

ASUS PC Diagnostics Guide

Motherboard self-diagnostics is a diagnostic tool designed to test the following on your computer:

- System Information.
- System Devices.
- System Stress.

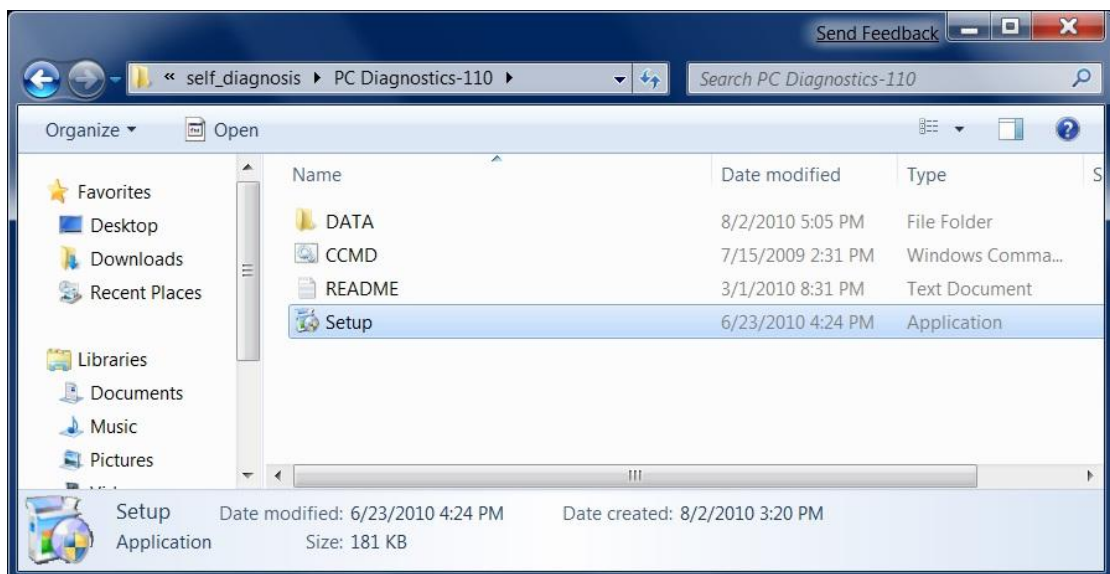
The System Information Collection detects the essential operating system and devices information.

The System Devices Test detects and reports any errors on the physical devices such as the current system status and performance.

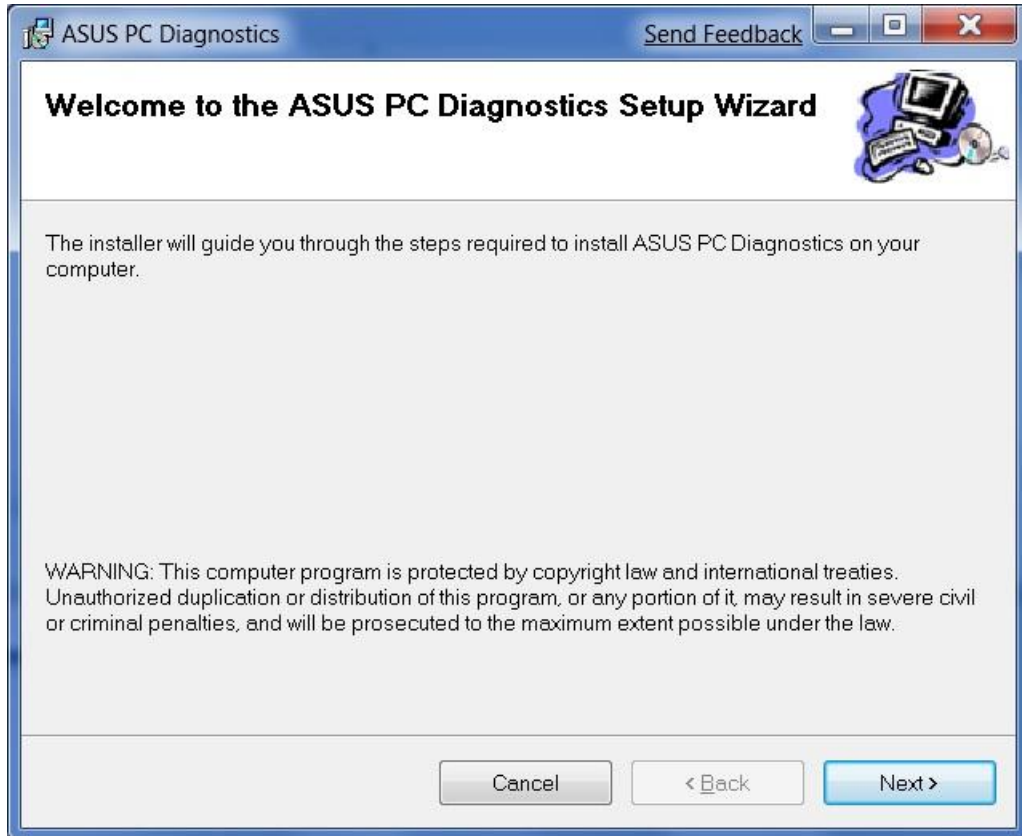
The System Stress Test checks the system's stability and reports any errors on the main components such as the CPU, memory, and display adapter.

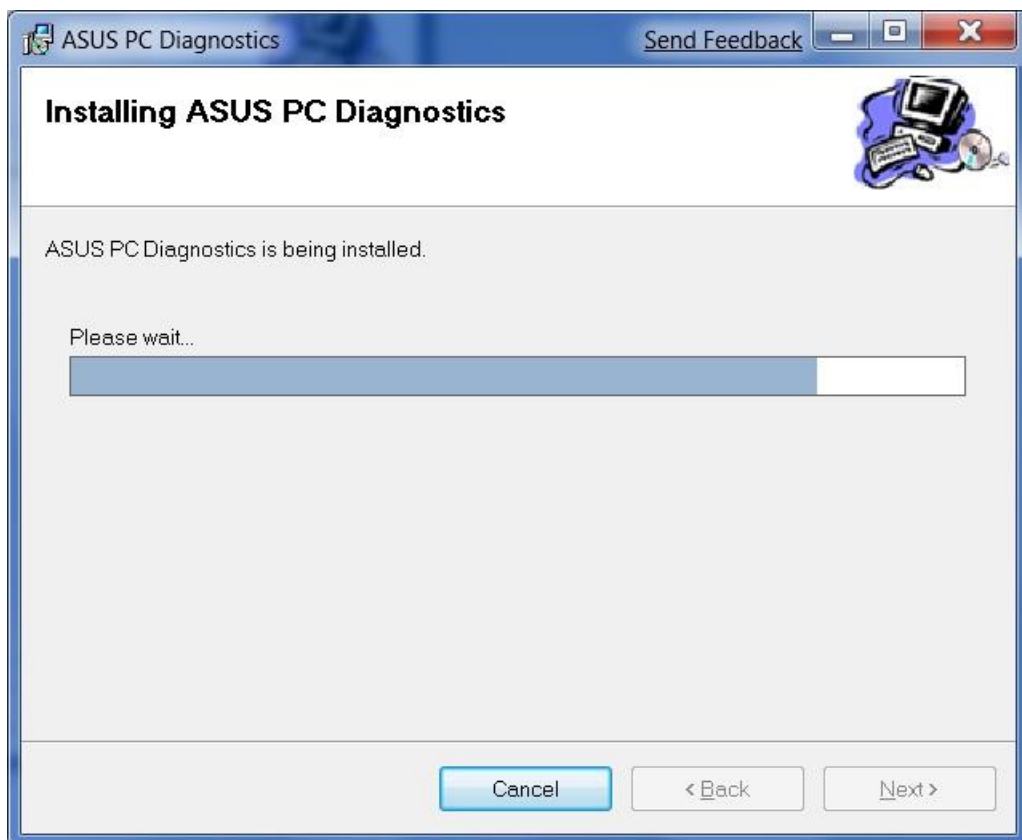
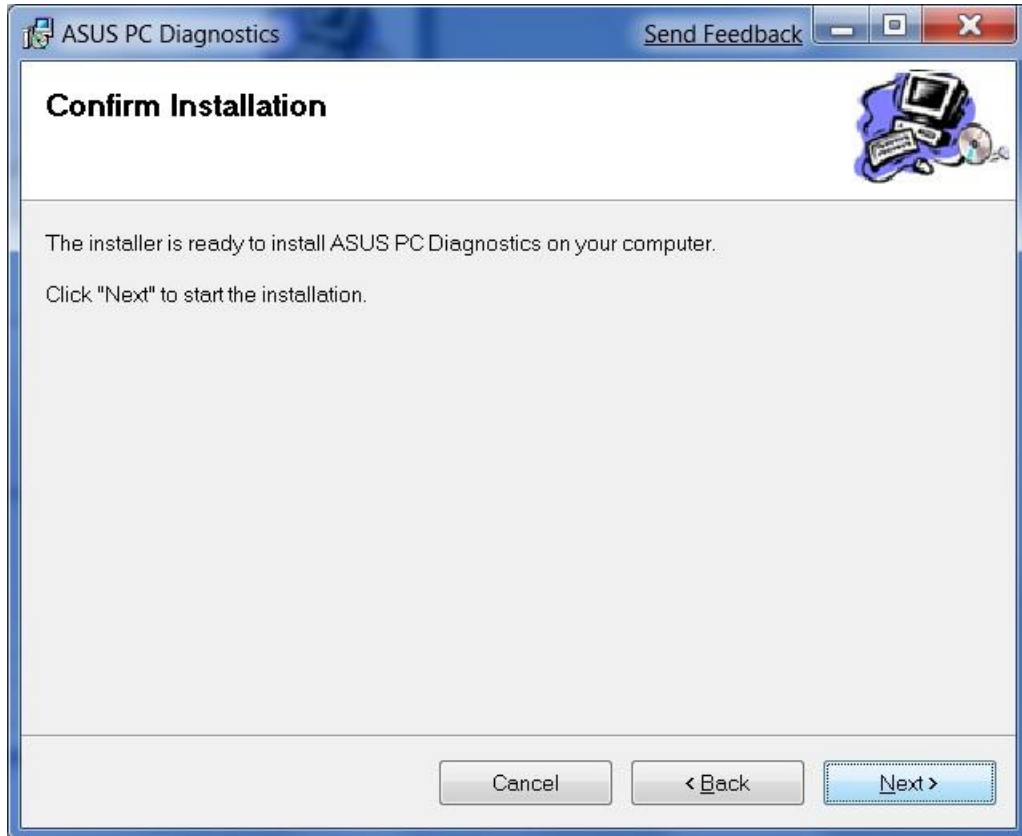
Installation Instruction

- Right-click the download file and choose Extract on the shortcut menu.
- Click **Setup.exe** to install ASUS PC Diagnostics

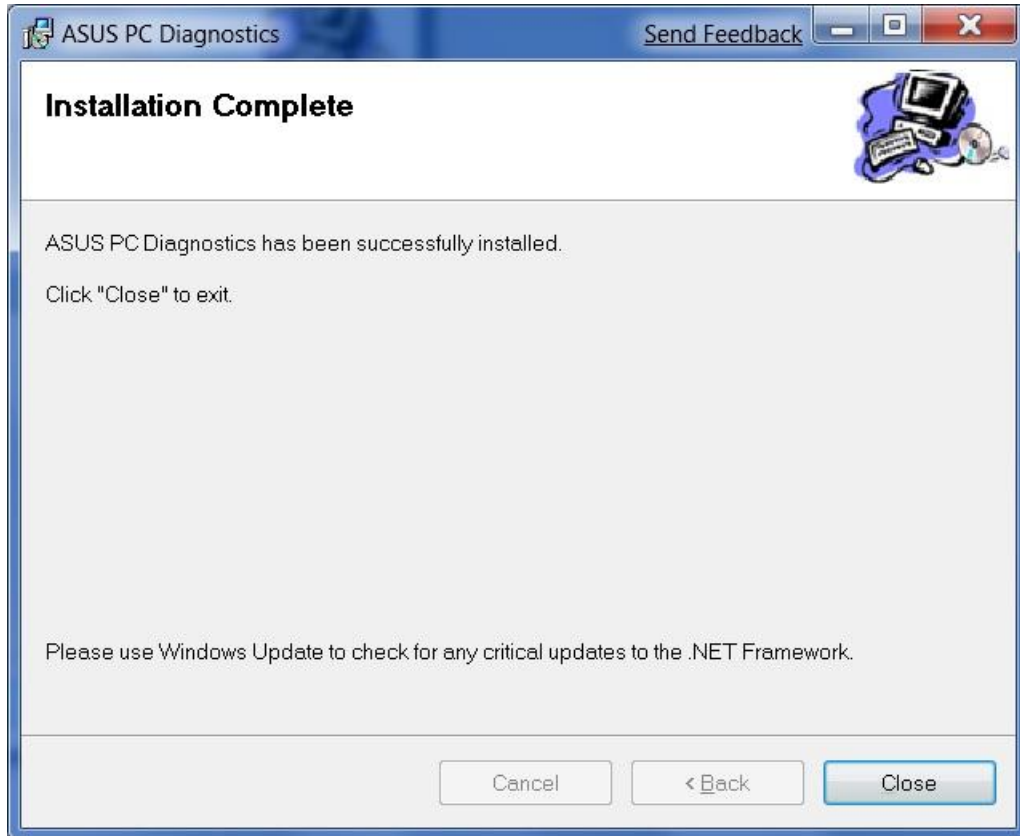


- Click "yes" for windows 7 notifications.
- Follow "ASUS PC diagnostic Setup Wizard" to finish the installation.

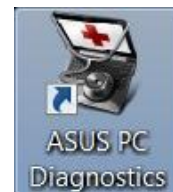




- Click "close" to exit the setup



Function introduction:



Run the shortcut on your desktop to start ASUS PC Diagnostics:

ASUS PC Diagnostics is a diagnostic tool designed to test the following on your computer:

- System Information.
- System Devices.
- System Stress.

The System Information Collection detects the essential operating system and devices information.

The System Devices Test detects and reports any errors on the physical devices such as the current system status and performance.

The System Stress Test checks the system's stability and reports any errors on the main components such as the CPU, memory, and display adapter.

System Information Collection

ASUS PC Diagnostics tests and displays information on the physical devices and operating system on your computer. These information include:

- Operating system information

This information includes such as Name, Version, and Installation date.

- CPU information

This information includes such as Manufacturer, Model, CPU Clock Speed, Cache, CPU functional features, Driver version, and Current CPU usage.

- Memory Information

This information includes such as Manufacturer, Model, Memory Clock, Memory size, Memory Data Width, and Current memory usage.

Note: Some memory information may not display depending on the installed memory module.

- Network Adapter information

This information includes such as Manufacturer, Model, Max. Bandwidth, Network resources, Driver version, TCP/IP settings, and Current network status.

- Motherboard information

This information includes such as Manufacturer, Model, BIOS version, BIOS release date, Onboard ports, and Onboard slots.

- Display Adapter information

This information includes such as Manufacturer, Model, Video memory size, VBIOS version, Current display resolution, Current Color Depth, Current Refresh Rate, Desktop resources, and Driver version.

- Monitor information

This information includes such as Manufacturer, Model, Manufacture date, Max. visible display size, EDID version, DPMS features, and Driver version.

- Storage information

This information includes such as Name, Serial number, Capacity, Firmware version, Interface type, Supported features (DMA, LBA), and ATA/ATAPI version.

- Audio Device information

This information includes such as Manufacturer, Model, Audio resources, and Driver version.

- 1394 Controller information

This information includes such as Name, Resources, and Driver version.

- COM Port information

This information includes such as Provider type, Max. Baud Rate, Resources, and Driver version.

- Parallel Port information

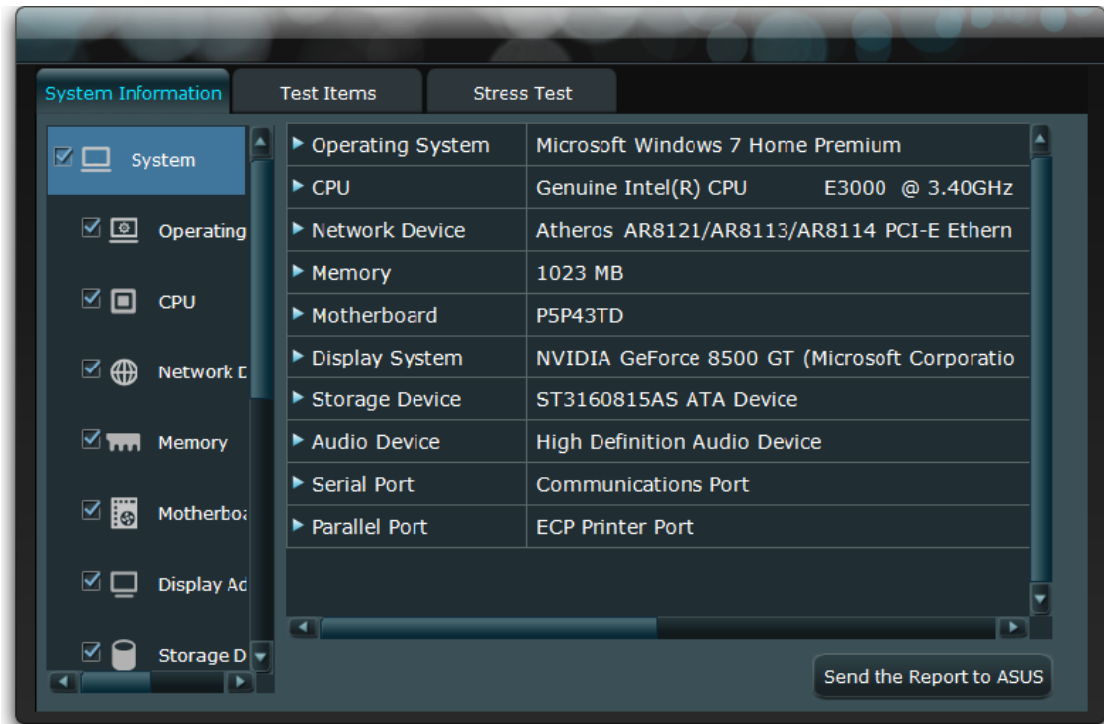
This information includes such as Name, Resources, and Driver version.

- Battery information

This information includes such as Battery name, Type, Capacity, Current status, Resources, and Driver version.

Note: The actual information displayed varies with the system settings.

System Information Collection Main Screen (Click the items to get more information.)



System Devices Test

ASUS PC Diagnostics checks the physical devices installed on your computer, which can be done either through Auto or Interactive test.

- Auto Test

Auto Test automatically checks and creates reports on any errors on the system components. Click an Auto Test below to get more details.

- [CPU](#)
- [COM Port](#)
- [Parallel Port](#)
- [1394 Controller](#)
- [PCI\(E\)](#)
- [RTC](#)
- [USB](#)
- [CMOS](#)

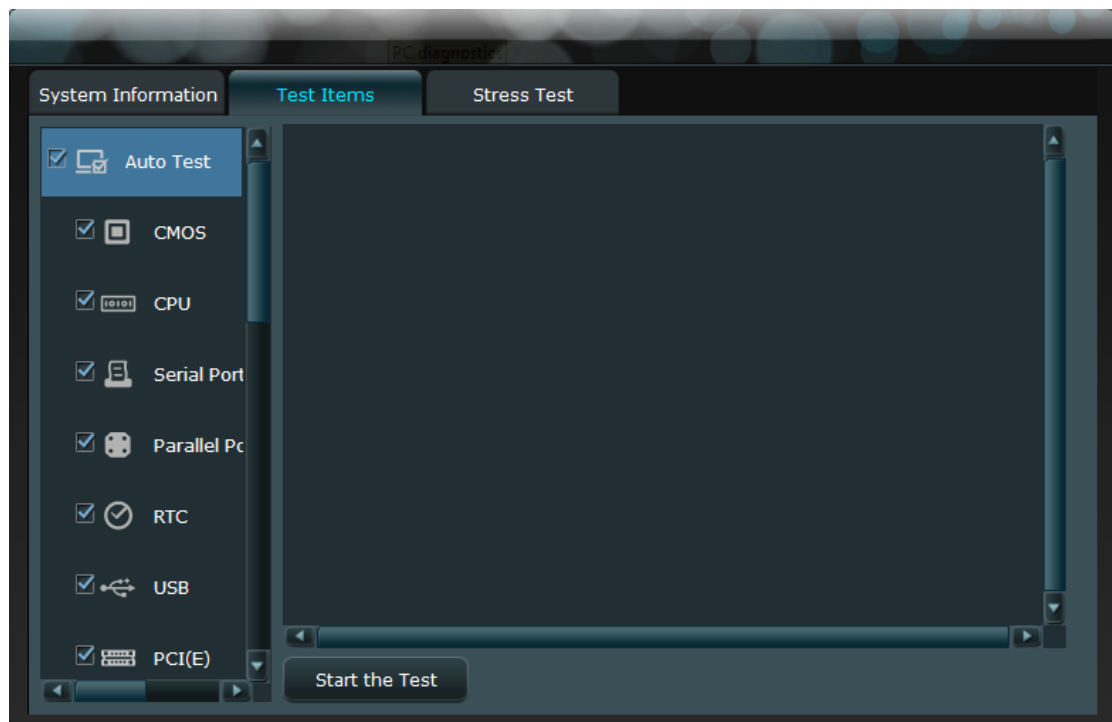
- Interactive Test

Interactive Test enables you to run a diagnostic test on the system components using a user-friendly interface. Click an Interactive Test below to get more details.

- [Memory](#)

- [Network Adapter](#)
- [Audio Device](#)
- [Keyboard/Mouse](#)
- [Hard Disk Drive](#)
- [Monitor](#)
- [Display Adapter](#)
- [Camera](#)

System Devices Test Main Screen (Click the items to get more information.)



CPU

Note: This is an auto test.

CPU Test items:

- CPU Speed Test
Calculates the actual CPU speed/frequency.
- MMX Test

Detects if the current CPU supports MMX technology and, when it does, starts testing the MMX instructions.

- SSE Test

Detects if the current CPU supports SSE technology and, when it does, starts testing the SSE instructions.

- SSE2 Test

Detects if the current CPU supports SSE2 technology and, when it does, starts testing the SSE2 instructions.

- Register Test

Uses a set of parameters to test the stability of the CPU internal registers.

- FPU (Floating-Point Unit) Test

Tests the CPU FPU instructions.

- Integer Arithmetic Test

Tests the CPU Integer Arithmetic instructions.

Memory

Note: This is an interactive test.

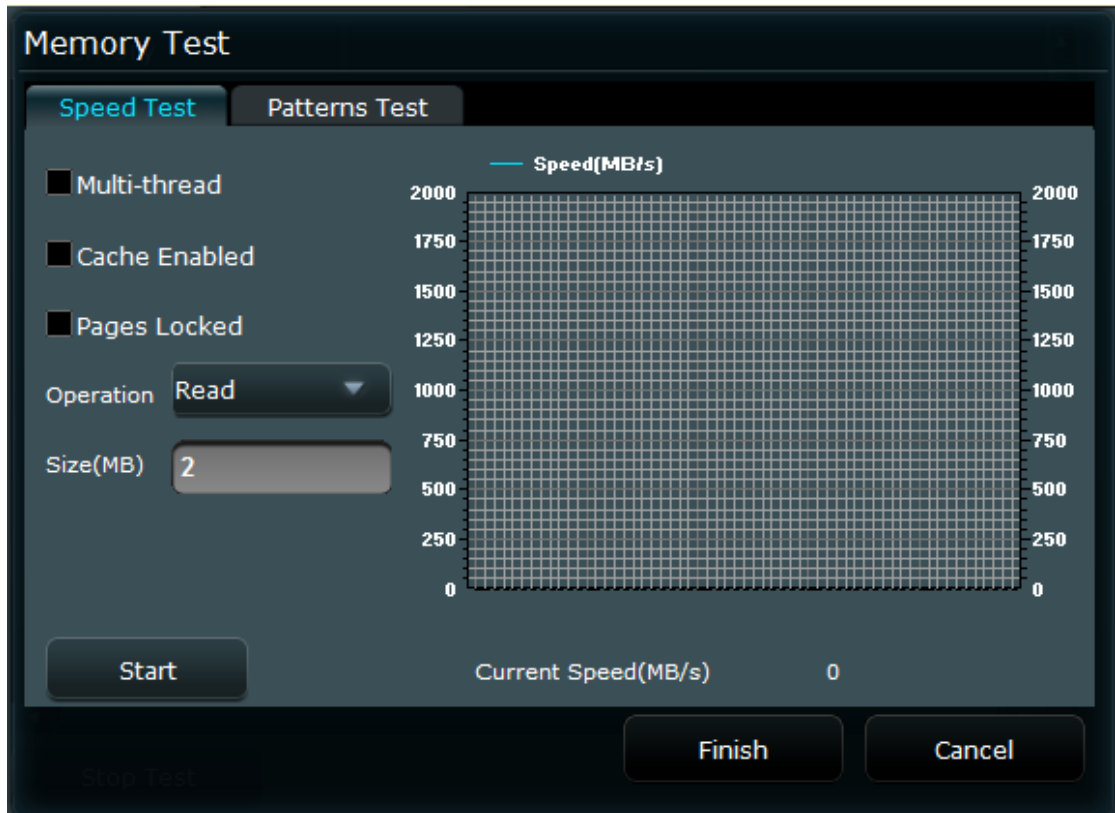
Memory Test items:

- Memory Read/Write Speed Test

Tests the memory read/write speed under various conditions such as when CPU cache is enabled/disabled or single/multi-threading (two or more concurrent running tasks).

Note: If the memory size that you specified is above the system's threshold level, the tester automatically adjusts the memory values.

Memory Read/Write Speed Test Submenu (Click the items to get more information.)



- Memory Stability Test

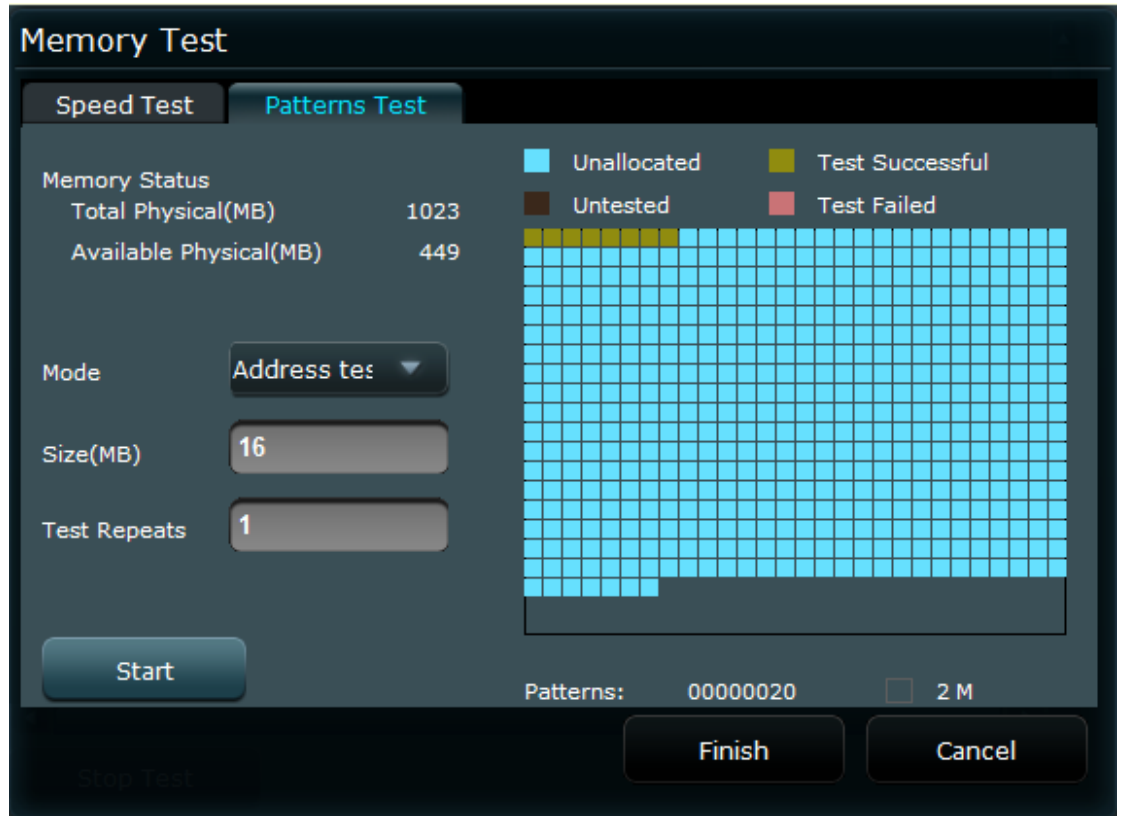
Uses a set of parameters to test the stability of the memory modules.

- Address test, walking ones
- Address test, own address
- Moving inversions, ones&zeros
- Moving inversions, 8 bits pattern
- Moving inversions, random pattern
- Block move, 64 bits moves
- Moving inversions, 32 bits pattern
- Random number sequence
- Modulo 20, ones&zeros

When the memory stability test is completed, the test report is automatically created.

Note: If the memory size that you specified is above the system's threshold level, the tester automatically adjusts the memory values.

Memory Stability Test Submenu (Click the items to get more information.)



Hard Disk Drive

Note: This is an interactive test.

Hard Disk Drive Test items:

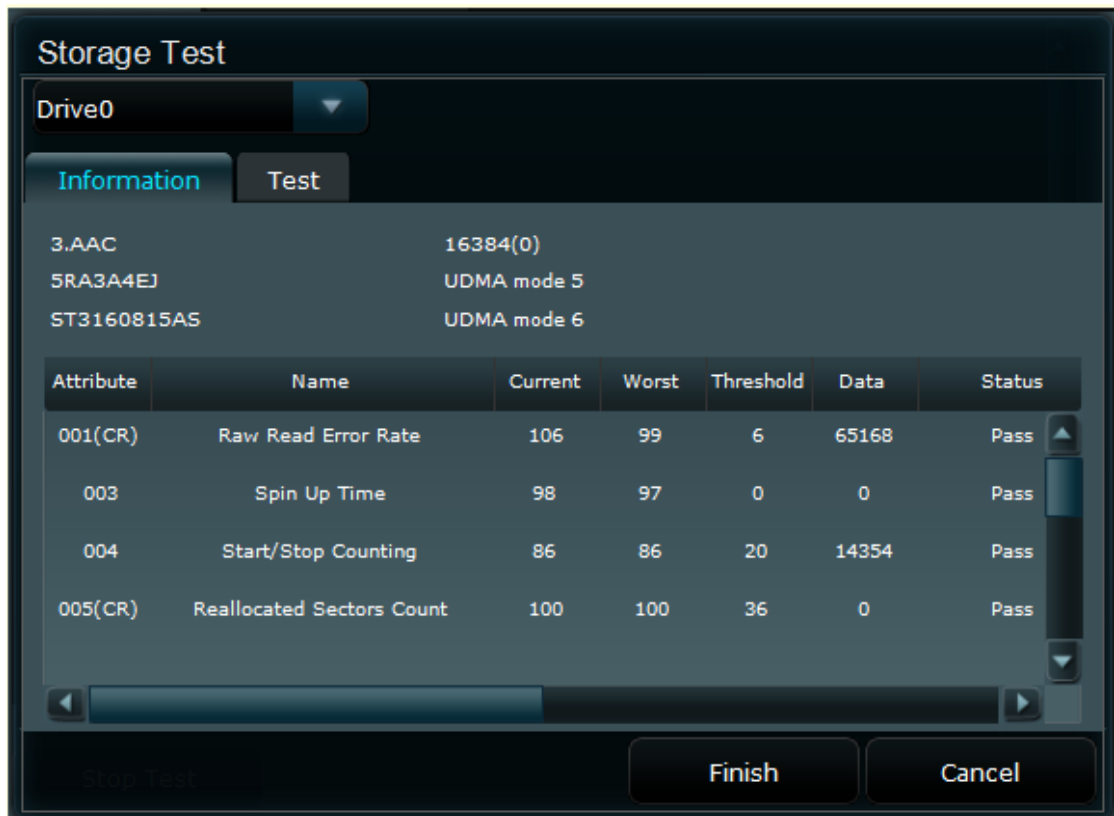
- SMART Status Test

Tests and displays the hard disk drive's SMART (Self-Monitoring Analysis and Reporting Technology) status, which allows you to check the health status of the hard disk drive.

Note: The test only runs when the target hard disk drive supports the SMART technology.

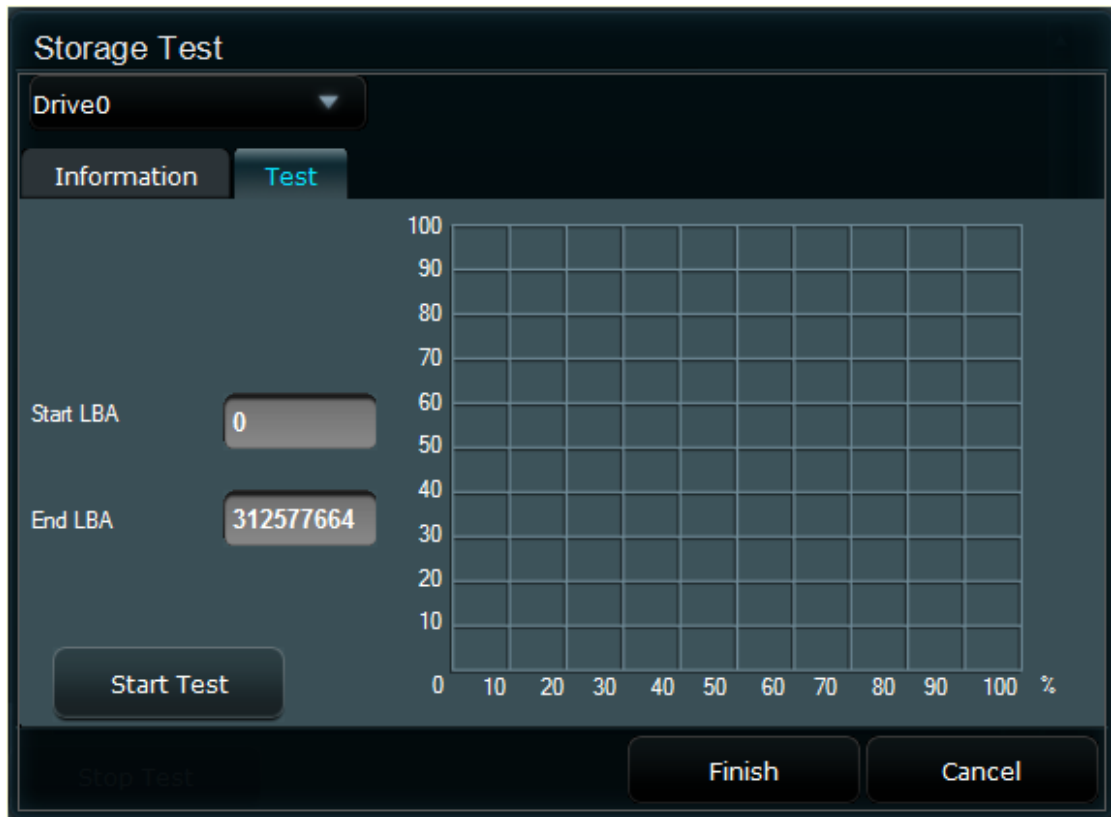
Note: If the hard disk drive is in RAID mode, it's SMART status can not be got.

SMART Status Test Screen (Click the items to get more information.)



- HDD Read Speed Test

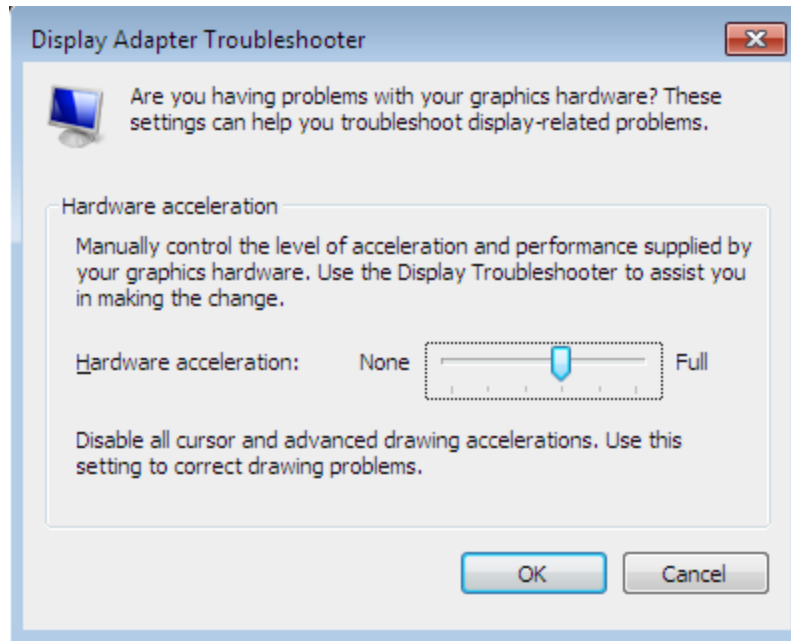
HDD Read Speed Test Screen (Click the items to get more information.)



Display Adapter

Note: This is an interactive test.

Note: Before starting the video test, ensure that the hardware acceleration is set to a level that this video test supports. See the figure below.



Video Test items:

- Texture Mapping Test

Tests if the display adapter supports the texture mapping function.

- Fixed Transformation and Lighting Test

Note: This test only runs when you have installed DirectX 9.0 or later version on your computer.

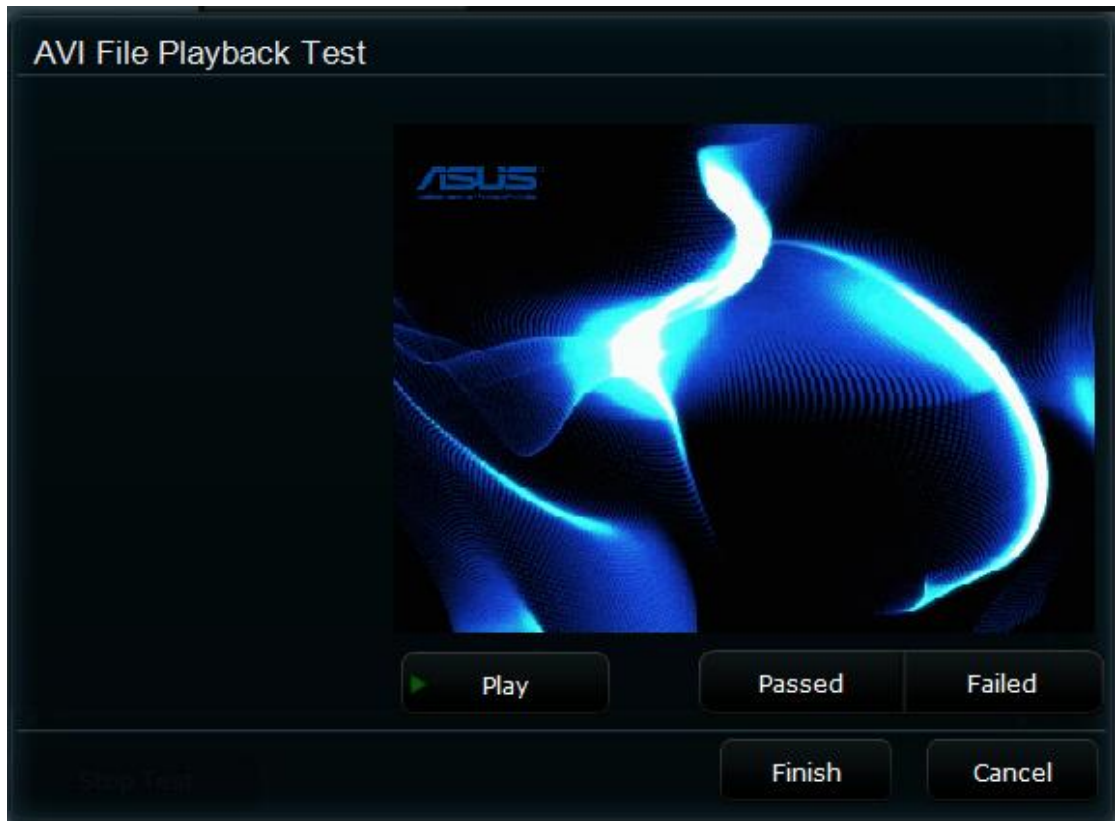
This test, putting a large number of calculations on the GPU, is to test the strength of the GPU. This test determines the GPU's capacity to handle a heavy load.

- AVI File Playback Test

When you run this test, a video clip with background music appears. If you do not see the video or hear the music, the test failed.

Note: The Texture Mapping Test and the Fixed Transformation and Lighting Test will be automatically completed. After the AVI File Playback Test, you have to click Passed/Failed to send the results to the sub tester.

AVI File Playback Test Screen (Click the items to get more information.)



Network Adapter

Note: This is an interactive test.

Network Adapter Test items:

- TCP/IP Test

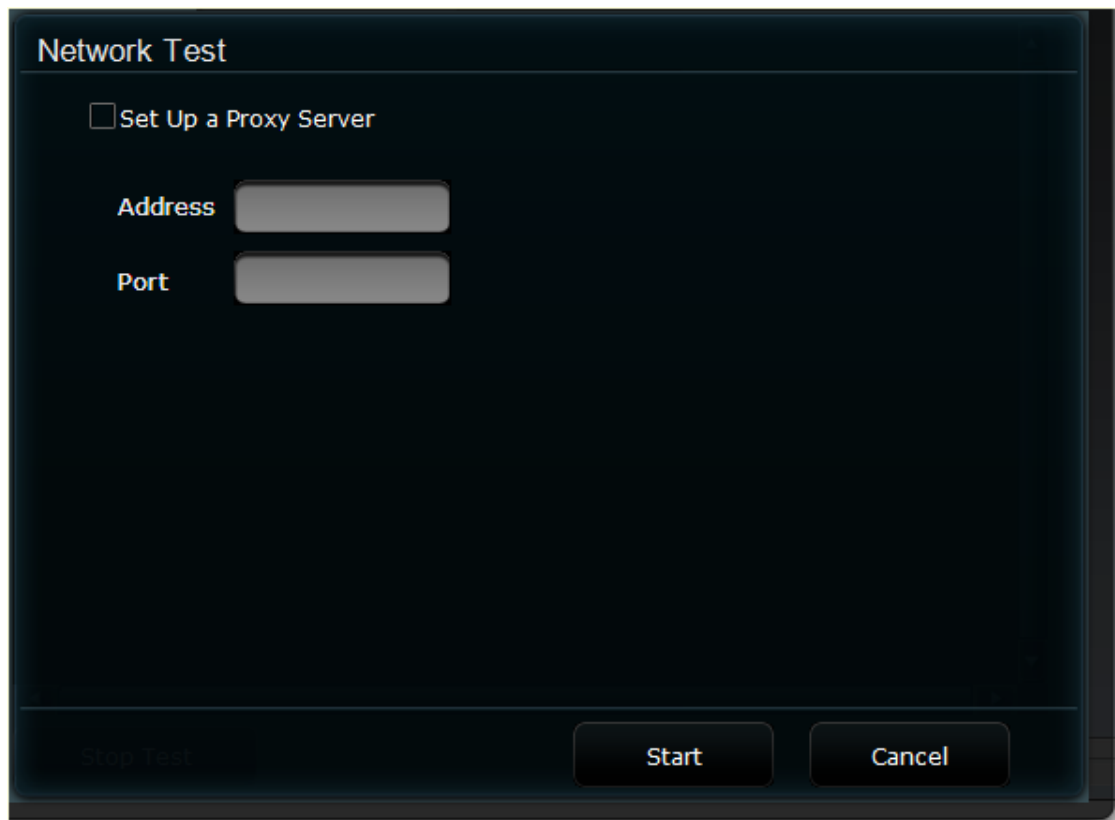
Tests if the TCP/IP protocol is properly configured.

- Network Connection Status Test

Note: This test launches the ASUS website through the PING command. These three reasons may cause the test to fail: (1) The current network connection is abnormal. (2) The ASUS official website is not accessible. (3) The firewall blocked the PING command.

Note: You can configure the proxy settings during the network test. If you are asked to configure the proxy settings to access the ASUS official website, configure the settings in this area. If not, ignore the proxy settings and start the test directly.

Network Adapter Test Screen (Click the items to get more information.)



Monitor

Note: This is an interactive test.

Monitor Test items:

- Solid Color Test

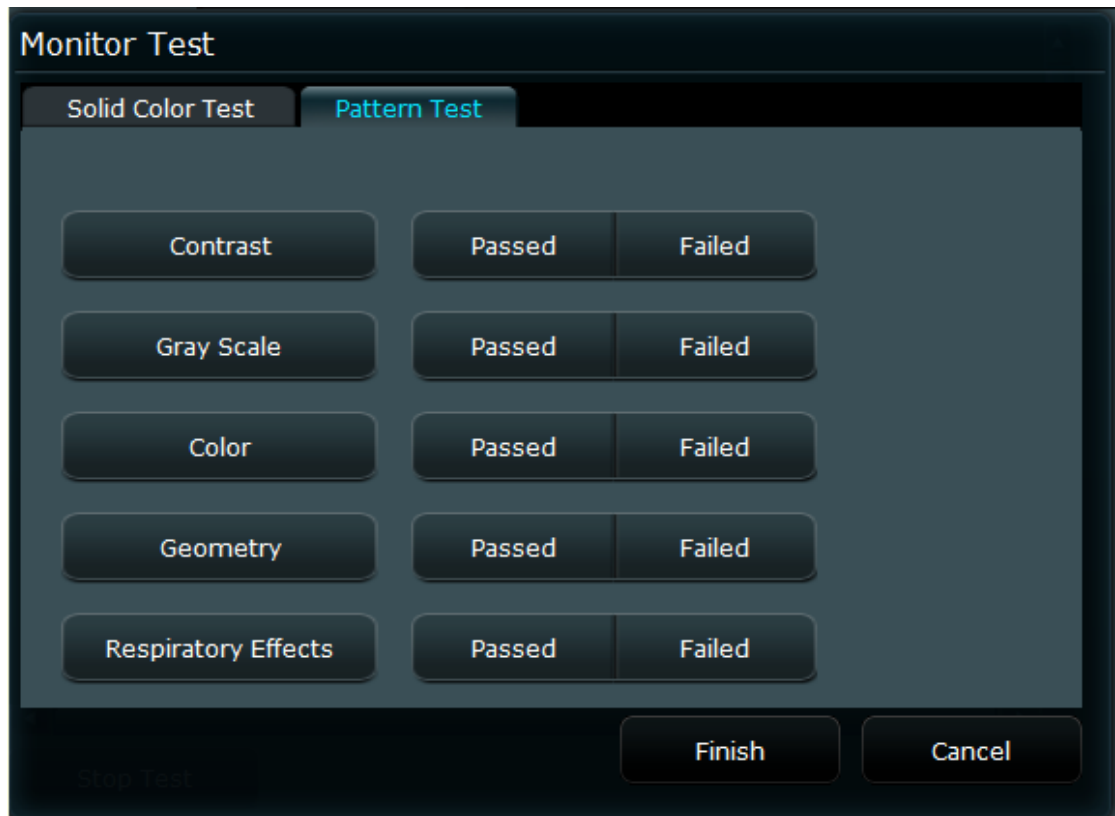
Sets the screen to solid red, green, blue, black, and white to test if there are dead pixels (bright or dark spots).

- Patterns Test, including:
 - Contrast Test
 - Gray Scale Test
 - Color Test
 - Geometry Test
 - Respiratory Effects Test

Note: The Respiratory Effects Test checks the CRT monitor's Respiratory Effects.

- Note: During the above tests, you have to click Pass/Fail to send the result to the sub tester.

Monitor Test Screen (Click the items to get more information.)



Audio Device

Note: This is an interactive test.

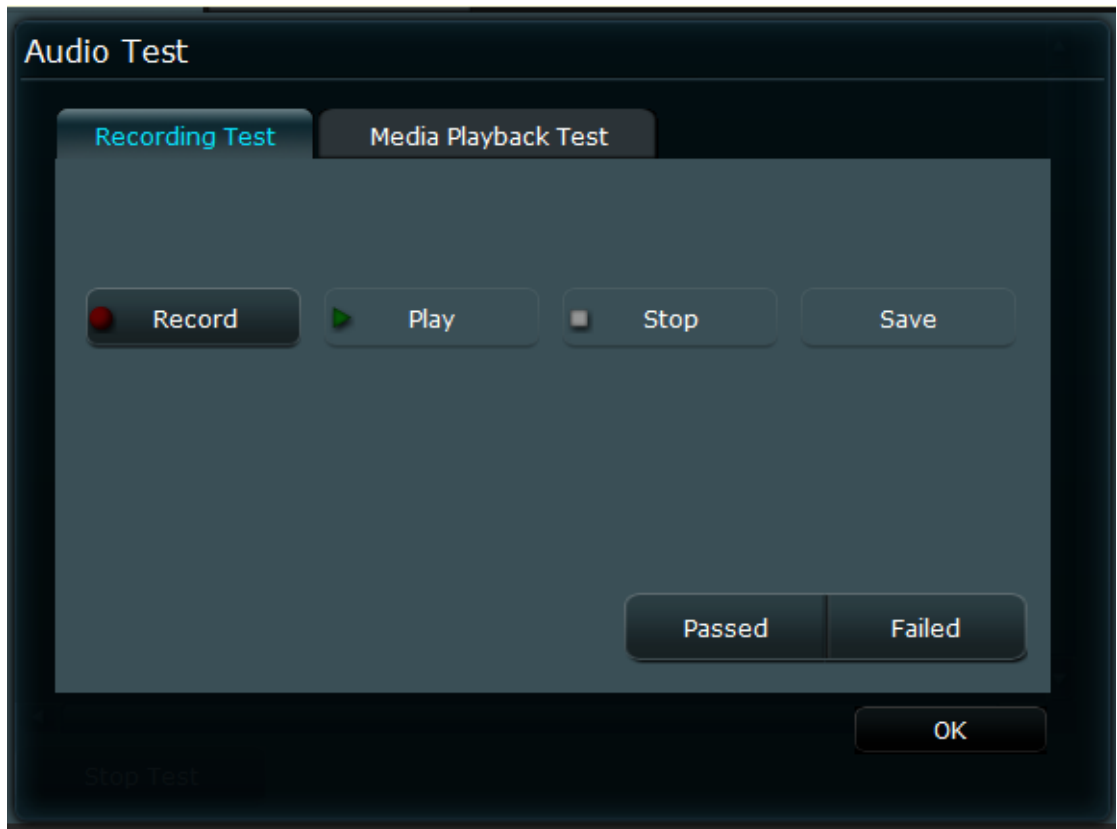
Audio Device Test items:

- Recording Test

After you start the test, click Record to start recording, and then click Play to play the recording. Based on the recording quality, click Pass/Fail to send the result to the sub tester.

Note: Before you start recording, ensure that your computer's microphone is turned on.

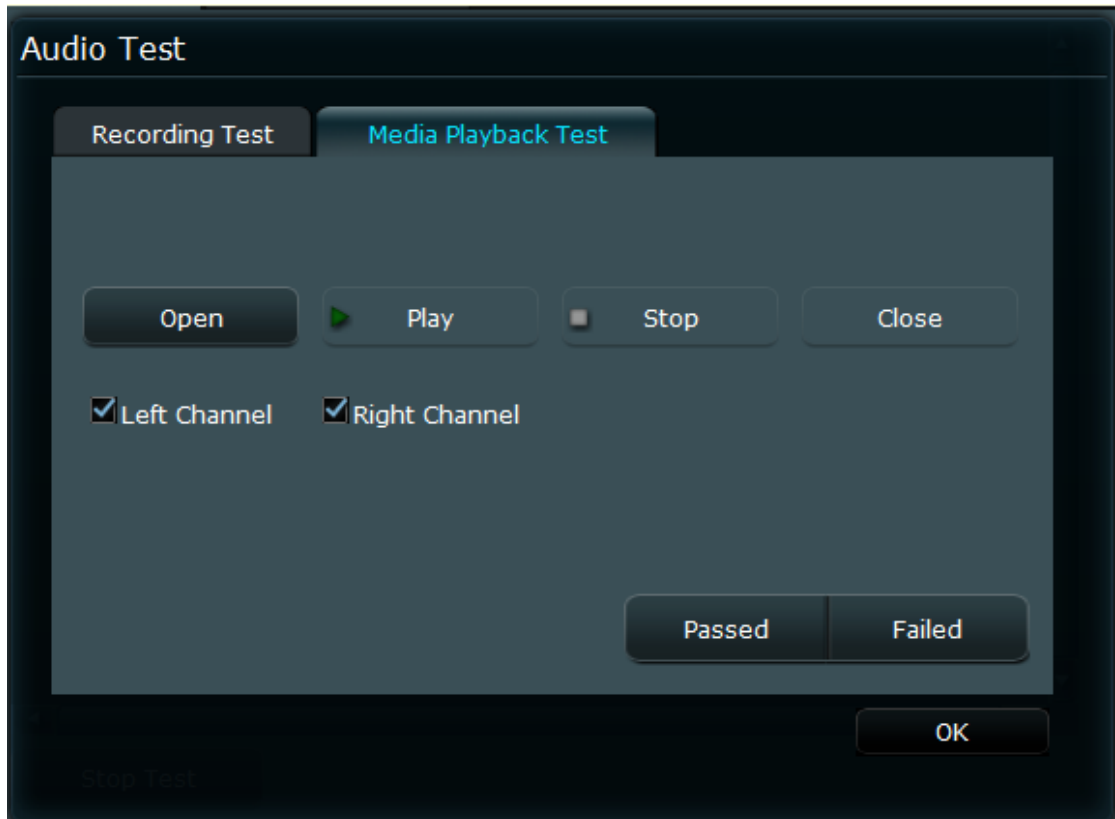
Recording Test Screen (Click the items to get more information.)



- Multimedia Playback Test

After you start the test, click Open button to select a music file, and then click Play button to play the music. Based on the playback quality, click Passed/Failed to send the result to the sub tester.

Recording Test Screen (Click the items to get more information.)



Keyboard/Mouse

Note: This is an interactive test.

Keyboard/Mouse Test items:

- Keyboard Test

After you start the test, press a key on the keyboard. Ensure that the key shown on the test screen is the same as the one you pressed.

Note: This test only starts when you use a 105-key standard keyboard. If some of the keys on your keyboard cannot be found on the test screen, do not test the keys.

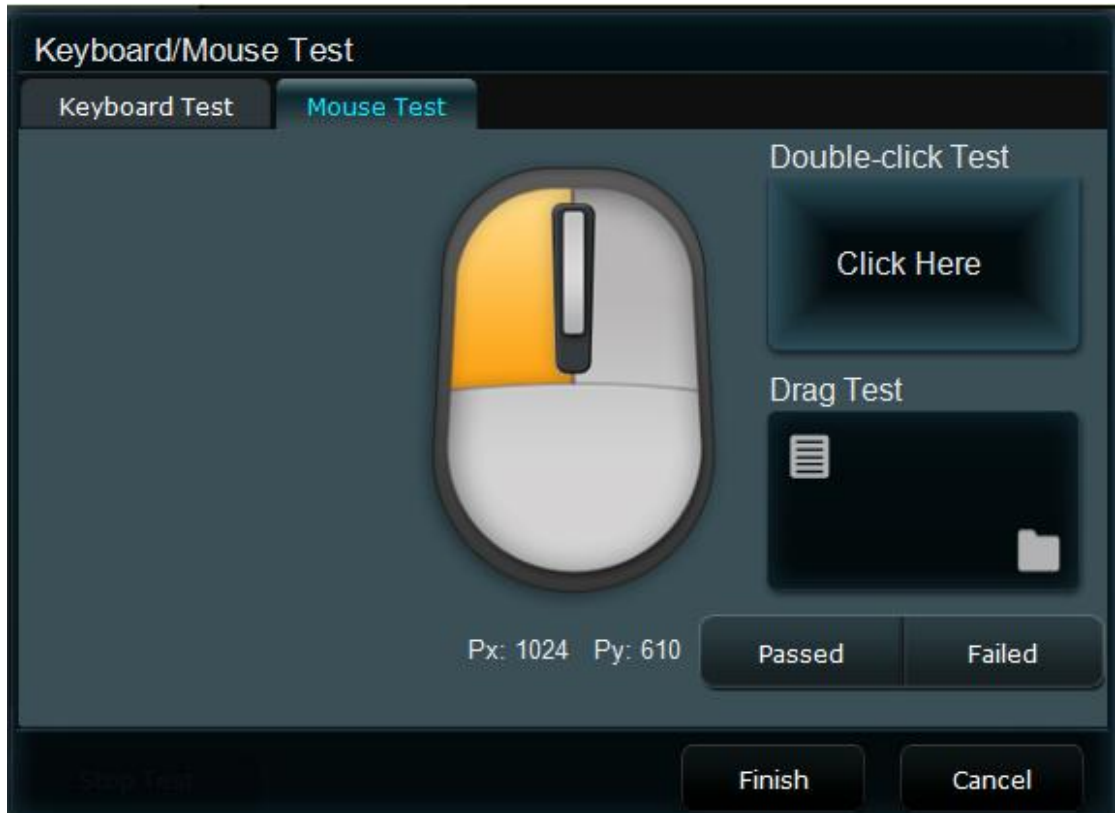
Keyboard Test Screen (Click the items to get more information.)



- Mouse Test

The Mouse Test includes the clicking, scrolling and dragging tests.

Mouse Test Screen (Click the items to get more information.)



COM Port

Note: This is an auto test.

Serial Port Test items:

- Loopback Test

After setting the Serial Port to the Loopback mode, tests the stability of the Serial Port with different baudrates including 115200 bps, 57600 bps, 38400 bps, 19200 bps, 9600 bps, 4800 bps, 2400 bps, and 1200 bps.

Note: The actual max. test baudrates vary with devices.

- Control Pins Test

Tests if the signal status of pins of the Serial Port are correct.

Note: If the current Serial Port is in use, it can not be tested. Please remove the device from the Serial Port before testing.

Parallel Port

Note: This is an auto test.

Parallel Port Test items:

- TFIFO Mode Test

After setting the Parallel Port to the TFIFO mode, tests the stability of its data transmission.

Note: This test is only for a Parallel Port supporting the ECP mode. If the current Parallel Port does not support the ECP mode, the result of this test shows Not Tested.

Note: If the current Parallel Port is in use, it can not be tested. Please remove the device from the Parallel Port before testing.

CMOS

Note: This is an auto test.

CMOS Test items:

- CMOS Mode Test

Tests if the CMOS space is valid through the read/write parameters 0x55/0xAA.

RTC

Note: This is an auto test.

RTC Test items:

- RTC Accuracy Test

Tests whether the RTC is accurate.

USB

USB Test items:

- Lists the USB Host Controllers and the USB devices.
- **PCI(E)**
- _____
- Note: This is an auto test.
- PCI(E) Test items:
- Detects the connection status, the connection bandwidth, and the manufacturer ID, device ID, device type and other information of the PCI / PCIE slots.

Camera

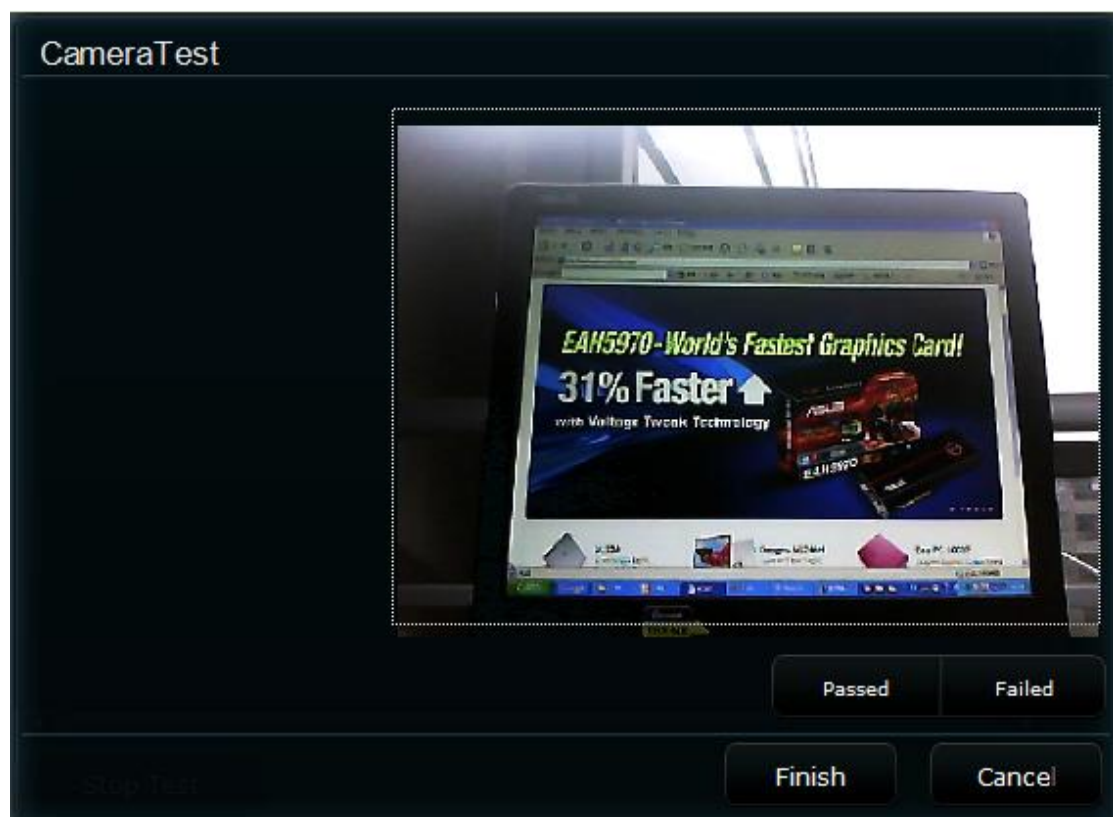
Note: This is an interactive test.

Camera Test Items:

- Tests if the camera is working properly.

After you start the test, camera test subroutine will attempt to initiate a connection to the system's camera device, and capture an image which will be shown in the test dialog box. At this point, compare and determine if the actual scene is consistent with the image. Click Passed/Failed to send the result to the sub tester.

Camera Test Main Screen (Click the items to get more information.):

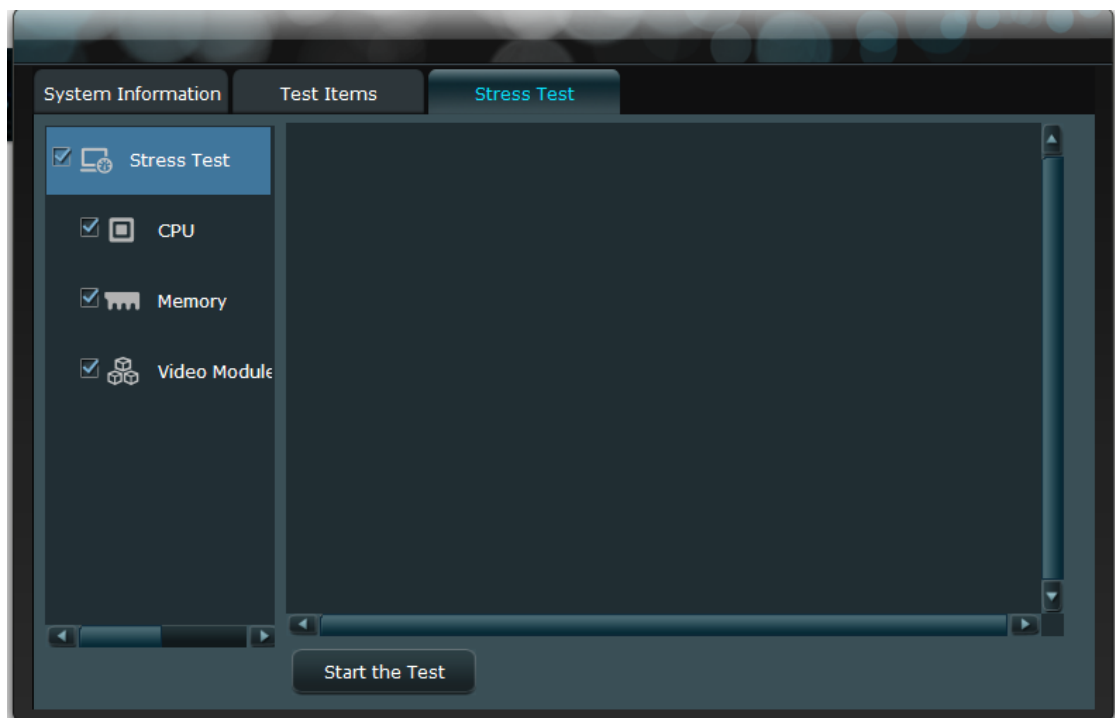


System Stress Test

The ASUS PC Diagnostics checks the system stability using specially designed stress testers to test the main components such as the CPU, memory, and display adapter. The System Stress Test includes:

- [CPU Stress Test](#)
- [Memory Stress Test](#)
- [Display Adapter Stress Test](#)

System Stress Test Main Screen (Click the items to get more information.)



CPU Stress Test

CPU Stress Test items:

- Pi Calculation Test

Runs the high-precision Pi calculation on each logical CPU to test the stability of the CPU under heavy load. If the test runs normally in the specified period or before you stop it, the test is successful.

Memory Stress Test

Memory Stress Test items:

- Tests the stability of the memory modules.

Uses a variety of parameters and approaches to test the stability of the memory modules.

To access more memory for assessing the current physical memory load capacity, enable the Lock Pages in the memory settings, if the current account policy allows it. Refer to the operating system's Help file for more details on enabling the Lock Pages.

Display Adapter Stress Test

Display Adapter Stress Test items:

- Texture Mapping Test
- 3D Rendering Test

During the specified time, the above two tests run alternatively to assess the display adapter load ability.

Test Results Analysis

For each devices test (such as the System Devices Test / System Stress Test), the ASUS PC Diagnostics shows the corresponding test results as Passed, Failed, or Value.

- Passed

Indicates that the test is successfully completed with no errors.

- Failed

The test cannot be completed because one or more errors are detected during the test.

- Value

For such a test as the Memory Read/Write Speed Test with a value as the result, there will be a test result value which indicates a certain performance characteristics of the device.

- Force Quit

This test is stopped by the user.

- Internal Error

One or more non-device-related errors (such as insufficient system memory) are detected when testing.

- Not Tested

This item is not tested.

- Incorrect connection

The device is not properly connected.

Send to ASUS

When ASUS PC Diagnostics detects problems with your system, you can use this function to send a report to ASUS.

Note: To help solve the problem, please fill in all boxes as completely and accurately as possible.

Send to ASUS Screen (Click the items to get more information.)

Send the Report to ASUS: Windows 7 Home Premium

User Name:

Email:

Country:

Product Type:

RAM Vendor:

VGA Vendor:

MB Version:

Description:

Send

Close