue box
• Close the Registry Editor