

# Interactive BIOS simulator

## HP ProBook 450G6

Welcome to the interactive BIOS simulator for the  
HP ProBook 450 G6

### **Here's how to use it...**

[BIOS Utility Menus](#): (Click the link to navigate to the individual menus)

On this page you will find thumbnail images of each of the product's BIOS utility menus. To view a specific menu in greater detail, simply click that thumbnail. Just as in the live BIOS, on each menu, you can select the tab of each of the other utility menus to navigate directly to that menu.

### Menu options:

While the menu options cannot be toggled, many of them offer item specific information about that option. To view this information, use the cursor to rollover the option and the information will present in a pane on the right of the BIOS screen.

### **That's it!**

**On every page there is a link that brings you back to either this Welcome page or the BIOS Utility Menus page enabling you to navigate to whatever BIOS option you wish to review.**

# BIOS Utility Menus

Main

Security

Advanced

UEFI Drivers



Item Specific Help

Suppress POST Errors



BASIC SYSTEM INFORMATION

|              |  |
|--------------|--|
| Product Name | HP ProBook 450 G6                        |
| Processor 1  | Intel(R) Core(TM) i5-8265U CPU @ 1.60GHz |
| Memory Size  | 16384 MB                                 |
| System BIOS  | R71 Ver. 80.30.06 08/28/2018             |

SERVICE -----

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Born On Date                         | 00/00/0000                           |
| Serial Number                        | 5CD8355B65                           |
| SKU Number                           | X8KSKU1#ABA                          |
| Universally Unique Identifier (UUID) | 811121A4-FD73-26A3-3D20-968261AE8605 |
| Asset Tracking Number                | 5CD8355B65                           |

Item Specific Help

Help



ADVANCED SYSTEM INFORMATION

Product Name HP ZBook Studio G5  
Memory Size 16384 MB

PROCESSOR 1 -----

ProcessorType Intel(R) Xeon(R) E-2176M CPU @ 2.70GHz  
Cache Size (L1/L2/L3) 384 KB / 1536 KB / 12 MB  
Processor Speed 2600 MHz  
MicroCode Revision 84  
Processor Stepping A  
Memory Speed 2667 MHz  
Bottom-Slot 1(left) 8 GB Hynix/Hyundai  
Bottom-Slot 2(right) 8 GB Hynix/Hyundai

Item Specific Help

Help



FIRMWARE -----

|  |                              |
|--|------------------------------|
| System BIOS                                | Q71 Ver. 80.35.02 03/03/2018 |
| ME Firmware Version                        | 12.0.0.1052                  |
| ME Firmware Mode                           | Enabled                      |
| Video BIOS Version                         | nVidia 86.07.4A.00.3D        |
| Reference Code Revision                    | 7.0.1C.58                    |
| Embedded Controller Firmware Version       | 16.1A.13                     |
| USB Type-C Controller(s) Firmware Version: | CCG5 : 6.12.0                |

Item Specific Help

Help



SERVICE -----

|                                      |  |
|--------------------------------------|--|
| Born On Date                         | 00/00/0000   |
| Serial Number                        | 5CD8103G6P   |
| SKU Number                           | XW1SKU1#ABA  |
| Universally Unique Identifier (UUID) | B9A3BE55-53C5-F275-2A25-AFFEBF2ACF63                             |
| Asset Tracking Number                | 5CD8103G6P   |
| Feature Byte                         | 3X476J6S6b7B7M7R7U7W7m7saBaEapaqauwbVbXbhcAd6<br>dUdpdqfXgdhK.B8 |
| Build ID                             | 18WWZIAT6av#SABA#DABA  |
| Product Family                       | 103C_5336AN HP ZBook Studio                                      |
| System Board ID                      | 8427   |
| System Board CT Number               | PXW1AAF8JAI00Y   |
| Primary Battery Serial Number        | 00113 2018/02/06   |

Item Specific Help

Help



# HP PC Hardware Diagnostics UEFI

Please select a Language.

English

Cestina

Dansk

Deutsch

Nederlands

Espanol

eesti keel

Suomi

Francais

Hrvatski

Magyar







BIOS Event Log

Clear BIOS Event Log on Next Boot

Item Specific Help

Help



View BIOS Event Log

| Date | Time | Description |
|------|------|-------------|
|------|------|-------------|

-----  
No event have been logged.

Item Specific Help

Help



## Export to USB Key

---

The file cannot be accessed. Please insert a USB storage device and try again.



Update System BIOS

|                                    |                   |
|------------------------------------|-------------------|
| Current System BIOS Version:       | R71 Ver. 80.30.06 |
| Current BIOS Release Date:         | 08/28/2018        |
| Installation Date of Current BIOS: | 08/31/2018        |
| Most Recent Update Check:          | Never Checked     |

BIOS Rollback Policy

Allow BIOS Updates Using a Network

1

2

3

4

5

Help

Item Specific Help

**1. Check HP.com for BIOS Updates**

Checks for the latest BIOS release revision on the network, and lets the user decide whether to download the BIOS image and update System.

2. *Click on the field to see the options.*

**3. Allow BIOS Updates Using a Network**

Enable/Disable automatic BIOS updates through the network in a scheduled basis.

**4. BIOS Update Preferences**

Sets the configurations to perform BIOS updates through the network.

**5. Network Configuration Settings**

Configure network settings to be used for download and upload.



# Network BIOS Update

---

MS Windows Bitlocker Drive Encryption (BDE) may be enabled on your system. HP requires that BDE be suspended temporarily before the BIOS is flashed and that you obtain your BDE recovery password or recovery PIN before suspending BDE. After the BIOS is updated, BDE can be resumed.



BIOS Update Preferences

Check for Update on Next Reboot **1**

BIOS Source

**3**

**2**

Automatic BIOS Update Setting

**4**

BIOS Update Frequency

**5**

Help

Item Specific Help

- 1. Check for Update on Next Reboot**  
Enable/Disable an automatic BIOS check on next reboot.
- 2. BIOS Source**  
Choose one of the available options.  
*Click on the field to see the options.*
- 3. Edit Custom URL**  
Specify a custom BIOS update address.
- 4. Automatic BIOS Update Setting**  
Choose one of the available options.  
*Click on the field to see the options.*
- 5. BIOS Update Frequency**  
Choose one of the available options.



Network Configuration Settings

Proxy Server **1**

**2**

IPv4 Configuration

**5**

→ IPv4 Subnet Mask **6**

→ IPv4 Gateway **7**

**4**

DNS Configuration

**8**

Data transfer timeout

100

Force HTTP no-cache **9**

Item Specific Help

- 1. Proxy Server**  
Enable/Disable the use of a proxy server.
- 2. Edit Proxy Server**  
Specify the Proxy Server Address and the Port Number through the common-use <server>:<port> notation.
- 3. Test Network Connection**  
Check the network connection using current BIOS update configuration.  
*Click on the field to see the options.*
- 4. IPv4 Configuration**  
Setup for static IPv4 address.  
*Click on the field to see the options.*
- 5. IPv4 Address**  
Setup for static IPv4 address.
- 6. IPv4 Subnet Mask**  
Configure a valid IPv4 address for subnet mask.
- 7. IPv4 Gateway**  
Configure a valid IPv4 address for gateway.
- 8. DNS Addresses**  
Configure a common separated list of DNS addresses.
- 9. Force HTTP no-cache**  
Disable HTTP caching.

Help

# Test Network Connection

---

Your network server connection is working.

IPV4 Configuration: Automatic

IPV4 Address: 192.168.0.106

IPV4 Subnet Mask: 255.255.255.0

IPV4 Gateway: 192.168.0.1

DNS Configuration: Automatic

Primary DNS: 75.75.75.75

Secondary DNS: 75.75.76.76

MAC Address: 88-88-88-88-87-88

Current Proxy:

Current Custom Source URL: HP.COM





Change Date And Time

Set Date (MM/DD/YYYY)

11 / 14 / 2018

Set Time (HH:MM):

21 : 30

Item Specific Help

Help

Main



HP Computer Setup

Item Specific Help

Help



---

Feature Byte

Current Setting: 3X476J6b7B7J7M7Q7W7m7s9AaBapaqauawbUbhcAdUdpdqfXgd.E7



---

Build ID

Current Setting: 18WWR3AT6ah#SABA#DABA

Press the space key followed by the enter key to clear current setting



---

Serial Number

Current Setting: 5CD8355B65

Press the space key followed by the enter key to clear current setting



---

SKU Number

Current Setting: X8KSKU1#ABA

Press the space key followed by the enter key to clear current setting



Product Family

Current Setting: 103C\_5336AN HP ProBook

Press the space key followed by the enter key to clear current setting



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System Board CT Number

Current Setting: PX8J0DC8JB707K

Press the space key followed by the enter key to clear current setting





Product Name

Current Setting: HP ProBook 450 G6

Press the space key followed by the enter key to clear current setting



Main

HP Computer Setup

System IDs

Item Specific Help

Help



---

Asset Tracking Number

Current Setting: 5CD8355B65

Press the space key followed by the enter key to clear current setting



---

Ownership Tag

Current Setting:

Press the space key followed by the enter key to clear current setting

Main



HP Computer Setup

Replicated Setup

Item Specific Help

Help

# Replicated Setup

---

The file cannot be accessed. Please insert a USB storage device and try again.



Are you sure you want to save custom defaults and exit?

Item Specific Help



Are you sure you want to apply custom defaults and exit?

Item Specific Help





Are you sure you want to apply factory defaults and exit?

Item Specific Help



Are you sure you want to ignore changes and exit?

Item Specific Help



Are you sure you want to save changes and exit?

Item Specific Help



## Administrator Tools

1

Fingerprint Reset on Reboot

## Security Configuration

Physical Presence Interface 2

Intel Software Guard Extension (SGX) 3

## Utilities

Absolute® Persistence Module Current State

Activation Status : Inactive

Absolute® Persistence Module Permanent Disable : No

System Management Command

### Item Specific Help

#### 1. Create BIOS Administrator Password

The Administrator password controls access to the following features:

- Setup Menu (F10)
- 3rd Party Option ROM Management (F3)
- Update System ROM
- WMI Commands that change system settings
- BIOS Configuration Utility (BCU)
- Alternative Power-On Password

#### 2. Physical Presence Interface

When this feature is set to “Enable”, then the user is notified on system power up when changes are made to system security policy, and the user must manually agree to those changes before the change is confirmed

#### 3. Intel Software Guard Extensions (SGX)

Enable/Disable Software Guard Extensions (SGX)



# BIOS Administrator Password

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Enter BIOS Administrator Password



# POST Power-On Password

---

Enter POST Power-On Password

# Password Policies

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## Password Maximum Length

At least one symbol is required in Administrator and User passwords

At least one number is required in Administrator and User passwords

At least one upper case character is required in Administrator and User passwords

At least one lower case character is required in Administrator and User passwords

Are spaces allowed in Administrator and User passwords?

Prompt for Admin password on F9 (Boot Menu)

Prompt for Admin password on F11 (System Recovery)

Prompt for Admin password on F12 (Network Boot)

Prompt for Admin password on Capsule Update



TPM Embedded Security

TPM Specification Version

2.0

TPM Device

1

TPM State 2

Clear TPM

TPM Activation Policy

### Item Specific Help

#### 1. TPM Device

Exposes the integrated Trusted Platform Module (TPM) for use.

*Click on the field to see the options.*

#### TPM State

Enables the integrated Trusted Platform Module (TPM).





## Hard Drive Utilities

Save/Restore MBR of the system hard drive is only available with drives that have a Master Boot Record.

### Save/Restore GPT of System Hard Drive **1**

Boot Sector (MBR/GPT) Recovery Policy

### Allow OPAL Hard Drive SID Authentication

#### Item Specific Help

- 1. Save/Restore GPT of System Hard Drive**  
Enabling this feature will save the GUID Partition table (GPT) of the system Hard Drive. If the GPT is subsequently changed the user will be prompted to choose whether to restore GPT.

Help



# Security

HP Computer Setup

Select a Drive

1

## Item Specific Help

- SATA0: WDC WD10SPZX-60Z10T0**  
Set HDD Password

Help



## DriveLock Security Options

Automatic DriveLock **1**

**2**

**3**

### Item Specific Help

#### **1. Automatic DriveLock**

In Automatic DriveLock, your BIOS Administrator password is the DriveLock Master password, and the BIOS generates the DriveLock User Password. If you enable Automatic DriveLock on a drive, you will need to use your BIOS Administrator password to unlock the drive if it is placed in another system.

#### **2. Set DriveLock Master Password**

Sets the driver's Master password, but it does not enable DriveLock.

#### **3. Enable DriveLock**

Sets the drive's User password and enables DriveLock.

# Set DriveLock Master Password

---

Please exercise caution when using DriveLock.  
Losing the passwords will render a drive permanently unusable.

Please be aware these settings take place immediately: save not necessary.

Enter DriveLock Master Password.

# Set DriveLock User Password

---

Please exercise caution when using DriveLock.  
Losing the passwords will render a drive permanently unusable.

Please be aware these settings take place immediately: save not necessary.

Enter DriveLock User Password.



# Security

HP Computer Setup

Select a Drive

Item Specific Help

Help



# Secure Erase

---

This operation will erase all data on the hard drive. Please make sure the computer is connected to AC power during this process.



# Security

HP Computer Setup

Are you sure you want to restore settings to default?

Item Specific Help





1

Remote HP PC Hardware Diagnostics

2

3

Item Specific Help

**1. Port Options**

Enable/Disable Port Settings

**2. Settings**

Set the configuration for Remote HP PC Hardware Diagnostics, including the URLs used for download and upload, the scheduled execution frequency, etc.

**Execute Remote HP PC Hardware Diagnostics**

Immediate execution of Remote HP PC Hardware Diagnostics based on the configurations is Settings option. Note that any unsaved BIOS settings are lost.



# Advanced

HP Computer Setup

Display Language

Select Language

Select Keyboard Layout

Item Specific Help



# Advanced

HP Computer Setup

## Scheduled Power-On

Sunday **1**

Monday

Tuesday

Wednesday

Thursday

Friday

Saturday

Hour 0

Minute 0

### Item Specific Help

#### 1. Days

Enable the days of the week to turn the system on. This feature wakes the system up from a powered off state.



# Advanced

## Boot Options

### Startup Delay (sec.)

Fast Boot

USB Storage Boot

Network (PXE) Boot

Power On When AC Detected

Power On When Lid is Opened

Prompt on Battery Errors

Prompt on Memory Size Change

Prompt on Fixed Storage Change

Audio Alerts During Boot

NumLock on at boot

UEFI Boot Order

-----  
M.2: WDC PC SN520 SDAPNUW-256G-1006-181647900183

USB:

SATA0: WDC WD10SPZX-60Z10T0

Network Boot:IPV4 Network - Realtek PCIe GBE Family Controller

Network Boot:IPV6 Network - Realtek PCIe GBE Family Controller  
-----

Legacy Boot Order

Enable legacy boot, save settings & exit, then return to setup.  
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### Item Specific Help



# Advanced

Secure Boot Configuration

Configure Legacy Support and Secure Boot

Secure Boot Key Management

Import Custom Secure Boot keys

Clear Secure Boot keys

Reset Secure Boot keys to factory defaults

This selection will disable secure boot`

Enable MS UEFI CA key

Ready BIOS for Device Guard Use

1

## Item Specific Help

### 1. Ready BIOS for Device Guard Use

When set to “Configure on Next Boot“, the BIOS will change the feature listed below to their suggested Device Guard states, on the boot after saving changes and exit.

Virtualization features will be enabled.

Removable and network boot devices will be disabled (for example, USB boot, CD-ROM boot, Thunderbolt boot, etc.).

MS UEFI CA Key will be disabled.

When set to “Clear Configuration on Next Boot“, the BIOS will set the listed features to their Custom Default state if custom defaults have been saved. If custom defaults have not been saved, the BIOS will restore the listed features to their factory default states.



# Advanced

## System Options

- Configure Storage Controller for Intel Optane Turbo-Boost
- Hyperthreading **1**
- Virtualization Technology (VTx)
- Virtualization Technology for Directed I/O (VTd)
- Fast Charge
- USB Type-C Connector System Software Interface (UCSI) **2**
- Enable High Resolution mode when connected to a USB-C DP alt mode dock
- Special Keys mapped to Fn + keypress **3**
- Swap Fn and Ctrl (Keys)
- Enable Turbo Boost on DC
- Dynamic Platform and Thermal Framework (DPTF)

### Item Specific Help

- 1. Hyperthreading**  
Permits the user to control the processor capability
- 2. USB Type-C Connector System Software Interface (UCSI)**  
The UCSI option should be disabled if booting a Microsoft Windows 10 version before 1709 to avoid system stability issues.
- 3. Special Keys mapped to Fn + keypress**  
Fn+R, Fn+S, Fn+C, Fn+ W, Fn+E will worked as Break. Sys Rq, Scroll Lock, pause, insert if no legacy keys when enabled



# Advanced

HP Computer Setup

## Built-In Device Options

Embedded LAN Controller

Wake On LAN

Video memory size

Audio Device **1**

Microphone

Internal Speakers

Headphone Output

Lock Wireless Button

WWAN Quick Connect

Wireless Network Device (WLAN)

Bluetooth

Mobile Network Device (WWAN) and GPS Combo Device

HP LAN-Wireless Protection

LAN/WLAN Auto Switching

LAN/WWAN Auto Switching

Wake on WLAN

Wake on LAN in Battery Mode

Fan Always on while on AC Power

Boost Coverter

Backlit keyboard timeout

Integrated Camera

Fingerprint Device

Backlit keyboard timeout

## Item Specific Help

### 1. Audio Device

Hides the Audio device from OS



# Advanced

HP Computer Setup

## Port Options

Left USB Ports **1**

Right USB Ports **2**

Right USB Ports 1 **3**

Right USB Ports 2 **3**

Right USB Ports 3 **3**

## Restrict USB Devices

### Item Specific Help

**1. Left USB Ports**

Hides the left USB ports from the OS

**2. Right USB Ports**

Hides the right USB ports from the OS

**3. Right USB Port 1, 2, & 3**

Enables individual legacy or Type-C USB port. On Desktop platforms, ports are typically numbered bottom to top, then left to right when in horizontal orientation. On Notebook platform, Ports are typically numbered front to rear.





# Advanced

HP Computer Setup

Option ROM Launch Policy

Configure Option ROM Launch Policy

1

## Item Specific Help

- 1. Configure Option ROM Launch Policy**  
Configure the launching of EFI versus Legacy Option ROM's



# Advanced

## Power Management Options

- Runtime Power Management **1**
- Extended Idle Power States **2**
- Wake when Lid is Opened
- Wake When AC is Detected
- Wake on USB
- Power control

## Battery Health Manager

Your batter will always change to 100% to maximize your battery duration. This may shorten your battery lifespan

### Item Specific Help

- 1. Runtime Power Management**  
Enables Runtime Power Management.
- 2. Extended Idle Power States**  
Increases the OS's Idle Power Savings.



# Advanced

HP Computer Setup

Electronic Labels

Item Specific Help



# Advanced

HP Computer Setup

MAC Address Pass Through

Host Based MAC Address

Reuse Embedded LAN Address **1**

## Item Specific Help

- 1. Reuse Embedded LAN Address**  
Reuse the embedded LAN's MAC address instead of System of Custom



# Advanced

## Settings

### Diagnostics Download URL

➔ Custom Download Address **2**

### Diagnostics Logs Upload URL

**4**  
**5** **3**

### Scheduled Execution

#### Frequency

#### Execute On Next Boot

**9**

**1**

**6**

**7**

**8**

### Item Specific Help

- 1. Diagnostics Download URL**  
Select between HP server URL and a custom server URL.
- 2. Custom Download Address**  
Configure a URL for HP PC Hardware Diagnostics download.
- 3. Custom Upload Address**  
Configure a URL for diagnostics logs upload.
- 4. Username**  
Configure the username for uploading diagnostics logs to the server, if authentication is required.
- 5. Password**  
Configure the password for uploading diagnostics logs to the server, if authentication is required.
- 6. Scheduled Execution**  
Enable/disable the scheduled execution of Remote HP PC Hardware Diagnostics.
- 7. Frequency**  
Select the frequency for scheduled execution of Remote HP PC Hardware Diagnostics.
- 8. Execute On Next Boot**  
Enable/disable the execution on next boot. The flag will be disabled after the diagnostics have run.
- 9. Last Execution Result**  
Display the results of the last Remote HP PC Hardware Diagnostics execution.



# Custom Upload URL

---

There is no Custom Upload URL configured.  
Type a new Custom Upload URL and press ENTER to save.  
Press ESC to CANCEL



# Upload Server Username

---

There is no Username configured.  
Type a new Username and press ENTER to save.  
Press ESC to CANCEL



# Upload Server Password

---

There is no Upload Server Password configured.  
Type a new Upload Server Password and press ENTER to save.  
Press ESC to CANCEL



# Remote HP PC Hardware Diagnostics Result

---

Remote HP PC Hardware Diagnostics was never executed.

# Remote HP PC Hardware Diagnostics Execution

---

Remote HP PC Hardware Diagnostics was never executed.



# UEFI Drivers

HP Computer Setup

This will restart the system into the 3rd Party Option ROM Management application. You can get to this application directly by pressing F3 during startup.

Item Specific Help