

# HWiNFO Computer Hardware Diagnostic

With the hardware diagnostic tool **HWiNFO**, which is free for private use, you can view your computer's data.

**HWiNFO** is available for DOS up to Windows 11.

<https://www.hwinfo.com/download/>

**HWiNFO32** in **Portable** can perform benchmarks on Windows 95 to Windows 10 (32-bit).

**Portable** also includes **HWiNFO\_ARM64** for Raspberry Pi and smartphones.

Use **HWiNFO32** for Windows 32-bit and **HWiNFO64** for Windows 64-bit.

32-bit: Windows 95 to Windows 10 (x86)

64-bit: Windows XP (x64) to Windows 11

**HWiNFO64** ran until version 7.72 on Windows XP (64-Bit) to Windows 11.

<https://www.fosshub.com/HWiNFO-old.html>

**HWiNFO64** has been running since version 8.00 on Windows 7 (64-bit) to Windows 11.

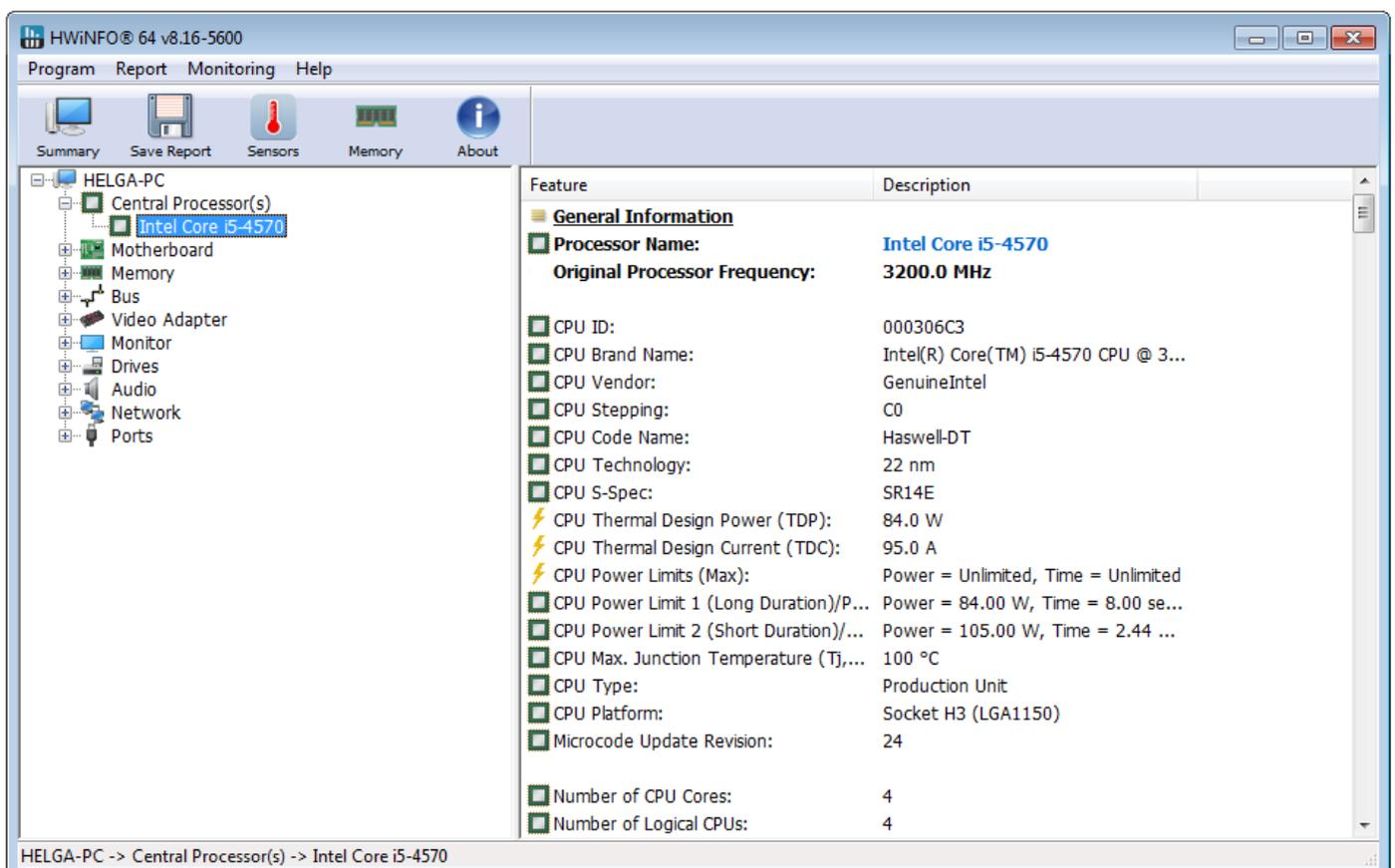
Version History -> Full version history

<https://www.hwinfo.com/version-history/>

**HWiNFO** shows all hardware components of your computer.

Example:

Central Processor: Intel Core i5-4570



The screenshot displays the HWiNFO 64 v8.16-5600 application window. The interface includes a menu bar (Program, Report, Monitoring, Help) and a toolbar with icons for Summary, Save Report, Sensors, Memory, and About. A tree view on the left shows the system hierarchy: HELGA-PC > Central Processor(s) > Intel Core i5-4570. The main pane shows a table of hardware features and their descriptions.

Feature	Description
<b>General Information</b>	
Processor Name:	Intel Core i5-4570
Original Processor Frequency:	3200.0 MHz
CPU ID:	000306C3
CPU Brand Name:	Intel(R) Core(TM) i5-4570 CPU @ 3...
CPU Vendor:	GenuineIntel
CPU Stepping:	C0
CPU Code Name:	Haswell-DT
CPU Technology:	22 nm
CPU S-Spec:	SR14E
CPU Thermal Design Power (TDP):	84.0 W
CPU Thermal Design Current (TDC):	95.0 A
CPU Power Limits (Max):	Power = Unlimited, Time = Unlimited
CPU Power Limit 1 (Long Duration)/P...	Power = 84.00 W, Time = 8.00 se...
CPU Power Limit 2 (Short Duration)/...	Power = 105.00 W, Time = 2.44 ...
CPU Max. Junction Temperature (Tj),...	100 °C
CPU Type:	Production Unit
CPU Platform:	Socket H3 (LGA1150)
Microcode Update Revision:	24
Number of CPU Cores:	4
Number of Logical CPUs:	4

HELGA-PC -> Central Processor(s) -> Intel Core i5-4570

## Motherboard: ASUS B85M-E

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar is expanded to 'Motherboard'. The main window displays the following details:

Feature	Description
<b>Computer</b>	
Computer Brand Name:	XTPC XTPC Office 3004BM
<b>Motherboard</b>	
Motherboard Model:	ASUS B85M-E
Motherboard Chipset:	Intel B85 (Lynx Point)
Motherboard Slots:	1xPCI, 2xPCI Express x1, 2xPCI Exp...
PCI Express Version Supported:	v3.0
USB Version Supported:	v3.0
PCH PEG/DMI Ratio:	5/5
<b>BIOS</b>	
BIOS Manufacturer:	American Megatrends
BIOS Date:	04/04/2018
BIOS Version:	3602
UEFI BIOS:	Capable
Super-I/O/LPC Chip:	Nuvoton NCT6791D
Trusted Platform Module (TPM) Chip:	Not Found

HELGA-PC -> Motherboard

## Memory: 2 x Crucial 4GB DDR3-1600 / PC3-12800

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar is expanded to 'Memory'. The main window displays the following details:

Feature	Description
<b>General Module Information</b>	
Module Number:	0
Module Size:	4 GBytes
Memory Type:	DDR3 SDRAM
Module Type:	Unbuffered DIMM (UDIMM)
Memory Speed:	800.0 MHz (DDR3-1600 / PC3-12800)
Module Manufacturer:	Crucial Technology
Module Part Number:	CT51264BA160BJ.C8F
Module Revision:	1
Module Serial Number:	4741 (85120000)
Module Manufacturing Date:	Year: 2000, Week: 0
Module Manufacturing Location:	8
SDRAM Manufacturer:	Micron
Error Check/Correction:	None
<b>Module Characteristics</b>	
Row Address Bits:	16
Column Address Bits:	10
Number Of Banks:	8
Module Density:	4096 Mb
Number Of Ranks:	1
Device Width:	8 bits
Bus Width:	64 bits

HELGA-PC -> Memory -> Row: 0 [BANK 0/ChannelA-DIMM0] - 4 GB PC3-12800 DDR3 SDRAM Crucial Technology CT51264BA160BJ.C8F

## Bus: Intel Haswell-DT

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar shows a tree view of system components, with 'Bus' expanded to 'PCI Bus #0', and 'Intel Haswell-DT - Host Bridge/DRAM Controller' selected. The main panel displays the following details:

Feature	Description
<b>General Information</b>	
Device Name:	Intel Haswell-DT - Host Bridge/
Original Device Name:	Intel Haswell-DT - Host Bridge/
Device Class:	Host-to-PCI Bridge
Revision ID:	6
PCI Address (Bus:Device:Function) N...	0:0:0
PCI Latency Timer:	0
Hardware ID:	PCI\VEN_8086&DEV_0C00&SUBSYS
<b>System Resources</b>	
Interrupt Line:	N/A
Interrupt Pin:	N/A
<b>Features</b>	
Bus Mastering:	Enabled
Running At 66 MHz:	Not Capable
Fast Back-to-Back Transactions:	Capable
<b>Driver Information</b>	
Driver Manufacturer:	Microsoft
Driver Description:	PCI Standard-Host-CPU-Brücke
Driver Provider:	Microsoft

HELGA-PC -> Bus -> PCI Bus #0 -> Intel Haswell-DT - Host Bridge/DRAM Controller

## Video Adapter: Intel HD Graphics 4600

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar shows a tree view of system components, with 'Video Adapter' expanded to 'Intel HD Graphics 4600' selected. The main panel displays the following details:

Feature	Description
<b>Video Chipset</b>	
Video Chipset:	Intel HD Graphics 4600
Video Chipset Codename:	Haswell GT2
Video Memory:	1024 MBytes
<b>Video Card</b>	
Video Card:	Intel Haswell-DT GT2 - Integrated Graphics [ASUS]
Video Bus:	PCI
GPU Type:	Integrated
Video RAMDAC:	Internal
<b>Performance</b>	
Graphics Processor Clock:	599.4 MHz
Graphics Memory Clock:	665.0 MHz
Resizable BAR (ReBAR) Support:	Not Supported
Hardware ID:	PCI\VEN_8086&DEV_0412&SUBSYS_85341043&REV_06
PCI Location (Bus:Dev:Fnc):	0:02:0
<b>Driver Information</b>	
Driver Manufacturer:	Intel Corporation
Driver Description:	Intel(R) HD Graphics 4600

HELGA-PC -> Video Adapter -> Intel HD Graphics 4600

## Monitor: BenQ E900

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar is expanded to 'Monitor', and 'BenQ E900 (Analog)' is selected. The main pane displays the following details:

Feature	Description
<b>General Information</b>	
Monitor Name:	BenQ E900 (Analog)
Monitor Name (Manuf):	BenQ E900
Serial Number:	VA805767SL0
Date Of Manufacture:	Week: 42, Year: 2008
Monitor Hardware ID:	Monitor\BNQ7903
Max. Vertical Size:	30 cm
Max. Horizontal Size:	38 cm
Horizontal Frequency:	31 - 83 kHz
Vertical Frequency:	55 - 76 Hz
Maximum Pixel Clock:	140 MHz
<b>Advanced parameters</b>	
Input Signal:	Analog: 0.700 V / 0.300 V (1.000 V p-p)
Display Type:	RGB color
Gamma Factor:	2.20
<b>DPMS Modes</b>	
Standby:	Not Supported
Suspend:	Not Supported
Active Off:	Supported
Standard Colour Space (sRGB) Default:	Supported

HELGA-PC -> Monitor -> BenQ E900 (Analog)

## Drives: Seagate ST500DM002-1BD142, SAMSUNG HD322HJ, TSSTcorp CDDVDW SH-224DB

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar is expanded to 'Drives', and '(S)ATA/ATAPI Drives' is selected, with 'ST500DM002-1BD142' highlighted. The main pane displays the following details:

Feature	Description
<b>General Information</b>	
Drive Controller:	Serial ATA 6Gb/s @ 6Gb/s
Host Controller:	IDE-Kanal
Drive Model:	Seagate ST500DM002-1BD142
Drive Firmware Revision:	KC48
Drive Serial Number:	Z3TW6Y8L
World Wide Name:	5000C500659CCC7C
Drive Capacity:	476,940 MBytes (500 GB)
Media Rotation Rate:	7200 RPM
ATA Major Version Supported:	ATA/ATAPI-5, ATA/ATAPI-6, ATA/ATAPI-7, ATA...
ATA Minor Version Supported:	ATA8-ACS version 4
ATA Transport Version Supported:	SATA 3.0
Drive Letter(s):	C:, E:, I:
<b>Drive Geometry</b>	
Number of Cylinders:	16383
Number of Heads:	16
Sectors Per Track:	63
Number Of ECC Bytes:	4
Number of Sectors:	16514064
Total 48-bit LBA Sectors:	976773168
Logical Sector Size:	512 Bytes
Cache Buffer Size:	16384 KBytes

HELGA-PC -> Drives -> (S)ATA/ATAPI Drives -> ST500DM002-1BD142

## Audio: RealTek ALC887

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar is expanded to 'Audio', and 'Intel Lynx Point PCH - High Definition Audio' is selected. The main pane displays the following details:

Feature	Description
<b>Audio Adapter:</b>	<b>Intel Lynx Point PCH - High Definition Audio Controller [C2]</b>
Audio Controller Hardware ID:	PCI\VEN_8086&DEV_8C20&SUBSYS_85761043&REV_05
<b>High Definition Audio Codec:</b>	<b>RealTek ALC887</b>
Audio Codec Hardware ID:	HDAUDIO\FUNC_01&VEN_10EC&DEV_0887&SUBSYS_10438576...
<b>Driver Information</b>	
Driver Manufacturer:	Realtek Semiconductor Corp.
Driver Description:	Realtek High Definition Audio
Driver Provider:	Realtek Semiconductor Corp.
Driver Version:	6.0.1.7770
Driver Date:	15-Mar-2016
DeviceInstanceId	HDAUDIO\FUNC_01&VEN_10EC&DEV_0887&SUBSYS_10438576...

HELGA-PC -> Audio -> Intel Lynx Point PCH - High Definition Audio Controller [C2]

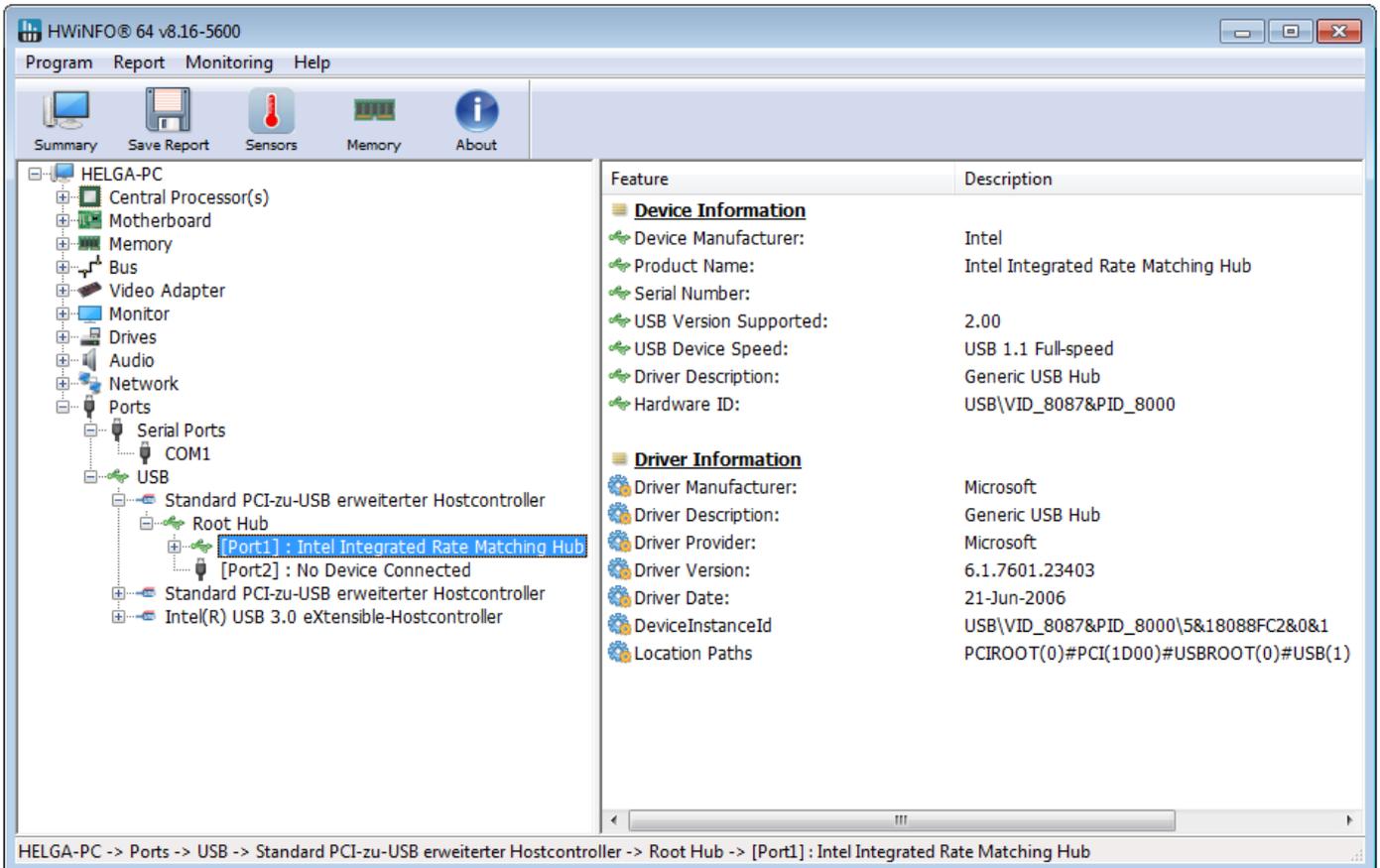
## Network: RealTek RTL8168/8111 PCI-E Gigabit Ethernet NIC

The screenshot shows the HWiNFO 64 v8.16-5600 interface. The left sidebar is expanded to 'Network', and 'RealTek Semiconductor RTL8168/8111 PCI-E Gigabit Ethernet NIC' is selected. The main pane displays the following details:

Feature	Description
<b>General Information</b>	
<b>Network Card:</b>	<b>RealTek Semiconductor RTL8168/8111 PCI-E Gigabit Ethernet NIC</b>
<b>Vendor Description:</b>	<b>Realtek PCIe GBE Family Controller</b>
MAC Address:	D8-50-E6-BA-3A-EE
<b>Capabilities</b>	
Maximum Link Speed:	1 Gbps
Current Link Speed:	100 Mbps
Transmit Buffer Size:	193792 Bytes
Receive Buffer Size:	775168 Bytes
Hardware ID:	PCI\VEN_10EC&DEV_8168&SUBSYS_85051043&REV_09
<b>Driver Information</b>	
Driver Manufacturer:	Realtek
Driver Description:	Realtek PCIe GBE Family Controller
Driver Provider:	Realtek
Driver Version:	7.92.115.2015
Driver Date:	15-Jan-2015
DeviceInstanceId	PCI\VEN_10EC&DEV_8168&SUBSYS_85051043&REV_09\4&33CE3517&...
Location Paths	PCIROOT(0)#PCI(1C02)#PCI(0000)

HELGA-PC -> Network -> RealTek Semiconductor RTL8168/8111 PCI-E Gigabit Ethernet NIC

Ports: Serial COM1, USB 2.0, USB 3.0



With the information about the Motherboard Model, you can download the Motherboard manual and drivers for the components on the Motherboard from the manufacturer.

There you can also look for different driver versions, for example for the Motherboard Chipset (Chipset), Video Chipset (VGA Drivers), Audio Codec (Audio) and the Network Card (LAN). In most cases, the latest driver version is recommended.

With the information about the components on the Motherboard, you can also see from the manufacturer under CPU / Memory Support which Central Processor (CPU Support) and Memory (Memory / Device Support) the Motherboard can be upgraded with.

ASUS Support

[https://www.asus.com/supportonly/b85m-e/helpdesk\\_cpu/](https://www.asus.com/supportonly/b85m-e/helpdesk_cpu/)

<https://www.asus.com/support/>

ASRock Support

<https://www.asrock.com/support/>

Gigabyte Support

<https://www.gigabyte.com/Support>

MSI Support

<https://www.msi.com/support>