

BIOS Crisis Recovery

(BIOS Recovery / Restoring the BIOS / Crisis BIOS Recovery (CBR))

PPS-CSS EMEA Category Support – ATS Computing
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Divyashree K

- **What is a BIOS Recovery / Crisis BIOS Recovery (CBR)?**

If the BIOS is corrupted, the system will automatically restore the BIOS from a hidden partition when a user does a system reboot. But the automatic BIOS recovery can failed. There are two other methods to help restore the BIOS.

- **2 ways to perform BIOS Crisis**

- A) **Manual BIOS Recovery Procedure (BIOS file available on the hidden HP partition)**
- B) **Manual BIOS Recovery Procedure with Recovery USB Flash Drive (BIOS file not on HDD/SSD)**

- **The Probable cause where CBR is required - Make sure to perform CBR before you initiate hardware replacement**

- **No Boot**
- **Power or charging LED keeps blinking**
- **No display on LCD or external monitor**
- **Only backlight but black screen on LCD**
- **Shows a BIOS error message**
- **Not completing POST**
- **Caps Lock/NumLock blinks/Beeps 2 times**
- **Error message BIOS APPLICATION ERROR 501.**



BIOS Recovery file is part of HP 3-in-1 USB Key.

This is also a method to do a BIOS Crisis Recovery when BIOS download file is missing:

Now HP has released 3-In- One USB Key tool which has 3 main features like :

- a) HP Vision Diagnostics (To test any issue's in supported HP and Compaq Desktop PC's which are manufactured between 2009 till 2012)
- b)HP PC Hardware Diagnostics Version 6.3 or later which is also pre-installed in all the new notebooks and Desktops which has UEFI Support Environment.
- c) HP BIOS Crisis Recovery files for supported notebooks (Supported List is available in the Readme File for this Tool)

You can download this Tool and also HP Vision Diagnostic Tool, HP PC Hardware Diagnostic from below

link: http://www8.hp.com/us/en/campaigns/hpsupportassistant/pc-diags.html?jumpid=va_r602_us/en/any/pps/pl_ot_ob_ds_pd/HP_PC_Hardware_Diagnostics_cc/dt

How to run BIOS Crisis Recovery from HP 3-In –One USB key:

1) Download the latest version of HP 3-In- One USB key Driver (SP72954.exe) from below link:

http://www8.hp.com/us/en/campaigns/hpsupportassistant/pc-diags.html?jumpid=va_r602_us/en/any/pps/pl_ot_ob_ds_pd/HP_PC_Hardware_Diagnostics_cc/dt

2) Now double click on this SP72954.exe & install on your PC with separate folder in C Drive.

3) Connect USB pen drive to PC and double click on **makekey.bat file**

4) Command Prompt window will open and here type the USB Pen drive letter which need to be formatted.

5) Once formatted all the required files gets copied automatically to pen drive and close the window once completed

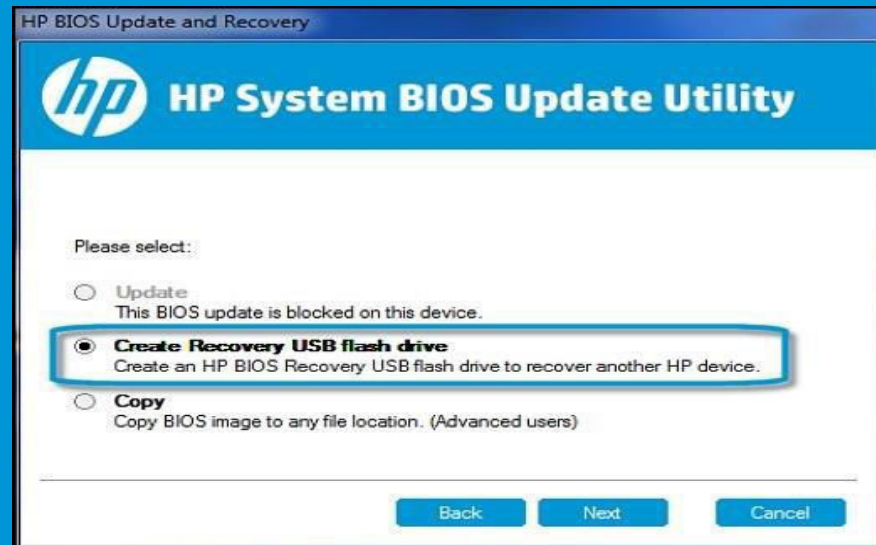
6) Now connect this pen drive on faulty unit where the BIOS Crisis Recovery need to be done.

7) Follow the same steps as mentioned in previous slide for BIOS Crisis Recovery process using USB key method.

Note : Once installing of SP72954.exe completed, It will create a separate UEFI support List which will have detailed list about UEFI BIOS Crisis file and supported units.

Manual BIOS Crisis Recovery using USB Key / pen drive(in HP_Tools partition)

1. Turn off the computer.
 2. Plug the Notebook into a power source using the power adapter.
 3. Press and hold the Windows key and the B key at the same time while the computer is off.
 4. Still pressing the two keys, press the Power button for 2-3 seconds, then release the Power button and keys.
 5. If CBR failed, Clear CMOS and try CBR again
- (The screen may keep blank for 30-60 seconds, a BIOS update message may appear)



Manual using a key press combination and USB storage device:

If the HP_TOOLS volume (Windows 7) or UEFI partition (Windows 10, 8) on the HDD has been deleted, you can use a USB key with an HP_TOOLS volume as an alternative.

1. Create USB key from the BIOS SoftPaq ('Create USB Recovery Flash drive' option).
2. Attach it to the failed Notebook.
3. Turn off the computer.
4. Plug the Notebook into a power source using the power adapter.
5. Press and hold the Windows key and the B key at the same time while the computer is off.
6. Still pressing the two keys, press the Power button for 2-3 second, then release the Power button and keys.
7. If CBR failed, Clear CMOS and try CBR again

(The screen may keep blank for 30-60 seconds, a BIOS update message may appear)



BIOS Rollback in Consumer PC's :

Whenever there is an issue with the newer version of BIOS updated in the system, Instead of replacing the system board, We can fix the issue with rollback of BIOS to it's previous version.

In Consumer PC's, most of the units are allowed to downgrade the BIOS only to one step below or just one step to previous version and not after that.

Here to rollback the BIOS, Download the previous version (older version) BIOS file for affected unit

- If the unit is booting then directly go to windows, Download the Previous version of BIOS> Double click on the BIOS update file> Unit will prompt for BIOS Downgrade with warning message. Here continue.
- If there is no Display on the affected unit, Then you need to first download this previous version BIOS on another working unit > Double click and extract BIOS update file> Now copy only the .bin file to USB pen drive.
- Connect the USB pen drive to affected unit and follow the same steps used for BIOS crisis recovery using
- USB key method. (press and hold the Windows logo key and the B key at the same time, power on the unit)

Note: For more information on BIOS roll back/restore/reset please follow the article – c02693833

CMOS Clearing Process/ Hard reset :

CMOS Clearing on units which has removable CMOS Battery.

CMOS Clearing process where the CMOS Battery is non-removable.

CMOS Clearing on units which has removable CMOS Battery:

- Power / Turn off the computer.
- Remove the Power Adapter and main battery from the unit.
- Press and hold the Power button for 15 seconds (Static Discharging process).
- Now dismantle the unit to access the CMOS Battery which is connected to System board.
- Remove CMOS Battery using proper tool.
- Keep the System board idle for 15 minutes (Without connecting CMOS Battery + Adapter + and Main Battery)
- After 15 mins Power on the unit without connecting CMOS Battery and Main Battery
- Check if the CMOS Clearing is done is the issue resolved now or not?
- If issue resolved then connect the CMOS Battery and Main Battery back again and Boot into Windows

CMOS Clearing process where the CMOS Battery is non-removable:

- Power / Turn off the computer
- Remove the Power Adapter and Main Battery from the unit
- Press and hold the Power button for 15 seconds (Static Discharging process)
- Now press and hold the Power Button and Volume Up button for 15 to 20 seconds
- Leave the Notebook alone (Without connecting Main Battery and Adapter) for 120mins.
- Power on the unit after 120 mins and check if the reported issue resolved?

HP PC Hardware Diagnostics UEFI 6.4.0.0

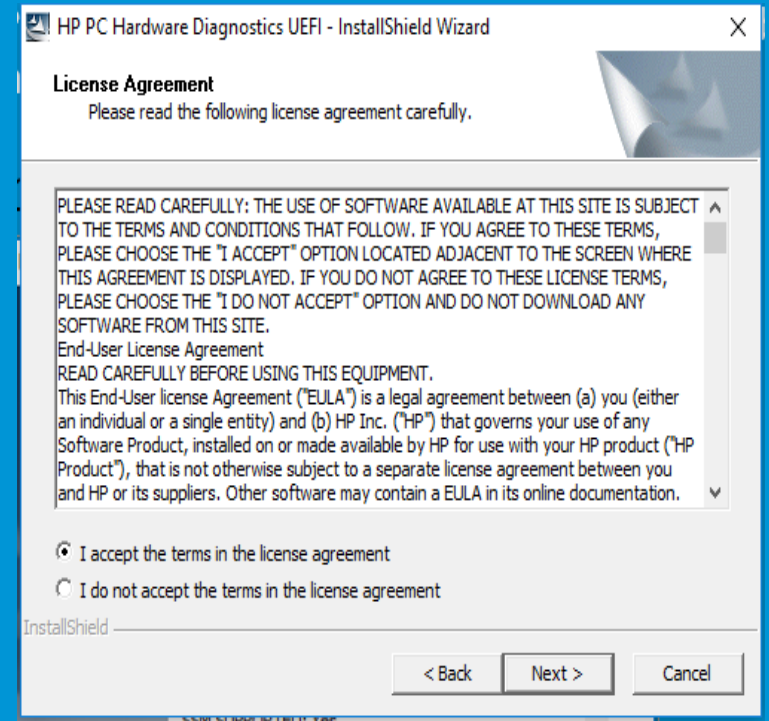
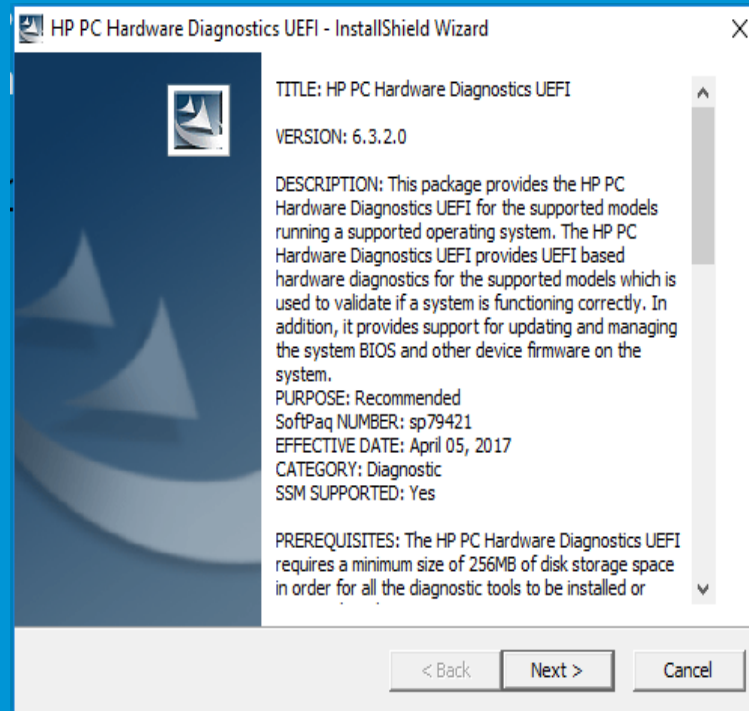
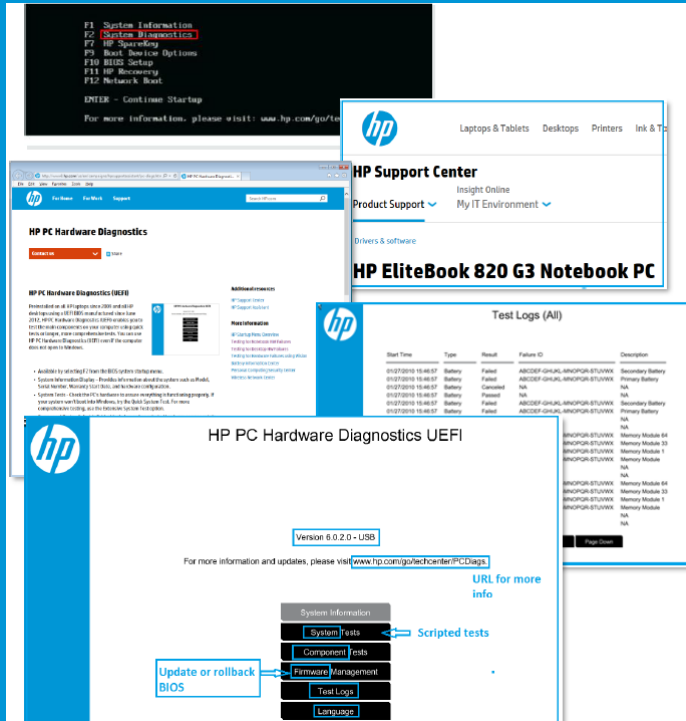
UEFI diagnostic is a Non –Windows-based application, which is used to test hardware components & this supports NB,DT,WS& Thin Clients.

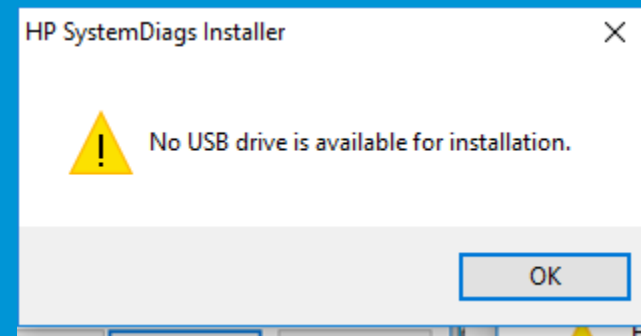
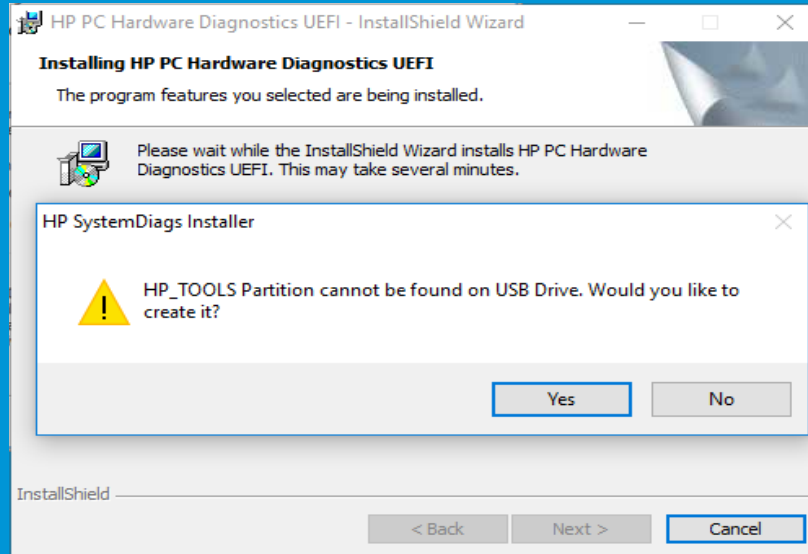
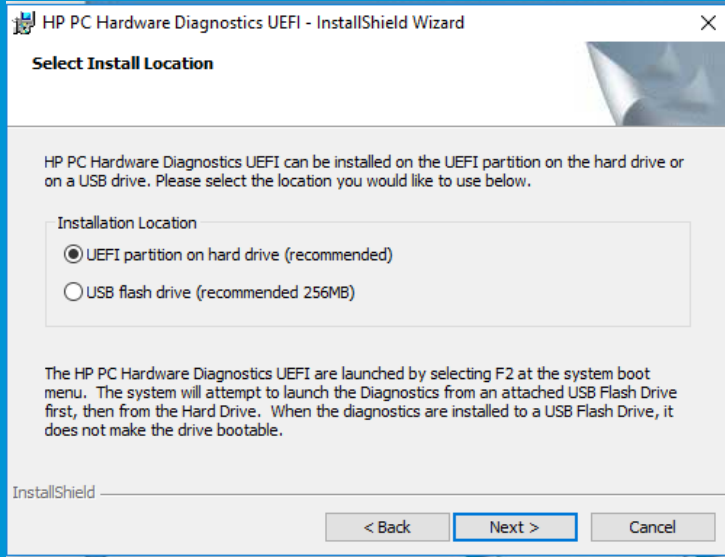
How to run latest version HP PC Hardware Diagnostic UEFI Tool?

Press the Escape key /F2/F10 during startup to access the BIOS system Startup Menu to see a list of diagnostics. (It depends on the model)

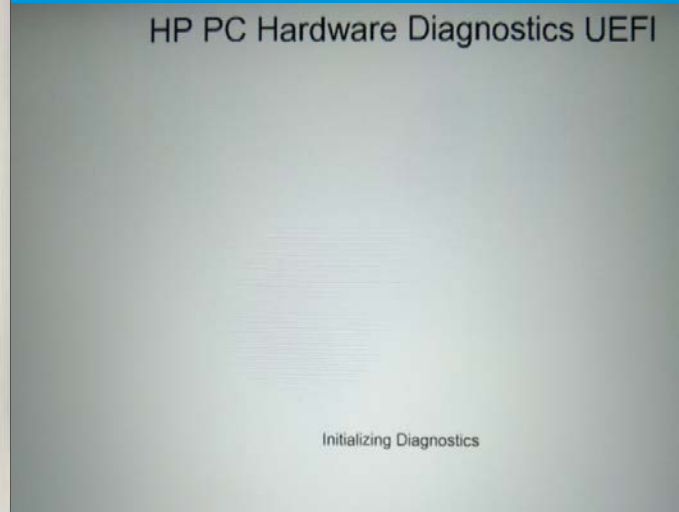
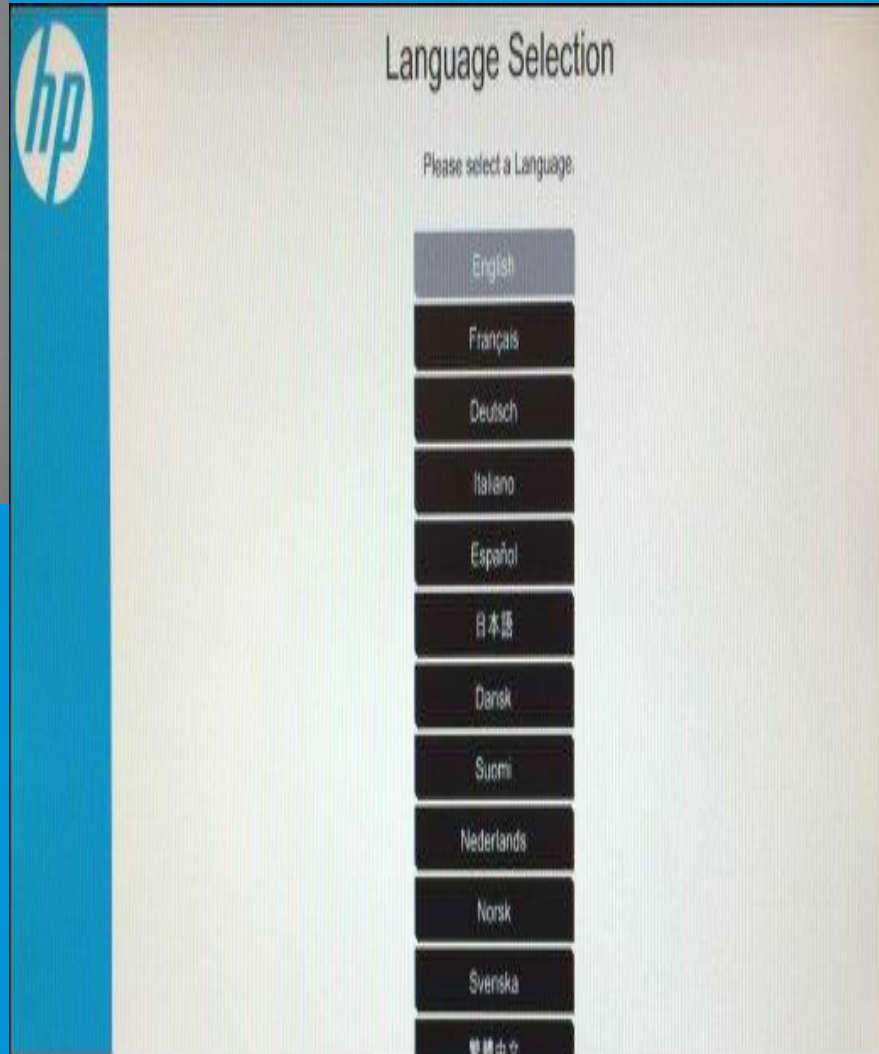
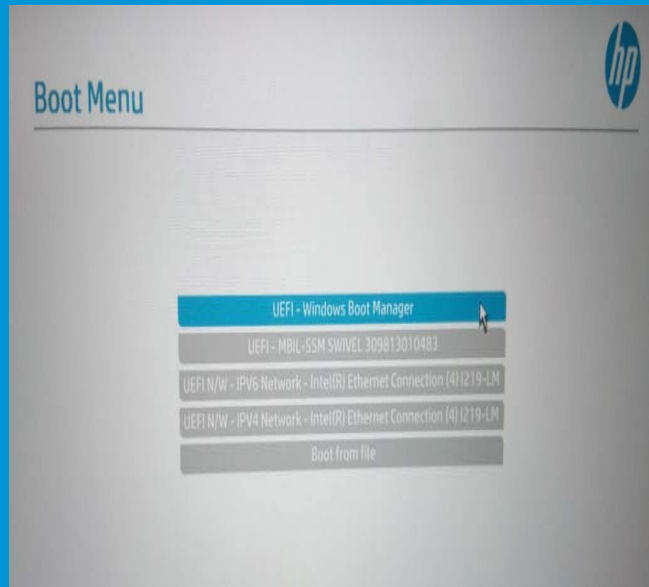
Download and install the most recent version of UEFI 6.4.0.0 is available via [HP FTP site](#) (click to download SP80721) & [HP PC Hardware Diagnostics Supporting Website](#), install it on PC.

Note: Below screen shots is of v6.3.2.0 Previous version.










During post press F2/F10 to get into UEFI diagnostic tool



Overview of HP PC Hardware Diagnostics UEFI Fast, Quick, & Extensive Tests for as of Diags 6.3.0.0






Fast System Test

7 Tests 4 Minutes

 Processor <ul style="list-style-type: none">• Processor Test	 Battery <ul style="list-style-type: none">• Notebook Battery Test
 Hard Drive <ul style="list-style-type: none">• Hard Drive SMART Check• Hard Drive Short DST Check	 System Board <ul style="list-style-type: none">• PCI Device Check• WLAN Module Test
 Memory <ul style="list-style-type: none">• Memory Fast Test	







Quick System Test

7 Tests 10 Minutes

 Processor <ul style="list-style-type: none">• Processor Test	 Battery <ul style="list-style-type: none">• Notebook Battery Test
 Hard Drive <ul style="list-style-type: none">• Hard Drive SMART Check• Hard Drive Short DST Check	 System Board <ul style="list-style-type: none">• PCI Device Check• WLAN Module Test
 Memory <ul style="list-style-type: none">• Memory Quick Test	

Extensive System Test

10 Tests 60+ Minutes

 Processor <ul style="list-style-type: none">• Processor Test	 Battery <ul style="list-style-type: none">• Notebook Battery Test
 Hard Drive <ul style="list-style-type: none">• Hard Drive SMART Check• Hard Drive Short DST Check• Hard Drive Optimized DST• Hard Drive Long DST Check	 System Board <ul style="list-style-type: none">• PCI Device Check• WLAN Module Test
 Memory <ul style="list-style-type: none">• Memory Extensive Test	 Video <ul style="list-style-type: none">• Video Memory Test

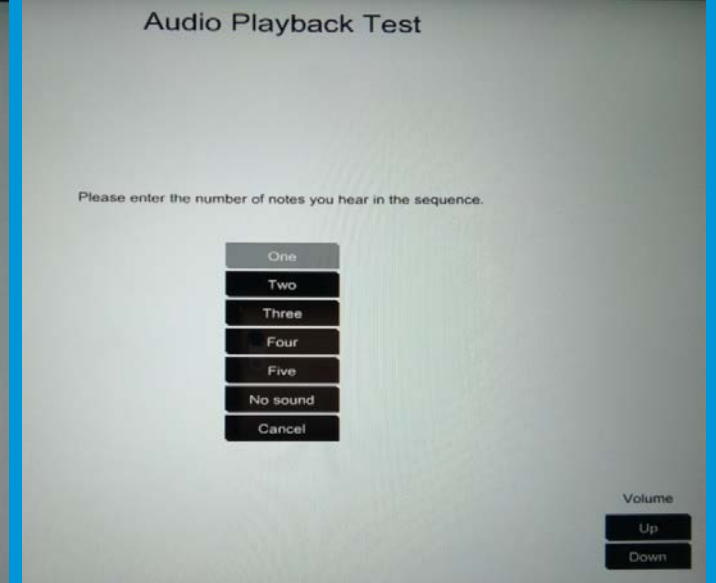
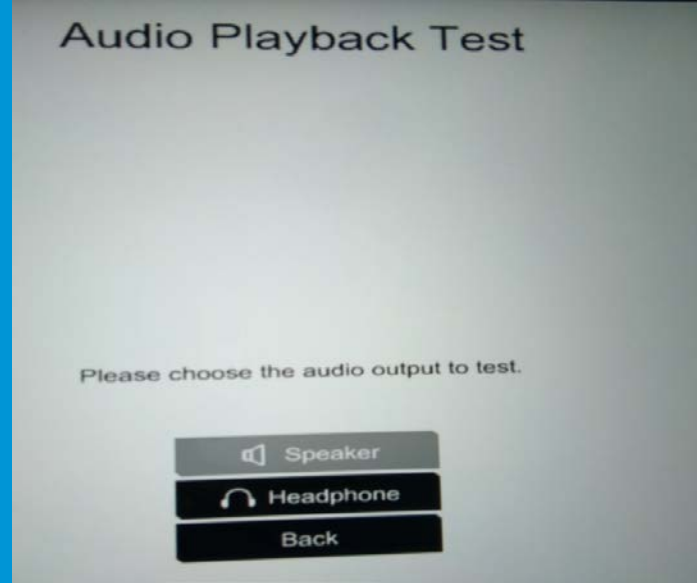
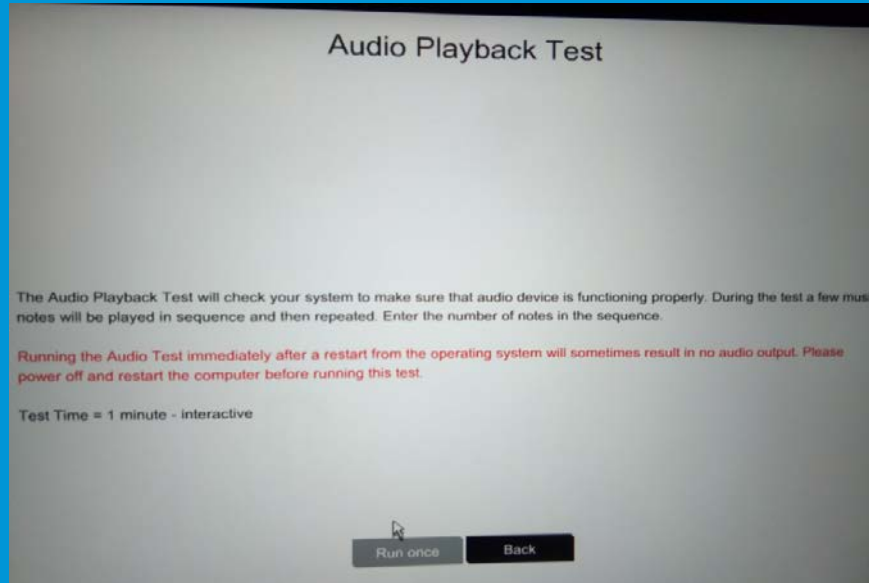
Component test Menu



The new V6.4.0.0 has below added tests:

- Add Memory Complete Test in Repair Mode
- Add option to select test time for Thermal Stress Test in Repair Mode
- Add option to save Keyboard Test Log.
- Add support for Intel Optane Memory.
- Add Thunderbolt Test.
- Add support for new 2017 Secure Boot Key, for which BIOS launching path changes from \Hewlett-Packard\Systemdiags to \hp\systemdiags for Fat32 MBR partition
- Add audio support for new Intel Systems.
- Add improvements to Serial Port Test.
- Add support for 3 batteries in system battery information page.
- Add HDD temperature display for SMART Check failure result page.
- Add improvements to Optimized DST trouble shooting page.
- Add log improvements to HDD Tests.
- Add improvements to the HDD Tests progress screen.

Screen shots of Audio test as an example.



Test Logs (All)

Page 1 / 1

Start Time	Type	Result	Failure ID	Description
2017-06-06 12:48:58	Audio [P]	Canceled	NA	NA

Main Menu Next Save Logs QR Code

UEFI diag resources:

- Web Based Training course (HP University Course ID 00699664)
- Download from [HP FTP site](#) (click to download SP80721) & [HP PC Hardware Diagnostics Supporting Website](#).
- Hands on training is available in Service Media Library



Thank you





keep reinventing