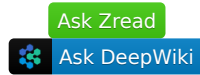




# NWinfo

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**NWinfo** is a Win32 program that allows you to obtain system and hardware information.

## Features

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- 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

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- Source code: <https://github.com/a1ive/nwinfo>
- Latest Release: [GitHub Releases](#)
- Nightly Build: [Github Actions](#) | [Direct Link](#)
- Libraries: [Direct Link](#)

# CLI (nwinfo)

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## 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 screen.
- `--cp= CODEPAGE`  
Set the code page of output text.  
`CODEPAGE` can be `ANSI` or `UTF8`.
- `--human`  
Display numbers in human readable format.
- `--bin= FORMAT`  
Specify binary format.  
`FORMAT` can be `NONE` (default), `BASE64` or `HEX`.
- `--debug`  
Print debug info to stdout.
- `--hide-sensitive`  
Hide sensitive data (MAC & S/N).

## Hardware Details

- `--cpu[= FILE ]`  
Print CPUID info.  
Driver is required to access sensors (e.g. temperature).  
Intel, AMD and VIA/Zhaoxin CPUs are supported.  
`FILE` specifies the file name 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.
- `--acpi[= SGN ]`  
Print ACPI info.  
Driver is required to access some ACPI tables.  
`SGN` specifies the signature of the ACPI table, e.g. `FACP` (Fixed ACPI Description Table).
- `--smbios[= TYPE, ... ]`  
Print SMBIOS info.

`TYPE` specifies the types of the SMBIOS table, e.g. `2` or `2,4,17` .

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

Print disk info.

- `PATH`

Specify the path of the disk, e.g. `\\.\PhysicalDrive0` , `\\.\CdRom0` .

- `FLAGS`

`NO-SMART` Don't print disk S.M.A.R.T. 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 file name of the SPD dump.

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

Print PCI info.

`CLASS` specifies the class codes of PCI devices, e.g. `0c05` or `03,0c05` ..

- `--spd[= FILE ]`

Print DIMM SPD info.

Driver is required to access SPD data.

⚠ This option may damage the hardware.

`FILE` specifies the file name of the SPD dump.

- `--usb`

Print USB info.

- `--battery`

Print battery info.

- `--uefi[= FLAG, .. ]`

Print UEFI info.

- `FLAGS`

`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 type of the devices, e.g. `ACPI` , `SWD` , `PCI` , or `USB` .
- `--sensors[=SRC,..]`  
Print sensors.  
`SRC` specifies the provider of sensors.  
Available providers are:  
`LHM` , `HWINFO` , `GPU-Z` , `CPU` , `DIMM` , `GPU` , `SMART` , `NET` and `IMC` .

## System Information

- `--sys`  
Print system info.
- `--shares`  
Print network mapped drives and shared folders.
- `--public-ip`  
Print public IP address.
- `--product-policy[= NAME ]`  
Print ProductPolicy.  
`NAME` specifies the name of the product policy.
- `--font`  
Print installed fonts.

## PowerShell Script for System Diagnostics

`hw_report.ps1` is a PowerShell script designed to generate and display 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

Vendor	API	GPU Usage	VRAM	Temperature	Power	Frequency	Voltage	Fan Speed
NVIDIA	NVAPI	✓	✓	✓	✓	✓	✓	✓
AMD	ADL2	✓	✓	✓	✓	✓	✓	✓
Intel	IGCL	✓	✓	✓	✓	✓	✓	✓
Generic	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

- SMBus: Intel PCH, PIIX4 / AMD SB / Hygon
- Memory Module: SDR, DDR, DDR2, DDR3, DDR4, DDR5
- Thermal Sensor: DDR4, DDR5

## 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 Drivers

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

Driver	Filename	Bundled	CPU Sensor	SPD	ACPI	IMC
PawnIO	PawnIO.sys	✓	⚠	✓	✗	✗
CPUZ162	cpuz162x64.sys	✗	✓	✓	✓	✓
NwHwlo	NwHwlox64.sys	✗	✓	✓	✗	✓

**Note:** The program can still run normally even without drivers, but some hardware information may not be accessible.

## PawnIO Driver Installation

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
```

# 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
pnpiids	Database	PnP (monitor) vendor database
jep106.ids	Database	JEDEC memory module vendor database
PawnIOSetup.exe	Driver	PawnIO driver installer (x64)
IntelMSR.bin	PawnIO Module	Intel MSR module for PawnIO driver
AMDFamily0F.bin	PawnIO Module	AMD K8 MSR module for PawnIO driver
AMDFamily10.bin	PawnIO Module	AMD K10 MSR module for PawnIO driver
AMDFamily17.bin	PawnIO Module	AMD Zen MSR module for PawnIO driver
RyzenSMU.bin	PawnIO Module	AMD Ryzen SMU module for PawnIO driver
SmbusPIIX4.bin	PawnIO Module	PIIX4 SMBus module for PawnIO driver
SmbusI801.bin	PawnIO Module	I801 SMBus module for PawnIO driver

# Licenses & Credits

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- [libcpuid](#)
- [CrystalDiskInfo](#)
- [Nuklear](#)
- [stb](#)
- [optparse](#)
- [hwdata](#)
- [PawnIO](#)