



NWinfo



NWinfo is a Win32 program for collecting system and hardware information.

Features

- Retrieves detailed information about SMBIOS, CPUID, S.M.A.R.T., PCI, EDID, and more.
- Supports exporting in JSON, YAML, and HTML formats.
- Gathers information directly without relying on WMI.

Download

- Source code: <https://github.com/a1ive/nwinfo>
- Latest release: [GitHub Releases](#)
- Nightly build: [Direct link](#)
- Libraries: [Direct link](#)
- Github actions: [GitHub Actions](#)

GUI (gnwinfo)

OS Support

Windows 7 and later

Language Support

- English
- Chinese (Simplified)
- Chinese (Traditional)
- French
- German
- Greek
- Italian
- Japanese
- Korean
- Polish
- Portuguese (Brazil)
- Russian
- Slovenian
- Spanish
- Swedish
- Turkish

Command-Line Options

- /debug
Print debug information to stdout.

CLI (nwinfo)

OS Support

Windows XP and later

Usage

```
.\nwinfo.exe OPTIONS
```

Example Commands

```
.\nwinfo.exe --format=json --output=report.json --cp=UTF8 --sys --disk
```

Exports system and disk information to `report.json` in JSON format.

```
.\nwinfo.exe --pci=03
```

Prints information about all PCI devices in the class code `03` (Display Controllers).

```
.\nwinfo.exe --format=html --output=report.html --net=active,phys,ipv4
```

Exports active physical network interfaces with IPv4 addresses to `report.html` in HTML format.

General Options

- `--format= FORMAT`
Specify output format.
`FORMAT` can be `YAML` (default), `JSON`, `LUA`, `TREE`, or `HTML`.
- `--output= FILE`
Write to `FILE` instead of printing to the screen.
- `--cp= CODEPAGE`
Set the code page of output text.
`CODEPAGE` can be `ANSI` or `UTF8`.
- `--human`
Display numbers in a human-readable format.
- `--temp-unit= UNIT`
Specify the temperature unit.
`UNIT` can be `c` (Celsius, default), `F` (Fahrenheit), or `K` (Kelvin).
- `--bin= FORMAT`
Specify binary format.
`FORMAT` can be `NONE` (default), `BASE64`, or `HEX`.
- `--debug`
Print debug information to stdout.
- `--hide-sensitive`
Hide sensitive data (MAC & S/N).
- `--driver= NAME`
Specify the driver name.
Available drivers are `CPUZ162`, `NwHwIo`, and `PawnIO`.
Use `NONE` to disable driver usage.
By default, the program searches for and loads drivers in the order shown above. See [Supported Drivers](#) for details.

Hardware Details

- `--cpu[= FILE ]`
Print CPUID info.
A driver is required to access sensors, such as temperature sensors.
Intel, AMD, and VIA/Zhaoxin CPUs are supported.
`FILE` specifies the filename of the CPUID dump.
- `--net[= FLAG, ... ]`
Print network info.
 - `GUID`
Specify the GUID of the network interface, e.g., `{B16B00B5-CAFE-BEEF-DEAD-001453AD0529}`.
 - `FLAGS`
 - `ACTIVE` Exclude inactive network interfaces.
 - `PHYS` Exclude virtual network interfaces.
 - `ETH` Include Ethernet network interfaces.

WLAN Include IEEE 802.11 wireless addresses.

IPV4 Show IPv4 addresses only.

IPV6 Show IPv6 addresses only.

- **--board**

Print mainboard info.

- **--acpi[= SGN]**

Print ACPI info.

A driver is required to access some ACPI tables.

SGN specifies the ACPI table signature, e.g., **FACP** (Fixed ACPI Description Table).

- **--smbios[= TYPE, ...]**

Print SMBIOS info.

TYPE specifies the SMBIOS structure types, e.g., **2** or **2,4,17** .

- **--disk[= FLAG, ..]**

Print disk info.

- **PATH**

Specify the disk path, e.g., **\\.\PhysicalDrive0** or **\\.\CdRom0** .

- **FLAGS**

NO-SMART Do not print disk S.M.A.R.T. info.

NO-VOL Do not print volume info.

PHYS Exclude virtual drives.

CD Include CD-ROM devices.

HD Include hard drives.

NVME Include NVMe devices.

SATA Include SATA devices.

SCSI Include SCSI devices.

SAS Include SAS devices.

USB Include USB devices.

- **--smart= FLAG, ...**

Specify S.M.A.R.T. features.

Features enabled by default:

WMI , **ADATA** , **HIDENOSMART** , **ATA** , **SAT** , **SUNPLUS** , **IODATA** , **LOGITEC** ,
PROLIFIC , **USBMICRON** , **CYPRESS** , **JMICRON** , **ASMEDIA** , **REALTEK** ,
MEGARAID , **VROC** , **HIDERAID** , and **CSMIAUTO** .

Use **DEFAULT** to specify the above features.

Other features are **ADVANCED** , **HD204UI** , **MEMORY** , **RTK9220DP** ,
ASM1352R , **AMDRC2** , **NOCSMI** , and **CSMIRAID** .

- **--display[= FILE]**

Print EDID info.

FILE specifies the filename of the EDID dump.

- **--pci[= CLASS, ..]**

Print PCI info.

CLASS specifies PCI device class codes, e.g., **0c05** or **03,0c05** .

- **--spd[= FILE]**

Print DIMM SPD info.

A driver is required to access SPD data.

⚠ This option may damage the hardware.

`FILE` specifies the filename of the SPD dump.

- `--usb`
Print USB info.
- `--battery`
Print battery info.
- `--uefi[= FLAG, . . ]`
Print UEFI info.
 - `FLAGS`
 - `CERT` Parse UEFI Secure Boot signature databases.
 - `MENU` Print UEFI boot menus.
 - `VARS` List all UEFI variables.
- `--audio`
Print audio devices.
- `--gpu`
Print GPU utilization and sensors (e.g. temperature).
GPU drivers are required to access this information.
NVIDIA (NVAPI), AMD (ADL2), and Intel (IGCL) are supported.
- `--device[= TYPE ]`
Print device tree.
`TYPE` specifies the device type, e.g., `ACPI` , `SWD` , `PCI` , or `USB` .
- `--hid` Print Human Interface Devices (HID) info.
- `--sensors[= SRC, . . ]`
Print sensor readings.
`SRC` specifies the sensor provider.
Available providers are:
`LHM` , `HWINFO` , `GPU-Z` ,
`CPU` , `DIMM` , `GPU` , `SMART` , `DISK` , `NET` , `IMC` , `INTEL` , and `ZEN` .

System Information

- `--sys`
Print system info.
- `--shares`
Print mapped network drives and shared folders.
- `--public-ip`
Print public IP address.
- `--product-policy[= NAME ]`
Print ProductPolicy.
`NAME` specifies the product policy name.
- `--font`
Print installed fonts.
- `--drv-store[= OFFLINE_PATH ]` Print Windows driver store info. `OFFLINE_PATH` specifies the path of the offline system, e.g., `D:\` or `E:\\Backup` .

PowerShell Script for System Diagnostics

`hw_report.ps1` is a PowerShell script that generates and displays a detailed hardware and system report using `nwinfo`.

You might need to temporarily allow script execution by running the following command:

```
Set-ExecutionPolicy -Scope Process -ExecutionPolicy Bypass
```

Supported Hardware

CPU

Vendor	CPUID	Temperature	Voltage	Power	Clock
Intel	✓	✓	✓	✓	✓
AMD	✓	✓	✓	✓	✓
VIA / Zhaoxin	✓	✓	✗	✗	✗

GPU / NPU

Vendor	API	GPU Usage	VRAM	Temperature	Power	Frequency	Voltage	Fan Speed
NVIDIA	NVAPI	✓	✓	✓	✓	✓	✓	✓
AMD	ADL2	✓	✓	✓	✓	✓	✓	✓
Intel	IGCL	✓	✓	✓	✓	✓	✓	✓
Generic NPU	DXCore	✓	✓	✗	✗	✗	✗	✗
Generic GPU	D3D	✓	✓	✓	✓	✗	✗	⚠

Notes:

- **VRAM** refers to the dedicated video memory only.
- **Frequency** refers to the GPU core frequency.
- **Power** refers to the board power draw.

Memory Module SPD / IMC

- SMBus: Intel PCH, PIIX4 / AMD SB / Hygon
- Memory Module: SDR, DDR, DDR2, DDR3, DDR4, DDR5
- Thermal Sensor: DDR4, DDR5
- IMC: Intel Core 2nd Gen and later / AMD Zen and later

HDD / SSD S.M.A.R.T.

NWinfo uses [libcdi](#) to access S.M.A.R.T. data.

[libcdi](#) is a dynamic library based on [CrystalDiskInfo](#).

Note: NVMe requires Windows 10 or later.

Supported Sensor Providers

The `--sensors[=SRC, ...]` option reads sensor data from the following providers. If `SRC` is omitted, NWinfo tries all providers and prints the ones that initialize successfully.

Provider	Source	Notes
LHM	LibreHardwareMonitor	Uses <code>liblhm.dll</code> and <code>LibreHardwareMonitorLib.dll</code> to enumerate LibreHardwareMonitor sensors.
HWINFO	HWiNFO shared memory	Requires HWiNFO to be running with sensor shared memory available.
GPU-Z	GPU-Z shared memory	Requires GPU-Z to be running.
CPU	Built-in CPU provider	Reports CPU utilization, frequency, and MSR-based CPU readings. A driver is required for MSR sensors.
DIMM	Built-in memory provider	Reports memory usage and DIMM thermal sensors when available. A driver is required for SMBus thermal sensors.
GPU	Built-in GPU provider	Reports GPU utilization, memory usage, temperature, power, clocks, voltage, and fan speed through supported GPU APIs.
SMART	Built-in S.M.A.R.T. provider	Reports disk health, temperature, lifetime/wear, and related S.M.A.R.T. data through <code>libcdi</code> .
DISK	Built-in disk I/O provider	Reports disk throughput, IOPS, latency, utilization, queue depth, and counters.
NET	Built-in network provider	Reports network throughput, total traffic, link speed, and WLAN signal quality.
IMC	Built-in memory controller provider	Reports integrated memory controller data for supported Intel and AMD platforms. A driver is required.
INTEL	Built-in Intel platform provider	Reports Intel-specific MCH, PCH, and MSR sensor data. A driver is required.
ZEN	Built-in AMD Zen provider	Reports AMD Zen SMU/SMN sensor data. A driver is required.

Supported Drivers

The program searches for and loads drivers in the following order: **CPUZ162 -> NwHwlo -> PawnIO**.

Driver	Bundled	CPU Sensor	SPD	IMC
PawnIO	✓Full	✓	✓	✓
NwHwlo	✓Lite	✓	✓	✓
CPUZ162	✗	✓	✓	✓

Note: The program can still run normally without a driver, but some hardware information may not be accessible.

PawnIO Driver Installation

PawnIO driver requires Windows (x64) 10 1809 or later.

Install the PawnIO driver silently using the following command:

```
.\PawnIOSetup.exe -install -silent
```

Uninstall the PawnIO driver silently using the following command:

```
.\PawnIOSetup.exe -uninstall -silent
```

Delete the PawnIO driver from the Windows DriverStore:

```
REM Find the <OEMXXX.inf> name of the PawnIO driver
pnputil /enum-drivers
REM Delete the driver (replace oemXXX.inf with the name identified in the previous step)
pnputil /delete-driver <oemXXX.inf> /uninstall
```

File List

This section describes all files included in the final release package.

File Name	Category	Description
nwinfo.exe	Executable	Main executable (x64)
nwinfox86.exe	Executable	Main executable (x86)
gnwinfo.exe	Executable	GUI executable (x64)
gnwinfox86.exe	Executable	GUI executable (x86)
libcdi.dll	Library	S.M.A.R.T. data access library (x64)
libcdix86.dll	Library	S.M.A.R.T. data access library (x86)
hw_report.ps1	Script	Example PowerShell script
gnwinfo.ini	Configuration	Configuration file for the GUI
pci.ids	Database	PCI database
usb.ids	Database	USB database
jep106.ids	Database	JEDEC memory module vendor database
PawnIOSetup.exe	Driver	PawnIO driver installer (x64)
IntelMCHBAR.bin	PawnIO Module	Intel MCHBAR module for the PawnIO driver
IntelMSR.bin	PawnIO Module	Intel MSR module for the PawnIO driver
IntelPCHThermal.bin	PawnIO Module	Intel PCH Thermal module for the PawnIO driver
AMDFamily0F.bin	PawnIO Module	AMD K8 MSR module for the PawnIO driver
AMDFamily10.bin	PawnIO Module	AMD K10 MSR module for the PawnIO driver
AMDFamily17.bin	PawnIO Module	AMD Zen MSR module for the PawnIO driver
RyzenSMU.bin	PawnIO Module	AMD Ryzen SMU module for the PawnIO driver
SmbusPIIX4.bin	PawnIO Module	PIIX4 SMBus module for the PawnIO driver
SmbusI801.bin	PawnIO Module	I801 SMBus module for the PawnIO driver
LpcIO.bin	PawnIO Module	LPC I/O module for the PawnIO driver
ZhaoxinMSR.bin	PawnIO Module	Zhaoxin MSR module for the PawnIO driver

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- [CrystalDiskInfo](#)
- [Nuklear](#)
- [stb](#)
- [optparse](#)
- [hwdata](#)
- [PawnIO](#)
- [Paper Icon Theme](#)