

AOMEI[®] Partition Assistant

User Manual



AOMEI Partition Assistant

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1 Getting Started

This Chapter describes AOMEI Partition Assistant main features, the system requirements, supported file systems, operating systems and storage media. Please take the time to be familiar with these powerful and comprehensive features before using Partition Assistant for the first time.

Additional assistance, including screenshots, can be viewed at:

www.diskpart.com/manual.html

A Glossary is contained in Chapter 6.

1.1 Overview of AOMEI Partition Assistant

AOMEI Partition Assistant is a highly-efficient, easy-to-use and multifunction partition management software, with user friendly operations to assist you manage the partitions of your hard drives. Under the help of Partition Assistant, you can easily & fast create/delete and merge/split the partition and the most advantage is that it resize/move your partition to readjust the partition volume on the basis that it ensures the security of your data.

1.2 System Requirements and Supported Operating Systems

Minimum Hardware requirements

- 500 MHz x86 or compatible CPU
- 256MB RAM
- Mouse or another pointing device (recommended)

Supported Operating Systems

- Microsoft Windows 11 (all editions, 32-bit and 64-bit)
- Microsoft Windows 10 (all editions, 32-bit and 64-bit)
- Microsoft Windows 8/8.1 (all editions, 32-bit and 64-bit)
- Microsoft Windows 7 (all editions, 32-bit and 64-bit)
- Microsoft Windows Vista (all editions, 32-bit and 64-bit)
- Microsoft Windows XP (all editions, 32-bit and 64-bit)
- Microsoft Windows Server 2022 (all editions)
- Microsoft Windows Server 2019 (all editions)
- Microsoft Windows Server 2016 (all editions)
- Microsoft Windows Server 2012 and 2012 R2 (all editions)
- Microsoft Windows Server 2008 and 2008 R2 (all editions)
- Microsoft Windows Server 2003 and 2003 R2 (all editions)
- Microsoft Windows Home Server (WHS) 2011
- Windows Small Business Server (SBS) 2011

Supported File Systems

- NTFS
- FAT16
- FAT32
- ReFS
- Ext2/3
- ExFAT

For ReFS, Ext2/3, ExFAT file systems and other unknown file systems, AOMEI Partition Assistant only supports format, delete, wipe operations.

AOMEI Partition Assistant supports almost all storage devices recognized by Windows, such as IDE, SATA, SCSI, SSD, USB external disks, RAID (Redundant Array of Independent Disks) and NAS (Network Attached Storage). Additionally, Partition Assistant supports MBR (Master Boot Record) and GPT (Globally unique identifier Partition Table) disk standards and works effectively with the UEFI (Unified Extensible Firmware Interface) start-up process.

1.3 Install and Uninstall AOMEI Partition Assistant

Install

Run AOMEI Partition Assistant setup program **PAssist_Setup.exe**.

When the popup window appears, select "**Next**" and follow the wizard installation instructions.

After the installation process has completed, a prompt may appear to restart the computer to complete the installation.

Uninstall

Partition Assistant can be uninstalled using one of following two methods in Windows.

1. Go to the Start Menu -> AOMEI Partition Assistant -> Uninstall AOMEI Partition Assistant

Or

2. Go to the Windows Control Panel -> Uninstall a program, right-click AOMEI Partition Assistant and uninstall it.

To completely uninstall the program, a prompt may appear requesting the computer be restarted, which can be deferred until a later time.

1.4 Product Main Window

AOMEI Partition Assistant works with the main interface, with menu bar, tool bar, disk panel, and sidebar and partition list. The main interface includes the number of disks, partition info, like drive letter, label, file system, status and free space,

which indicates the related information of the selected disk partition with a specific image.

You can click the menu or sidebar to select the disk/partition operations. In addition, some option availabilities (e.g. submenu) will be dependent on your choices. If you need to refresh the interface, just press F5 to reload the disk devices.

1.5 Partition Operation Properties

Displaying operation results

Results of any disk partition operation are immediately displayed in the Partition Assistant main window. If you create a partition, it will be immediately shown in the disk partition list, as well as in graphical disk panel at the bottom of the main windows. Any partition changes, including resizing, moving and labeling are also immediately displayed in the main window.

Pending operations

- All operations are pending until the user issues the command for the changes to be made permanent. Until then, Partition Assistant will only show the results that are provided by operations. Therefore, you can preview the latest changes first and then decide whether to perform or cancel specific operations.
- All pending operations are added to a pending operations list. You can view it in the Pending Operations List by clicking **Apply** on top tool bar. Partition Assistant enables you to control all planned operations by using **Undo** (Ctrl + Z) or **Redo** (Ctrl + Y) or discard all operations (Ctrl + D) on top tool bar.
- To commit pending operations, the user has to click the menu **Apply** -> **Proceed**. To prevent you from performing any unintentional change on your disk, the program will prompt you confirm the tasks when clicking the **Proceed** button.

Note:

- You must click **Apply** (Ctrl + Enter) -> **Proceed** to take effect the all pending operations.

2 Partition Operations

2.1 Resize and Move Partition

Along with data increased and application installed, when you write data to the partition again, you may find there is no more disk space to hold your new data. Partition Assistant allows you expand the partition of the low disk space safely, and also you can shrink partition and move partition.

1. Select the partition that you want to resize/move in main window, and click the **“Resize/Move Partition”** option in the left sidebar to invoke the Resize and Move Partition dialog. Or, right click the partition, and then select **“Resize Partition”** in Context Menu.
2. In the dialog, you can adjust the size and location of the partition by the following ways:
 - a) Directly type into a proper size into the Input Box field to adjust/remove the partition.
 - b) Position the mouse pointer on the left/right border of the partition and drag the border to extend/shrink partition. Then click **“OK”**. (If there's no unallocated space beside the partition, you could not drag the border).
 - c) Put the mouse on the selected partition and drag it leftwards/rightwards when the mouse become a cross crux to adjust the location of partition. Then hit **“OK”** to continue (If there's no unallocated space beside the partition, you could not move partition).
3. By clicking **“OK”**, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click the **“Apply”** on the top toolbar to commit the operation.

In addition, when you select **“Resize/Move Partition”** to move partition on SSD, we suggest you click **“Advanced”** button, and then tick **“Allow partition alignment to optimize the performance of SSD”** option. This feature could speed up SSD's read and write speeds, improve the performance of SSD. If you just extend/shrink partition on SSD, the partition would still not be aligned, even though the option is checked. In this case, you need to align partition manually after.

Note:

- Simple partition resizing can increase partition size only if there is unallocated space beside the partition. If you need to performs more complex partition extending, you can use **Extend Partition Wizard, Allocated Free Space, Merge Partitions** and so on.
- When moving system partitions, the system might stop booting. And, if you need to move system/boot partition (for example if the system/boot partition is at the

end of the hard disk) via **Resize/Move Partition** button, you must tick “I need to move this partition” option, and then you could move it.

- After moving or resizing the partition with restore point, you may lose the restore point created by Windows System Restore before.
- Some partition shrinking operation will be performed under Reboot Mode: Shrink system and/or boot partition; Shrink a partition on which the page file or AOMEI Partition Assistant installation file is on; Shrink a partition where applications are running.

2.2 Merge Partitions

With the help of Partition Assistant, you could merge two partitions into one without losing data or merge unallocated space to a existing partition.

1. Select one partition that you want to merge in main window, and click “**Merge Partitions**” option in the left sidebar to invoke Merge Partition dialog. Or, right click the partition, and then select “**Merge Partitions**” in Context Menu.
2. In the pop-up window, select the two partitions that you want to merge. And also select one partition as the merged host partition (for example, merge F:drive to D:drive, D:drive is the host partition). Or, select a partition and the unallocated space to merge, Then Click “**OK**”.
3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click the “**Apply**” on the top toolbar to commit the operation.

Note:

- After merged two partitions, for example, merge E:drive to D:drive, it will create a E-drive folder under merged D:drive to save data of F:drive.
- You could select multiple unallocated space to merge into any an existing partition.
- You could only merge two partitions every time. And, the two partitions you want to merge must be adjacent and on the same disk.
- You could merge data partition into system partition, but could not merge system partition in to data partition.
- The “system reserved” partition could not be merged.
- The host partition need to have at least 1 GB free space before merging.
- If the partitions you want to merged are running applications, AOME Partition Assistant will suggest you to close them or perform the operation under Reboot Mode.

2.3 Split Partition

Split Partition can split the unused space of a partition to create new partitions. With the help of this function, you can quickly split one big partition into two or more smaller ones.

1. Select one partition that you want to split in main window, and click “**Split Partitions**” option in the left sidebar to invoke Split Partition dialog. Or, right click the partition, and then select “**Split Partitions**” in Context Menu.
2. In the pop-up window, drag the double-headed arrow leftwards or rightwards to determine the size of the original partition and new partition. Or you can directly type into the size you want to give to the new/original partition, and click “**OK**” to continue.
3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click the “**Apply**” on the top toolbar to commit the operation.

For advanced settings. In the popup window, by clicking the “**Advanced**” button, you could specify partition label, partition type (Primary/Logical) for the new partition. If you are using SSD, you could align the partition by tick “**Allow partition alignment to optimize the performance of SSD**”, which could help you speeding up SSD’s read and write speeds, improving SSD performance.

In addition, you also can split partition via the keyboard input: select the partition which you want to split and then directly press **Enter** key -> enters a proper value as new partition size and change the drive letter -> press **Enter**. You can also rapidly repeat clicking **Enter** key to split it into several partitions quickly and commit the changes by pressing **Ctrl + Enter**.

Note:

- When there are four primary partitions on an MBR disk, if you want to split one of them, the partition that is being split will be converted to logical partition automatically.
- When there are four primary partitions on an MBR system disk, the program does not allow you to split the system partition or boot partition. In this case, you could convert one of other partitions from primary to logical partition, and then you can split system or boot partition.

2.4 Allocate Free Space

Allocate Free Space could help you quickly move free space from one partition to another partition in order to increase the target partition size.

1. Select one partition that you want to allocate free space in main window, and click “**Allocated Free Space**” option in the left sidebar to invoke Allocated Free

Space dialog. Or, right click the partition, and then select “**Allocated Free Space**” in Context Menu.

2. In the pop-up window, type into the size of the free space which you want to cut from this partition and select the destination partition which the free space will be directly added into.
3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click the “**Apply**” on the top toolbar to commit the operation.

Note:

- You can only allocated free space from one partition to another partition on the same disk.
- You can't allocate the space greater than the free space of the partition to another partition.
- The partition you want to allocated from must have at least 1 GB free space.

2.5 Clone Partition

Partition copy could help you quickly back up your important partition or clone partition to another hard disk so as to prevent data loss from program error or some other accidental affairs.

1. Select one partition that you want to copy in main window, and click “**Clone Partition**” option in the left sidebar to invoke Partition Copy Operation dialog. Or, right click the partition, and then select “**Clone Partition**” in Context Menu.
2. In the pop-up window, choose a clone method, click “**Next**”.
 - 1) “**Clone Partition Quickly**”: Only copy the used space of the partition. So, the destination location could be smaller than the source partition but must be larger than the used space.
 - 2) “**Sector-by-Sector Clone**”: Copy all sectors of the partition whether used or not. So, the destination location must be equal or larger than source partition.
3. Select the appropriate unallocated space as destination, click “**Next**”. If the unallocated space exists in SSD, you can tick “**Optimize the performance for SSD**”, which could help you speeding up SSD's read and write speeds, improving SSD performance.
4. Position the mouse pointer on the left/right border of the partition and drag the border to extend/shrink the destination partition. And, you also can change the partition type(Primary/ Logical) and drive letter of destination partition, then click “**Finish**”.

5. After that, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- Only unallocated space could be set as destination partition.
- If you use “**Sector-by-Sector Clone**” way, it can’t resize the destination partition in Step 3.
- “**Sector-by-Sector Clone**” could clone all data on the drive include recoverable data which means the data that have been deleted or formatted by mistake or virus affection, etc. You can use data recovery tool to recover deleted or formatted data.
- If you copy a partition to another MBR disk with three primary partition, it will be logical partition after copied.
- You can’t copy a partition to another MBR disk with four primary partition, you need to convert a partition on target disk to logical and then do the partition copy.
- If you copy system partition, the operation need to be completed under the Reboot Mode. And, for system partition copy, we suggest that you use system migration feature.
- Partition copy also has a wizard which could help you quickly perform partition copy operation. You can invoke the Partition Clone Wizard under All Tools.

2.6 Create Partition

To create partition is actually to partition hard drive. Only after you creating partition(s) on a disk and then you can make use of the disk to save all kinds of data. And, creating more than one partition enables you to have operating system separate from data, deploy multi-boot setups and so on.

1. Select the segment of unallocated space which you would like to create a partition on. The “**Create Partition**” button will become available on the left sidebar and in the context menu of the right click.

If there’s no unallocated space you could also create partition from an exist partition: select the partition which has a lot of free space and then right click the partition --> “**Create Partition**” or in the left sidebar select “**Create Partition**”, the program will take some free space from the selected partition to create a new partition.

2. In the “**Create Partition**” dialog, enter a proper value as new partition size, assign a drive letter and select a file system to the created partition. Meanwhile, you could also drag and move the graphical Partition Bar to change the partition size or location on the disk.

For advanced settings, by clicking the “**Advanced**” button at the left bottom, you could specify partition label, partition type (Primary/Logical) and adjust the partition location by setting unallocated space before/after. And, if you are using SSD, “**SSD partition alignment**” is suggested, which could improve the performance of SSD.

3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

The quickest way to create partition via keyboard: select the segment of unallocated space and then directly press **Enter** key -> directly enters a proper value as the new partition size -> press **Enter**. You can also rapidly repeat clicking **Enter** key to create several partitions quickly and commit the changes by pressing **Ctrl + Enter**.

Note:

- As a rule, Primary is selected if you create a partition to install an operating system.
- To select a file system for new partition, we recommend you select NTFS, because FAT32 supported the max file is 4GB.
- You can create EXT format partitions under Windows, but Windows is not unable to recognize EXT format partitions.
- If there are four primary partitions on MBR disk, you can't directly create a new partition, you need to convert a partition to logical and then continue to create partition.
- If you want to create partitions on a blank disk, Quick Partition is recommended.

2.7 Delete Partition

After delete partitions, it will be unallocated space, which can be used to create new partitions or extend existing partitions.

1. Select one partition that you want to copy in main window, and click “**Delete Partition**” option in the left sidebar to invoke the operation dialog. Or, right click the partition, and then select “**Delete Partition**” in Context Menu.
2. Select the deletion method in the Delete Partition dialog:
 - Delete partition quickly (delete partition without wiping disk sectors).
 - Delete partition and wipe data on it. The data recovery software cannot recover the data on the partition after wipe data.
3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- The program does not allow you delete the current system partition and boot partition.
- If you want to delete all partition on a disk one time, you can click the whole disk and then select “**Delete all Partitions**”.
- If you want to directly wipe data of partition or disk, “**Wipe Partition**” or “**Wipe Hard Drive**” is recommended.

2.8 Format Partition

Format is designed to change the file system or cluster size of the partition in order to re-arrange the format of the stored data, but the original format and data will be destroyed.

1. Select the partition that you want to format in main window, and click “**Format Partition**” option in the left sidebar to invoke the operation dialog. Or, right click the partition, and then select “**Format Partition**” in Context Menu.
2. In the dialog, enter the partition label, and select a file system of your desired (e.g. FAT32 or NTFS). For the cluster size (with Default, 512 bytes, 1, 2, 4... 64 KB), having selected Default, Partition Assistant will automatically determine the cluster size depending on selected file system and partition size, and the Default option is recommended.
3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- Partition formatting destroys all its data, including files and folders! Take special care when performing the operation.
- The smaller of the cluster size may let your partition generate many file fragments during the process of the data read-write. The bigger cluster may waste less disk space. We suggest you use this default value.
- If you may need to save some big files greater than 4GB to the partition, we suggest use NTFS to format due to the 4GB file limitation of FAT32.

2.9 Change Label

Partition label is an optional name assigned to a partition for easier recognition of your partitions. For example, one could be called Windows which represents a partition with an OS, Games which represent a pastime partition, etc.

To change a partition label:

1. Select a partition which label needed to change, and click the “**Change Label**” option in the left sidebar to invoke the operation dialog. Or, right click the partition, and then select “**Change Label**” in Context Menu.
2. Enter a new label in the Input Box field.
3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- In Windows, partition labels are shown in the Explorer disk and folder tree: System (C:), Work (D:), etc. System and Work are partition labels.
- For FAT/FAT32/exFAT partition, the label can be set up to 11 characters, but in NTFS, the partition label is up to 32 characters.

2.10 Change Drive Letter

Windows assign drive letters (C: D :,...) in order to access the files or folders on the drive.

To change a letter assigned to a partition:

1. Select a partition which you need to change or assign drive letter, and click the “Change Drive Letter” option in the left sidebar to invoke the operation dialog. Or, right click the partition, and then select “**Advanced**”-->“**Change Drive Letter**” in Context Menu.
2. Specify the new drive letter to assign to the partition by clicking drop down list. The partition’s original letter will be deleted if you selected the new letter is None.
3. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- Directly changing a partition letter might affect some shortcuts or applications in the partition are unavailable.
- If the drive letter you want to use isn’t list under “**New Drive Letter**”, please check if other partitions or CD/DVD have used it.
- The partition with “*” might be a hidden partition or has no drive letter.

2.11 Hide and Unhide Partition

You can hide or unhide partitions easily with Partition Assistant. After hiding partition, the drive letter will be removed; the mean is you can not access the data on the partition by My Computer - Explorer.

To hide or unhide partition:

1. Select a partition which you need to hide, and click the “**Hide Partition**” option in the left sidebar to invoke the operation dialog. Or, right click the partition, and then select “**Advanced**”-->“**Hide Partition**” in Context Menu.
2. By clicking “**OK**”, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- The hidden partition in the system is not available for use. If you want to use it again, you should unhide this partition. Moreover, after hiding, you are unable to assign drive letter because Windows does not allow. Unhide will reallocate a drive letter to the partition for use.
- The partition with “*” might be a hidden partition or has no drive letter.

2.12 Set Active Partition

Typically, your disk always has only active partition. A Windows operating system need to be booted from the active partition, therefore, it is very important. If you have several primary partitions on a disk, you must specify one to be the boot partition. For this, you can set a partition to active, and then this will make that the partition is able to boot an OS. Besides, a disk can have only one active partition.

To set active partition:

1. Select a primary partition which you want to active, and click the “**Set Active Partition**” option in the left sidebar to invoke the operation dialog. Or, right click the partition, click the “**Advanced**” ->“**Set Active Partition**” option in Context Menu.
2. By clicking “**OK**” this will add a pending operation, and the changes will be represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- Before you make a partition active, you must make sure it is formatted and contains an operating system, or contains boot.ini file or BCD file under Boot folder. Otherwise your PC will not boot from this partition!
- Setting the partition as active will cause another primary partition to change to inactive.

2.13 Convert Partition to NTFS

This function will convert partition from FAT to NTFS partition. To do this, you can improve the partition performance.

File system conversion steps:

1. Select a FAT partition which you want to convert, and click the **“Convert to NTFS”** option in the left sidebar to invoke the operation dialog. Or, right click the partition, click the **“Advanced”**->**“Convert to NTFS”** option in Context Menu.
2. By clicking **“OK”** this will add a pending operation, and the changes will be represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- If the conversion is failed by using Partition Assistant, please use Windows built-in the command convert.exe to FAT to NTFS in command line prompt.
- **NTFS to FAT32 Converter** wizard under **All Tools** supports converting NTFS to FAT32 and FAT32 to NTFS.

2.14 Convert Primary/Logical Partition

If there are four primary partitions on a MBR disk, you will unable to create other new partitions. Here, you must convert one of them to logical partition. Partition Assistant supports convert between logical partition and primary partition.

1. Select a partition which you want to convert, and click the **“Convert to Primary”** or **“Convert to Logical”** option in the left sidebar to invoke the operation dialog. Or, right click the partition, click the **“Advanced”**->**“Convert”** option in Context Menu.
2. By clicking **“OK”** this will add a pending operation, and the changes will be represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- System partition or boot partition can not be converted from primary to logical.
- Converting Primary/Logical Partition only is available in MBR disk.

2.15 Wipe Partition

Wipe Data can erase the data completely and ensure that the data can not be recovered by any data recovery solution. This function can prevent undesired recovery of your deleted data.

To wipe partition

1. Select a partition that you want to wipe in the main window, and click the **“Wipe Partition”** option in the left sidebar to invoke the operation dialog. Or right click the partition, click the **“Wipe Partition”** option in Context Menu.

There are four wiping methods below

- a) Full sectors with Zero(Safe,Quick)
 - b) Full sectors with random data(Safe,Quick)
 - c) DoD 5220.22-M(Very Safe,Slow)
 - d) Gutmann(35 passes,Very Safe,Very Slow)
2. By clicking “**OK**” this will add a pending operation, and the changes will be represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- If you select “**DoD 5220.22-M**” method, you can specify the number of times to wipe from 1 to 7.
- You will not be able to recover any data that are wiped out.
- AOMEI Partition Assistant is not a file-level wipe software but a sector-level one. So, you can only use AOMEI Partition Assistant to wipe partition or disk. After a partition/disk has been wiped, all the files on it will be erased simultaneously. If you do need to wipe a specific file, then you have to download a file-level wipe software.

2.16 Change Partition Type ID

Change partition type to any other type in the list, it may cause some operating system could work with these partitions. Please exercise caution to perform this operation.

To change partition type

1. Select a partition which you want to change, and click the “**Change Partition Type ID**” option in the left sidebar to invoke the operation dialog. Or, right click the partition, click the “**Advanced**”->“**Change Partition Type ID**” option in Context Menu.
2. Select a new partition type ID, click “**OK**” to continue. Click “**Apply**” button on the toolbar to commit the operation.

2.17 Change Serial Number

The feature could help you change the partition serial number. But note that if you have no need to change it or not clear about the use, you’d better not to change it, since it may cause system not boot or work incorrectly. Please exercise caution to perform this operation.

To change serial number

1. Select the partition which you want to change serial number, click the “**Change Serial Number**” option in the left sidebar to invoke the operation dialog. Or, right

click the partition, click the **“Advanced”**-> **“Change Serial Number”** option in Context Menu.

2. Revise your partition serial number and click **“OK”** to continue; Click **Apply** on the toolbar to commit the changes.

2.18 Partition Alignment

Partition alignment can speed up Solid State Drive’s (SSD) read and write speeds. Especially when SSD was used as system drive, it could help you improve the overall performance of system.

To align partition

1. Select a partition you want to align, click the **“Partition Alignment”** option in the left sidebar to invoke the operation dialog. Or, right click the partition, click the **“Advanced”**->**“Partition Alignment”** option in Context Menu.
2. Set partition alignment to the default sector or other sectors (2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096) in the drop-down menu (Default **“Optimized”** is aligned to 2048 sector), then click **“OK”**.
3. By clicking **“OK”** this will add a pending operation, and the changes will be represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- When you perform partition alignment, the program will automatically detect whether the partition has aligned. If it prompts you **“the current partition is already optimized”**, at that rate you do not need to align it again.
- If you need to align the whole disk, please use the **“Align All Partitions”** function.
- When performing resize/move partition, the program will perform 4K alignment for the partition by default.

2.19 Check Partition

Check Error can discover some errors of the file system to ensure the integrity of your data files. And on a disk or any partition, the function will scan each sector status by reading data from the sector.

Check Steps

1. Select a partition or an unallocated space that you want to check in main window, and click the **“Check Partition”** option in the left sidebar to invoke the operation dialog. Or, right click the partition, click the **“Advanced”**-> **“Check Partition”** option in Context Menu.

2. Pick a check method in the Check Partition dialog:
 - Check partition and fix errors in this partition by using `chkdsk.exe`. If there are some errors in the partition, the errors will be fixed automatically by AOMEI Partition Assistant.
 - Check partition for errors by using `chedsk.exe`. This will discover file system's errors, and you also can use `chkdsk.exe /F` in CMD to amend the discovered errors.
 - Check whether there are bad sectors on the partition. This is a disk surface test, which will scan the selected disk space. Disk block no error will mark as green color and disk block with reading error will mark as red color.
3. By clicking "**OK**" to perform checking operation immediately.

2.20 Partition Properties

"**Partition Properties**" will show you more detailed information about your partition, such as: General information, Partition Information and File System Information.

To View Partition Properties

Select a partition, click the "**Properties**" option in the left sidebar. Or, right click the partition, click the "**Properties**" option in Context Menu.

You will see **General**, **Partition Info** and **File System Info**.

- **For General:**

You can see parameters such as: Total Size, Used Space and Free Space.

- **For Partition Info:**

You can see parameters such as: File system, Physical total sectors, First physical sector, etc.

- **For File System Info:**

You can see parameters such as: Bytes per sector, Sectors per cluster, File system total sectors, etc.

3 Disk Operations

3.1 Disk Clone

Disk Clone copies a hard disk drive to another disk drive. All data on the disk, including the operating system, applications, configuration settings and all partitions, etc., will be transferred to the destination disk.

This capability is especially useful when a system disk is about to run out of space and a larger capacity disk needs to be installed as a replacement. Disk Clone can also be used to migrate from HDD to SSD or for making a duplicate disk.

To clone a disk

1. Select one disk that you want to copy in main window, and click **“Clone Disk”** option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select **“Clone Disk”** in Context Menu.
2. In the pop-up window, there are two clone methods: **“Clone Partition Quickly”** and **“Sector-by-Sector Clone”**. Choose a method you want and click **“Next”**:
 - 1) **“Clone Disk Quickly”**: only clone used space of the disk to another disk. The destination disk could be smaller than source disk but must be larger than the used space.
 - 2) **“Sector-by-Sector Clone”**: clone all sectors of the disk to a target disk no matter whether it is used or not. The destination disk must be equal or larger than source disk.
3. Select another disk as destination, click **“Next”**.

Tips: If the target disk is SSD, you can tick **“Optimize the performance for SSD”**, which could help you speeding up SSD’s read and write speeds, improving SSD performance. If there are partitions on the destination disk, they will be deleted. Therefore, if these data are useful for you, please make a backup first.

4. In the next page, you could adjust the partition size by select three different Copy Options:
 - **Clone without resizing partitions:** Do not change anything.
 - **Fit partitions to entire disk:** The destination disk partitions will be automatically resized to the entire disk, appropriate for the disk size.
 - **Edit partitions on disk:** Manually adjust the partition size and location by dragging the slider bar.

Choose the appropriate method and click **“Next”**. If **“Sector by sector clone”** is selected, there is no the page, so it can’t adjust the partition size.

5. By clicking **“Finish”** this will add a pending operation, and the changes will be represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- Disk copy has a wizard which could help you automatically perform more complex copying partition. You can invoke the wizard by clicking Wizard -> Disk Copy Wizard in menu bar.

- A disk clone may take several hours depending on the size of the source disk.
- Dynamic disk, Offline disks could not be set as source or target disk.

3.2 Quick Partition

Quick Partition is especially designed to quickly repartition a hard drive. It applies to partition a new hard drive or repartition a hard drive that contains partitions already. Users can specify each partition size, type, volume label, etc. With only a few easy operations, a hard drive will be partitioned and formatted. If you don't want to change the default partition count, type, label, open "Quick Partition" window and click "Start Partitioning", and then the disk will be repartitioned and formatted quickly.

The Specific Steps:

1. Select one disk that you want to partition in main window, and click **“Quick Partition”** option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select **“Quick Partition”** in Context Menu.
2. Under **“Select Disk”**, please choose the partition count you want to create. You can select partition count by mouse clicks or pressing the button “1, 2, 3, 4, 5, 6, 7, 8 or 9” manually. After selecting the corresponding partition count, they will be shown at right side of the dialog box immediately. In addition, you can amend the partition parameters at the right side of the dialog box.
3. In **“Disk Type”**, please select MBR or GPT type for the disk. When you select MBR disk, you can rebuild MBR for the disk. When you select GPT disk, you can choose to build ESP/MSR partitions or not. For aligning partitions option, generally, the alignment is selected for solid state drive (SSD), namely 2048 sectors. But this option does not have many effects on hard disk drives, so you can just leave it.
 - MBR disk: works with disks up to 2 TB in size. It will cause disk space wasted if you choose MBR for a disk with more than 2 TB of space.
 - GPT disk: it is suggested to select GPT partition table for disks larger than 2 TB or computers that use UEFI boot mode.
4. If you need to often use quick partition, you can check the option **“directly enter into “Quick Partition” window next time when you run the software”**. So, it will directly enter into Quick Partition window when the program starts to run. In the meantime, click **“Preset”** button to preset the partition count or size for disk. It is quite convenient for those who want to partition multiple disks in the same way. Those workers who often partition hard drives and install Windows can save the desired partition count and size in the Preset, so they can directly use the saved settings next time to perform quick partition.

5. When all settings are done, the layout of the disk will be presented visually in the preview window. Click "**Start Partitioning**" button or press "**Enter**" key to realize one-key quick partition. If there are old partitions in the disk, a warning message box will be shown up to you (no message if no partitions on the disk). Click "Yes" to continue, or "No" to cancel.

Note:

- **Warnings:** After performing quick partition, all the existing partitions on the disk will be deleted if there are partitions on the disk you selected.
- In "**Select Disk**", you can reselect a disk to do the quick partition without going back to the home screen of AOMEI Partition Assistant.
- Under Windows environment, AOMEI Partition Assistant doesn't support to directly repartition current system disk. It suggests that create an AOMEI Partition Assistant's WinPE Bootable Media, and then boot computer from WinPE to quickly partition system disk.
- Enabling Preset, the last partition size will be set automatically. For example: if you preset to create 3 partitions, then you can specify the size of the first and second partition, the last partition automatically uses remaining disk space as its size.
- If you need to repartition part space of a disk, you can use **Create Partition**, **Split Partition** and **Resize Partition** features.

3.3 Wipe Hare Drive

Wipe hard drive will delete all partitions and erase the data completely to ensure the data can not be recovered by any data recovery solution. This function can prevent undesired recovery of your deleted data.

To wipe hard drive

1. Select one disk that you want to wipe in main window, and click "**Wipe Hare drive**" option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select "**Wipe Hare Drive**" in Context Menu.
2. In the popup window, select a wiping method, click "**OK**".
 - Fit sectors with Zero (Safe, Quick)
 - Fit sectors with random data (Safe, Quick)
 - DoD 5220.22-M (Very Safe, Slow)
 - Gutmann (35 passes, Very Safe, Very Slow)

- By clicking **“OK”** this will add a pending operation, and the changes will be represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- If you select “DoD 5220.22-M” method, you can specify the number of times to wipe from 1 to 7.
- You will not be able to recover any data that are wiped out.
- AOMEI Partition Assistant is not a file-level wipe software but a sector-level one. So, you can only use AOMEI Partition Assistant to wipe partition or disk. After a partition/disk has been wiped, all the files on it will be erased simultaneously. If you do need to wipe a specific file, then you have to download a file-level wipe software.

3.4 Align All Partitions

Align All Partitions allows you to align all partitions on a disk with one click. It can speed up Solid State Drive’s (SSD) read and write speeds. Especially when SSD was used as system drive, it could help you improve the overall performance of system.

To align all partitions

- Select a disk you want to align, click the **“Align All Partitions”** option in the left sidebar to invoke the operation dialog. Or, right click the disk and choose the **“Align All Partitions”** option in Context Menu.
- Set partition alignment to the default sector or other sectors (2, 4, 8, 16, 32, 64, 128, 256, 512, 1024, 2048, 4096) in the drop-down menu (Default “Optimized” is aligned to 2048 sector), then click **“OK”**.
- By clicking **“OK”** this will add a pending operation, and the changes will be represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- When you perform partition alignment, the program will automatically detect whether the partition has aligned. If it prompts you “the current partition is already optimized”, at that rate you do not need to align it again.
- When performing resize/move partition, the program will perform 4K alignment for the partition by default.

3.5 Disk Surface Test

This feature could let you perform a scan on hard drive to looking for bad sectors. When a hard drive is manufactured, it usually contains some bad sectors. Over time,

more can develop. And if data stored in these area it could be corrupt or lost, so to check the bad sector is needed.

Steps to perform surface test.

1. Select one disk that you want to check in main window, and click “**Surface Test**” option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select “**Surface Test**” in Context Menu.
2. In the popup window, directly click “**Start**” to scan bad sectors or click “**Cancel**” to exit the window. Disk block no error will mark as green color and disk block with reading error will mark as red color.

Note:

- The feature only check if there are bad sectors on the disk. But, it can't repair bad sectors. You might need to use other tools to fix.

3.6 Rebuild MBR

Rebuild MBR could fix the corrupt Master Boot Record of a disk. It may help you repair some boot problem of system disk.

To rebuild MBR

1. Select one disk that you want to rebuild in main window, and click “**Rebuild MBR**” option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select “**Rebuild MBR**” in Context Menu.
2. Set the type of MBR for current OS, click “**OK**”.
3. By clicking “**OK**” this will add a pending operation, and the changes will be represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- The feature only can fix the boot problem caused by Master Boot Record.

3.7 Delete All Partitions

The feature will delete all partition on a disk, and you also wipe all data on the disk to ensure that the data can not be recovered by any data recovery solution.

1. Select one disk that you want to delete in main window, and click “**Delete all Partitions**” option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select “**Delete all Partitions**” in Context Menu.
2. Select the deletion method in the pop-up dialog, click “**OK**”.
 - Delete all partitions
 - Delete all partitions and wipe all data on the hard drive

3. By clicking “**OK**” this will add a pending operation, and the changes will be represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- If the current disk is a system disk, we suggest you do not clear the system disk. Otherwise, your PC can not boot on the next time.
- “**Delete all partitions and wipe all data on the hard drive**” is same with the “**Wipe Hard Drive**” feature.

3.8 Convert Disk between GPT and MBR

This feature could help you convert a disk with data into GPT or MBR style without data loss.

MBR was first introduced with IBM PC DOS 2.0 in 1983. It’s called Master Boot Record because the MBR is a special boot sector located at the beginning of a drive. This sector contains a boot loader for the installed operating system and information about the drive’s logical partitions.

GPT stands for GUID Partition Table. It’s a new standard that’s gradually replacing MBR. It’s associated with UEFI, which replaces the clunky old BIOS with something more modern. GPT, in turn, replaces the clunky old MBR partitioning system with something more modern. It’s called GUID Partition Table because every partition on your drive has a “globally unique identifier”, or GUID—a random string so long that every GPT partition on earth likely has its own unique identifier.

In MBR:

The maximum partition size is 2TB

You can have a maximum of 4 primary partitions

You can only store one bootloader

In GPT:

GPT breaks the 2TB limit and supports up to 18EB

You can have 128 primary partitions

You can store multiple bootloaders since GPT has a dedicated EFI System Partition (ESP)

To convert a disk to MBR/GPT disk

1. Select one disk that you want to delete in main window, and click “**Convert to GPT**” or “**Convert to MBR**” option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select “**Convert to GPT**” or “**Convert to MBR**” option in Context Menu.

2. Confirm your operation, by clicking “**OK**” to continue; Then click “**Apply**” button on the toolbar to commit the changes.

Note:

- For a system or boot disk, before converting it to GPT disk, we suggest that you make sure whether your motherboard supports EFI/UEFI boot or not, if does not support, please don't convert it to GPT disk.
- GPT and MBR is disk type. It will convert the whole disk between MBR and GPT, not a partition.

3.9 SSD Secure Erase

The Secure Erase will reset your performance dropping SSD to factory settings, which will increase the read and write speeds of SSD drive. However, it will cause loss of all the data on SSD, please make sure you have backed up your important data before securely erasing SSD.

For wiping a SSD safely, sometimes you need to perform the hotplug actions for the SSD so that you can unlock it. Please refer to the following steps about the hotplug actions:

1. Open your computer case. If it is a laptop, open the computer's rear cover or drive shell.
2. Locate the SSD that needs to be securely erased.
3. Unplug the power cable from the SSD.
4. Disconnect the SATA data cable from the SSD.
5. Then reconnect the SATA cable to the SATA port on the SSD.
6. Finally, plug the power cable back into the SSD's power connector to complete the hot-swap.

To Secure Erase SSD

You need to connect the SSD to a Windows 7 computer via SATA port (since SSD Secure Erase is only workable in Windows at present).

1. Select the SSD that you want to erase in main window, and click “**SSD Secure Erase**” option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select “**SSD Secure Erase**” option in Context Menu.
2. Confirm the disk that you want to securely erase and click “**Next**”. In the next page, you can check the SSD identification information to confirm again in case of erasing the wrong SSD because the data is unrecoverable after the Erase.

Tips: if you see the SSD is in a frozen state, you need to perform a hot swap for the SSD first.

3. Confirm your operation, by clicking “**OK**” to continue; Then click “**Apply**” button on the toolbar to commit the changes.
4. Almost instantly, the Secure Erase process is complete and you will see the SSD shown as a block of unallocated space.

Note:

- If you want to wipe your current system disk where Windows is installed. You can connect your SSD to another computer that runs Windows 7 to follow the steps above to securely erase your system SSD.
- AOMEI Partition Assistant only detect the SSD connected via SATA cable.

3.10 Initialize Disk

When you buy a brand new drive, you’ll need to initialize it to MBR style or GPT style and then you can continue to use this disk.

To initialize disk

1. When you connect the brand new disk on computer, launch **Partition Assistant**, select the new disk in main window, and click “**Initialize Disk**” option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select “**Initialize Disk**” option in Context Menu.
2. In the popup window, set up disk style MBR or GPT,click “**OK**”.
3. By clicking “**OK**” this will add a pending operation, and the changes will be represented in the main window. Click “**Apply**” button on the toolbar to commit the operation.

Note:

- If your disk is larger than 2TB, we suggest you initialize to GPT style, so that you can make full use of the disk space.

3.11 Disk Properties

Select one disk in main window, and click “**Properties**” option in the left sidebar to invoke the operation dialog. Or, right click the disk, and then select the option in Context Menu. Then, you can check the parameters of the disk, such as, disk model, disk signature, Sectors parameter and so on.

4 Wizard Operations and Tools

4.1 System Migration Wizard

Migrate operating systems from old hard drive to new SSD or HDD, boot from SSD or HDD, do not need reinstall OS and any other registered applications. It could also help you solve the “system disk space insufficient”.

To migrate system partitions

1. Select “**Migrate OS to SSD**” in the left Wizard bar. Then in the pop up window click “**Next**” to continue;
2. Choose an unallocated space/ existing partition as destination on the SSD or HDD to save your system partitions. Click “**Next**”.

Tips: If you select an existing partition, please check “**I want to delete all partitions on the disk x to migrate system to the disk**”.

3. Adjust partition size by dragging the slider leftwards or rightwards or directly clicks “**Next**” to continue;
4. Read the note, it teaches you how to boot. Click “**Finish**” to continue;
5. Click **Apply** on the toolbar to commit the migration operation.

Note:

- This system migration operation needs to be performed under Reboot mode.
- Before migrating OS from MBR to GPT disk, you should confirm that your motherboard supports EFI/UEFI boot.

4.2 Disk Clone Wizard

Disk Clone Wizard could help you rapidly enter the navigator window of **Disk Clone**.

To copy a disk

1. Click “**Disk Clone Wizard**” under **All Tools** in the left Wizard bar.
2. In the pop-up window, there are two clone methods: “**Clone Partition Quickly**” and “**Sector-by-Sector Clone**”. Choose a method you want and click “**Next**”:
 - “**Clone Disk Quickly**”: only clone used space of the disk to another disk. The destination disk could be smaller than source disk but must be larger than the used space.
 - “**Sector-by-Sector Clone**”: clone all sectors of the disk to a target disk no matter whether it is used or not. The destination disk must be equal or larger than source disk.

3. Select another disk as destination, click **“Next”**.

Tips: If the target disk is SSD, you can tick **“Optimize the performance for SSD”**, which could help you speeding up SSD’s read and write speeds, improving SSD performance. If there are partitions on the destination disk, they will be deleted. Therefore, if these data are useful for you, please make a backup first.

4. In the next page, you could adjust the partition size by select three different Copy Options:
 - **Clone without resizing partitions:** Do not change anything.
 - **Fit partitions to entire disk:** The destination disk partitions will be automatically resized to the entire disk, appropriate for the disk size.
 - **Edit partitions on disk:** Manually adjust the partition size and location by dragging the slider bar.

Choose the appropriate method and click **“Next”**. If **“Sector by sector clone”** is selected, there is no the page, so it can’t adjust the partition size.

5. By clicking **“Finish”** this will add a pending operation, and the changes will be represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- A disk clone may take several hours depending on the size of the source disk.
- Dynamic disk, Offline disks could not be set as source or target disk.

4.3 Partition Clone Wizard

Partition Clone Wizard could help you rapidly enter the navigator window of **Partition Clone**.

To copy a partition

1. Click **“Partition Clone Wizard”** under **All Tools** in the left Wizard bar.
2. In the pop-up window, choose a clone method, click **“Next”**.
 - **“Clone Partition Quickly”:** Only copy the used space of the partition. So, the destination location could be smaller than the source partition but must be larger than the used space.
 - **“Sector-by-Sector Clone”:** Copy all sectors of the partition whether used or not. So, the destination location must be equal or larger than source partition.
3. Select the appropriate unallocated space as destination, click **“Next”**. If the unallocated space exists in SSD, you can tick **“Optimize the performance for SSD”**, which could help you speeding up SSD’s read and write speeds, improving SSD performance.

4. Position the mouse pointer on the left/right border of the partition and drag the border to extend/shrink the destination partition. And, you also can change the partition type(Primary/ Logical) and drive letter of destination partition, then click **“Finish”**.
5. After that, the operation will be added to pending operations list and the new disk layout will be graphically represented in the main window. Click **“Apply”** button on the toolbar to commit the operation.

Note:

- Only unallocated space could be set as destination partition.
- If you use **“Sector-by-Sector Clone”** way, it can't resize the destination partition.
- **“Sector-by-Sector Clone”** could clone all data on the drive include recoverable data which means the data that have been deleted or formatted by mistake or virus affection, etc. You can use data recovery tool to recover deleted or formatted data.
- If you copy a partition to another MBR disk with three primary partition, it will be logical partition after copied.
- You can't copy a partition to another MBR disk with four primary partition, you need to convert a partition on target disk to logical and then do the partition copy.
- If you copy system partition, the operation need to be completed under the Reboot Mode. And, for system partition copy, we suggest that you use system migration feature.

4.4 Extend Partition Wizard

Extend Partition Wizard allows you to extend one partition using the free space in the other partitions. It automatically shrinks other partitions to release more space to increase the capacity for the given partition. It is an easy-to-follow wizard.

To extend a partition

1. Click **“Extend Partition Wizard”** under **All Tools** in the left Wizard bar.
2. Select **“Extend system partition”**. It will select C: drive by default. If you want to extend other data partition, please click **“Select any partition from any hard disk to extend”** option, then select the partition you want to extend.
3. Then, you need to select partitions that will shrink in order to release free space in a list box, and click the **“Next”**. Tips: you can tick multiple partitions on the same disk.
4. Move the slide bar as presented in the window to adjust the size you want to extend, or you can directly specify the size of the extended partition, then click **“Next”**.

5. Preview and confirm the operations and click the **“Proceed”** to execute. Then, it will pop up a Message Box that prompts the operation time estimated, click **“OK”** to continue.
6. Operations are executing and then report when operations are completed. Click **“Finish”**.

Note:

- Extend Partition Wizard does not support GPT disk. You can extend partition on GPT disk via other features, such as Resize/Move Partition, Allocated Free Space and so on.
- Extend Partition Wizard only supports extending NTFS partition. You can extend FAT32 partition via other features, such as Resize/Move Partition, Allocated Free Space and so on.
- If the partition is hidden or doesn't have a drive letter, please assign a drive letter, then you can use Extend Partition Wizard to extend it.

4.5 Partition Recovery Wizard

Recover deleted or lost partitions from the selected disk. As some incidents may cause partition loss, the data in the partition will also be lost. In this case, partition recovery wizard could help you recover the lost partitions and retrieve the data.

To recover partition

1. Select **Partition Recovery Wizard** in the left Wizard bar.
2. Select the disk to recover partitions, click **“Next”** to continue;
3. Choose search mode and click **“Next”** to continue;
 - **Fast search:** (recommended) this mode will quickly find out deleted or lost partitions, by searching the first sector of each partition of the selected disk.
 - **Full search:** This will more in-depth search every sector on the selected disk. So it need more time, you could choose this method when using Fast Search fails.
4. After all the deleted/lost partition are found, it will be listed in the window. Double click the partition to explore the content to see whether it is the one you want to recover. And then tick the partitions you want to recover, click **“Proceed”** to start the recovery operation;
5. After the partition recovery completed, you can explore the recovered partitions in **“My Computer”**.

Note:

- This feature only supports recovering lost/deleted partitions, then data in these partitions will also come back automatically. If you want to recover deleted files, please use another data recovery software.
- The recovered partitions may have no drive letter. If so, you could not see the partitions in “My Computer”. In this situation, please reboot computer and then launch AOMEI Partition Assistant manually assign a drive letter to the partition by right clicking the partition -> Advanced -> Change Drive Letter.
- The feature only supports the disk with 512 bytes/sector.
- If there are existing partitions on the location of your lost/deleted partitions, it will prompt partition overlapping, you need to delete existing partitions, and then scan and recover again.

4.6 Make Bootable Media Wizard

The feature can burn Partition Assistant into bootable device, and boot from bootable device to manage hard drive. You can conveniently manage a mass of computers without directly install the software on these machines. Or when you can't boot into windows, you could also boot from bootable device to perform some operations.

To create bootable Media

1. Select “**Make Bootable Media**” in the left Wizard bar, then click “**Next**” to continue. Generally, the program will automatically detect whether the system has recovery environment to create WinPE. If not, it will require to download and install [Windows AIK/ADK](#).
2. There are three ways to create bootable media based on Windows PE.
 - “**Burn to CD/DVD**”: To create a bootable CD/DVD.
 - “**USB Boot Device**”: To create a bootable USB Device.
 - “**Export ISO File**”: Use this method to make bootable ISO file. You can use the iso file to boot virtual machine or use 3-rd party tool to burn it to CD/USB device.

Please choose one of them according to your need and click “**Proceed**”.

Note:

- AOMEI Partition Assistant will detect and integrate all necessary drivers of the current system automatically when creating the bootable device. There will be a pop-up window with the list of these drivers and asking if you want to integrate them.
- AOMEI Partition Assistant also allows you to manually add additional drivers via clicking “**Add Drivers**” button.

- When creating a bootable CD/USB device, AOMEI Partition Assistant needs to format the CD/USB device. If there is important data on it, please make a backup and redo.
- Study [how to boot computer from a bootable media](#).

4.7 NTFS to FAT32 Converter

NTFS to FAT32 Converter is a professional file system conversion utility. It allows you to convert file system from NTFS to FAT32 (vice versa) without erasing data.

Case 1: Convert NTFS to FAT32

1. Run "NTFS to FAT32 Converter" under **All Tools** in the left Wizard bar.
2. Select the option "NTFS to FAT32" and then click "Next" to continue.
3. Select a NTFS partition which you want to convert and click "Next". After that, the program will firstly analyze the partition to see if there are compressed and encrypted files. At last, it will allow you directly process the files just by clicking "Start to decompress there compressed files" and "Start to decrypt these encrypted files".
4. Confirm the information and then start the conversion by clicking "Proceed".
5. Operations are executing and then report when operations are completed. Click "Finish" to exit.

Case 2: Convert FAT/FAT32 to NTFS

1. Run "NTFS to FAT32 Converter" under **All Tools** in the left Wizard bar.
2. Select the option "FAT32 to NTFS" and then click "Next" to continue.
3. Select a FAT/FAT32 partition that you want to convert and click "Next".
4. Confirm the information and start the conversion by clicking "Proceed".
5. Operations are executing and then report when operations are completed. Click "Finish" to exit.

Note:

- We highly suggest you run chkdsk.exe to check and fix potential errors before the conversion, since the error file will be excluded in the conversion process.
- When converting NTFS to FAT32, you have to cut any single files whose size are greater than 4GB to another partition because FAT32 file system doesn't support single file over 4gb.
- When converting NTFS to FAT32, the compressed and encrypted files featured with NTFS can be decompressed and decrypted automatically to fit for the characteristic of FAT32.

4.8 Windows To Go Creator

Windows To Go Creator is a user-friendly wizard which can help you distribute Windows 7/8/8.1/10 to USB removable devices. It supports creating Windows To Go for Mac computer (Mac book, iMac, Mac mini, Mac pro, etc) and personal computer (personal PC, Server, all-in-all PC, etc).

Creating Windows ToGo for personal computer:

Case 1: Create Windows ToGo with system disc/ISO

1. Preparing for creating Windows ToGo, you'd better prepare a Windows 7/8/8.1/10 installation CD or ISO file.
2. Run "**Windows ToGoCreator**" under All Tools, select "**Creating Windows ToGo for personal computer**"-> "**Create Windows ToGo with system disc/ISO**".
3. Browse to locate Windows 7/8/8.1/10 installation file(install.wim) from installation CD or select system ISO file, click "**Next**" to continue.
4. Select connected USB drive. And, click "**Advanced**" to select the type of created system and the boot mode of the Windows ToGo.

The type of created system: General, VHD, VHDX

The boot mode of created Windows toGo: Legacy, Legacy&UEFI

5. Confirm the operation and click "**Proceed**" to start creating Windows ToGo.

Case 2: Create Windows ToGo with current system

1. Run "**Windows ToGo Creator**" under All Tools, select "**Creating Windows ToGo for personal computer**"-> "**Create Windows ToGo with current system**".
2. It will detect the current system automatically. Then, select the target USB drive.
3. Click "**Advanced**" to select the type of created system and the boot mode of the Windows ToGo.

The type of created system: General, VHD, VHDX

The boot mode of created Windows ToGo: Legacy, Legacy&UEFI

4. Click "**Proceed**" to start. It will need to reboot the computer to perform operation.

Creating Windows ToGo for Mac computer:

1. Preparing for creating Windows ToGo, you'd better prepare a Windows 10/2016/2019 installation CD or Windows 10/2016/2019 installation ISO file.
2. Run "**Windows ToGo Creator**" under **All Tools** in the left Wizard bar, then select "**Creating Windows ToGo for Mac computer**".
3. Browse to locate Windows 10/2016/2019 installation file(install.wim) from installation CD or use system ISO file, click "**Next**" to continue.

4. Select connected USB drive. And, click "**Advanced**" to select the type of created system and the boot mode of the Windows ToGo.

The type of created system: General, VHD

The boot mode of created Windows toGo: Legacy, Legacy & UEFI

5. Confirm the operation and click "**Proceed**" to start creating Windows ToGo

Note:

- To speed up the creating process, we recommend you use USB3.0/3.1 drive and USB3.0 port.
- You need at least 64gb USB drive for creating Windows ToGo.
- The program will format the partition which you select as destination in the process, so please backup your data first.
- It might take a long time to create Windows ToGo with current system when the current system partition is very big.
- For more details about the type of created system, you can refer to here:www.disk-partition.com/kb/select-the-type-of-created-system.html
- For more details about reboot mode, please refer to here:www.disk-partition.com/kb/boot-from-legacy-or-uefi.html

4.9 Shred Files

File shredding is to completely erase the file, such as rewriting the area where the source file is located with the number 0 or 1, so that the source file is completely deleted and no one will know your privacy.

To shred files

1. Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**Shred Files**".
2. In the pop-up window, click "**Add Files**" / "**Add Folders**" to add the files/folders you want to shred, or you can drag files or folders to the window directly. If you choose the wrong file or folder, you can click "**Remove**" to delete it.
3. Choose the shredding method. There are 4 methods available:

Write Zero: Overwrite all sectors with zeros. It is safe and fast.

Random data (1 pass): Overwrite hard drive with random data. It is more secure than the first one.

DoD 5220.22-M (7 passes): DoD Standard is firstly published in Department of Defense of the U.S. It is much secure than "zero-filling" and "random data filling" and faster than Guttman. Thus it is often adopted by companies and organizations.

Gutmann (35 passes): It overwrites a hard drive with 35 passes. It is the safest way here, but it also takes the longest time.

4. Click "**Shred**" to begin the process.

Note:

- If you need to shred all data on a partition, we suggest that you can try "**Wipe Partition**" feature.
- System directories and critical directories of C: drive can't be added to shred directly under windows. You can create WinPE bootable media of AOMEI Partition Assistant, and then boot from WinPE media to shred.
- After files are shredded, some data recovery tools might recover some items. But these recovered files are renamed randomly and show 0bytes, and can't be open.

4.10 App Mover

App Mover is used to free up drive's space by moving applications from one partition to another. You can restore moved apps or folders to the original location.

To move applications

1. Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**App Mover**".
2. "**App Mover**" and "**Move Folders**" will be seen, and click "**App Mover**".
3. All your partitions will be listed in the window, the number and size of installed apps on every partition will also be displayed. Choose one partition that you want to move applications from and click "**Next**".
4. All movable apps in the selected partition will be listed, choose applications you want to move and select the target location, then click "**Move**".
5. You will see a pop-up message to confirm forcibly closing running applications when moving starts. Click "**OK**" to begin the process.

To move folders

1. Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**App Mover**".
2. "**App Mover**" and "**Move Folders**" will be seen, and click "**Move Folders**".
3. After clicking "**Add Files**", you can choose folders need to be moved. The wrongly selected folder can be deleted.
4. Click on the drop-down menu to select the partition you want to move folders to and click "**Move**".

5. You will see a pop-up message to confirm forcibly closing open files when moving starts. Click **"OK"** to begin the process.

To restore applications and folders

When you have moved some applications, you might want to restore them to the original location due to some reasons. App Mover can restore moved applications.

1. Install and launch AOMEI Partition Assistant, and then click **"All Tools"** and **"App Mover"**.
2. Click **"Manage/Restore"**, the applications and folders you have moved before will be listed, choose one or multiple apps and folders you want to restore and click **"Restore"**.
3. You will see a pop-up message to confirm forcibly closing running applications when restoring starts. Click **"OK"** to begin the process.

Note:

- To ensure the apps run properly, please don't move or delete files in the source and target directory.
- You can see operation records of app and folders movement in **"Manage/Restore"-->"View Logs"**.
- If you move the installation directory of moved applications manually to another location, AOMEI Partition Assistant might be unable to detect it. You need to select the app and then re-load the current location under **"Manage/Restore"-->"Repair Location"**, then you can do the restore.
- If you move the original directory of moved applications manually to another location, AOMEI Partition Assistant might be unable to detect it. You need to select the app and then re-load the current location under **"Manage/Restore"-->"Repair Location"**, then you can do the restore.
- If you remove or rename the partition where the original location is, AOMEI Partition Assistant might be unable to detect it. Please reinstall the app or restore the partition.
- App Mover currently doesn't support migrating applications from the non-NTFS/FAT32 partitions.
- Partitions of the FAT32 file system do not support individual files' size exceeding 4GB. If you want to move one single file that exceeding 4GB, then it will cause the move to fail.

4.11 Disk Defragmenter

After the disk is fragmented, a single file may exist in different locations on the physical drive in blocks, so the system will collect file fragments when reading files, which will reduce file access speed, and cause system performance degradation.

Therefore, defragmenting files can improve the overall performance and operating speed of the computer.

Generally, the household users are suggested to defragment once a month, business users and servers do it once a half month. But it should be considered based on the fragmentation ratio. In the following situations, it is recommended to run the disk defragmentation program:

1. A large number of files have been added.
2. Only about 15% of available disk space.
3. A new program or a new version of Windows is installed.
4. Fragmentation exceeds 15%.

To analyze fragments

1. Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**Disk Defragmenter**".
2. Check the partition that need to be analyzed and click "**Analyze**".

Because this function currently only supports NTFS partitions, so it will only list NTFS partitions on SSD, HDD and USB drives.

When the analysis begins, you could click "**Pause**" to pause the process and resume later, or click "**Stop**" to terminate the process completely.

3. After the analysis is complete, the program will score the analyzed partition based on the fragmentation rate. There are 3 statuses according to the score:

Normal: Score ≥ 90 . The current partition is in good condition, no need for defragmentation.

Suggest to defragment: $60 \leq \text{Score} < 90$. The current partition has some fragments, suggest to run the defragmentation.

Defragment now: Score < 60 . There are many fragments in the current partition, suggest to run the defragmentation immediately.

In addition, you can check the distribution of fragments through the Tetris view.

After the analysis is completed, you can click on "**Details**" to see more information about the analysis results:

Total files and directories

Fragmented files

Fragments

Fragmentation Rate

To defragment

When the fragment analysis is complete, click the "**Defrag**" button to start defragmentation.

When the defragmentation begins, you could click "**Pause**" to pause the process and resume later, or click "**Stop**" to terminate the process completely.

After the defragmentation is completed, the partition will be scored according to the defragmentation result.

Tips:

- If you check the partitions and directly click the "Defrag" button without analyzing, it will analyze first and defragment.
- In some cases, there might be some fragmented files that cannot be defragmented. Such as, files in use.

The program will save the analysis and defragmentation status for a period of time. when you run the program again, it will retain the last status.

Situation 1: When you defragment partition, it will always show status as "**Normal**" within 30 days since the last run. Generally, you don't need to defragment the partition again within 30 days, unless a large number of files have been added or changed.

Situation 2: If you only analyze the partition without defragmentation, the status will be the same as in the last analysis result within 30 days since the last run. For example, the last analysis result is "**Suggest to defragment**", it will always "**Suggest to defragment**" when you open the program again within 30 days.

You can select if defragment the partition based on the last analysis result.

Situation 3: The last analysis or defragmentation is more than 30 days, regardless of the last analysis result, the status will show "**Suggest to defragment**". That's to say, if you analyze or defragment partition 30 days before, it is recommended to analyze and defragment the partition again.

Schedule Defragmentation

You could enable Schedule Defragmentation to optimize drives automatically and periodically at a regular basis.

1. On the home screen of Disk Defrag tool, click "**Schedule**" to open the Schedule Settings editor. Or, you can click "**Not Enabled**" to edit schedule for corresponding drive.
2. Choose the drive you want to defragment regularly.
3. Check and choose one schedule mode to run defragmentation.

Daily Mode

Set a time point to defragment the disk once a day.

Set a time point in the future to defragment the disk only once.

Weekly Mode

Choose a specific day for the schedule defragment from Monday to Sunday.

Set a time point and the program will automatically run the defragment at this time on the chosen day(s) every week.

Monthly Mode

Choose a time point on a specific day from the calendar to run the defragment every month and you can select multiple days on the calendar.

At startup

Set up to run the defragment automatically when a system startup occurs:

On only first startup of everyday

On every start

Tips: You can set the startup delay for a period of time before starting the defragmentation.

At logon

Set up to run the defragment automatically when the user logon occurs:

On only first logon of everyday

On every logon

4. Check "**Conditions**" and click "**Define**" to set the conditions to trigger schedule defragmentation. Click "**OK**" to save conditions.

Conditions Settings:

If you don't set any conditions, all files of drive will be defragmented by default as schedule.

When you set multiple conditions, the schedule will start only when selected conditions are met at the same time.

Conditions:

- Start the schedule when the fragmentation rate of the drive is at least at the set value.
- Schedule defragment these files that fragments exceed the set number.
- Start the schedule only if the computer is idle for X minutes. (If the computer is not idle or idle time is less than the set time, the schedule will not start.)
- Start schedule only if the computer is on AC power. And, stop defrag if the computer switches to battery power.

5. After that, click "**OK**" to save the schedule settings. After the schedule is enabled, you can click the button corresponding to the Schedule column on the drive to view or edit the schedule settings.

Additional Settings:

Wake the computer to run schedule: The program will wake your computer from sleep or hibernate mode to run the schedule defragment.

Shut down after schedule defragmentation: The program will shut down your computer when the schedule defragment is completed successfully.

Note:

- If you check multiple partitions on the same disk to analyze or defragment, they will be analyzed or defragmented one by one.
- If you check multiple partitions on different disks, the program can analyze or defragment partitions on different disks at the same time.
- Defragmentation may take a long time. You could tick the option “Shutdown after defragmentation” to automatically shut down the computer when the defragmentation is completed.
- For solid state drives, defragmentation is not recommended. Our program will show the status of SSD as “Normal”, even though there are some fragments.
- When the schedule defragmentation is running, a tray icon will be displayed at the bottom right of the screen. You can click the tray icon to open the main interface of the defragmentation tool in order to view the progress of the defragmentation. After the defragmentation is completed, the tray icon will automatically disappear (only when the main interface of the defragmentation tool is closed).
- Usually the defragmentation takes a long time. To avoid interruption of operation due to insufficient battery power, it is recommended to keep the AC power connection during defragmentation. When the computer is only connected to battery power and the power is less than 70%, the program will not start defragmentation.

4.12 Create Portable Version

Create AOMEI Partition Assistant to a removable device, such as USB Flash Drive. So that you can connect the device to other computers, then run AOMEI Partition Assistant from the device without installation. It is convenient for engineers to do IT maintenance or support on client computers.

1: Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**Create Portable Version**".

2: Click "**Next**" to continue the operation.

3: Select a target location to save the AOMEI Partition Assistant.

When you connect a USB device to the computer, it will select "**Use USB Device**" option by default and your USB device will be list in here. Then, AOMEI Partition

Assistant portable version will be created in the root directory of the selected USB drive.

Or, you could choose “**Customize Target Path**”, then select a target folder manually.

4: Click “**Create**” to begin the creation of portable version.

Note:

- This function only available in the Unlimited and Technician editions of AOMEI Partition Assistant.
- If there is no bootable system on the client computers, you can create WinPE bootable media of AOMEI Partition Assistant to use.
- When you create the portable version on USB device, please first create a partition on the USB device.
- It doesn't support create portable version to a network path.

4.13 Disk Health

Hard disk failures are generally divided into two types: predictable and unpredictable. The latter happens occasionally, and there is no way to prevent it, such as sudden chip failure, mechanical shock, etc. For predictable situations, if you can measure several important safety parameters of the hard disk and evaluate their conditions through disk monitoring technology, then there will be at least enough time for users to transfer important data to other storage devices before failure occurs.

Modern hardware drives generally support S.M.A.R.T. (Self-Monitoring Analysis and Reporting Technology), which can monitor the health of the entire hard drive and will issue a warning when the hard drive is about to fail.

AOMEI Partition Assistant checks the health status of the disk by obtaining the S.M.A.R.T. information of the disk. When the disk health status is poor, the user will be prompted and the disk data can be backed up at this time.

To check disk health

1. Install and launch AOMEI Partition Assistant. When the program is successfully launched, it will automatically obtain S.M.A.R.T. information of all hard disks in the background. When it detects that the disk health status of one hard drive is poor, a red exclamation mark will be displayed on the disk icon. You can right-click on one hard drive and choose **Disk Health** to check detailed S.M.A.R.T. information of this disk.

2. There are 3 states of hard disk health.

State one: Good

The disk is in good condition and can be used with confidence.

State two: Caution

Except for temperature, one or more attributes are close to the threshold. The disk still can be used normally, but it is recommended to use AOMEI Backupper to backup the disk regularly.

State three: Bad

Except for temperature, one or more attributes are equal to or less than the threshold. The disk may be damaged soon and cause data loss. It is recommended to use AOMEI Backupper to clone this disk and replace it with a new one.

You can click "View details" to see specific S.M.A.R.T. values, red text indicates that the value of the item is equal to or exceeds the threshold.

If the disk is not S.M.A.R.T. enabled or is a virtual disk, then the disk health status cannot be obtained. In this case, it is recommended to Check Bad Sector by AOMEI Partition Assistant to see if there is a problem with the disk.

4.14 PC Cleaner

After using the computer for a period of time, a lot of useless files will accumulate, which will not only take up disk space, but also cause the system to run slower, so it is very necessary to clean up the C drive garbage. With AOMEI Partition Assistant, you can clean up junk files safely and quickly.

To clean up PC

1. Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**PC Cleaner**".
2. In the pop-up window, click "**Start Scan**" to scan for junk files.
3. After the scan is completed, System Junk Files and Registry Junk Files will be listed. Depending on your needs, tick the options you want to clean, then click "**Clean All**" to begin the cleaning process.

4.15 Dynamic Disk Converter

AOMEI Dynamic Disk Converter is specialized for converting a dynamic disk back to basic disk without data-losing. Also ensure Operating System is bootable after the conversion. Its friendly user interface makes you use it more easily and efficiently. Its high security makes your data be protected during the conversion process.

To convert dynamic disk

1. Run "**Dynamic Disk Converter**" under **All Tools** in the left Wizard bar to start **AOMEI Dynamic Disk Converter**.
2. Select **Method 1** to convert the dynamic disk to basic.

Tips: If the program prompts that some dynamic volumes will loss after conversion, it will not allow to convert. If so, please back to use **Method 2** to

clone these “loss” volumes to any disk, and then delete them via windows Disk Management. After that, please convert again via **Method 1**.

3. Confirm the conversion operation and then tick the option “**I have decided to execute this operation...**” and click “**Proceed**” to execute.
4. Operations are executing and then report when operations are completed. Click “**Finish**”.

Method 2: Clone dynamic volumes to another basic disk.

1. Run AOMEI Dynamic Disk Converter, select **Method 2**.
2. Select a dynamic volume that you want to clone to basic disk, click “**Next**”.
3. Select an unallocated space on a basic disk as destination, click “**Next**” to continue.
4. Confirm the information and start the clone by clicking “**Proceed**”.
5. Operations are executing and then report when operations are completed. Click “**Cancel**” to exit.

Note:

- Due to the characteristic of basic disk, Dynamic Disk Converter cannot directly convert the spanned, striped, mirror and RAID volume to basic partition. Therefore you need to use **Method 2** to clone them to another basic disk, and then delete them via windows Disk Management. After that, please convert again via **Method 1**.

4.16 Dynamic Disk Manager

AOMEI Dynamic Disk Manager (DDM) is an easy-to-use and multifunction dynamic disk and volume management software, with user friendly operations to assist you to manage the volumes and dynamic disk. With the help of DDM, you can easily & fast create/delete the volume and the most advantage is that it can resize/move your volume to readjust the volume on the basis that it ensures the security of your valuable data. You could also convert your disk from dynamic to basic or from basic to dynamic.

To use AOMEI Dynamic Disk Manager

1. Run “**Dynamic Disk Manager**” under **All Tools** in the left Wizard bar to start AOMEI Dynamic Disk Manager.
2. Select the operation you want to perform.
3. Follow wizard to complete the operation.

For more details about these features of AOMEI Dynamic Disk Manager, please run AOMEI Dynamic Disk Manager, then click **Help-->UserManual** to access the detail document.

4.17 Integrate to Recovery Env

By using “Integrate to Recovery Env”, you can integrate AOMEI Partition Assistant and AOMEI Backupper on this computer to the recovery environment of the current system. After that, you can run the two programs when you boot into recovery environment.

To Integrate to Recovery Env

1. Run “**Integrate to Recovery Env**” under **All Tools** in the left Wizards bar. Click “**Next**” to continue.
2. Select the programs (AOMEI Partition Assistant and AOMEI Backupper) you want to integrate.
3. Click “**Proceed**” button to execute operation.

To Update/Remove AOMEI Software from Recovery Env

When you have integrated AOMEI Software to the Recovery Environment, you can update or remove them.

1. Click “**All Tools**” > “**Integrate to Recovery Env**” in AOMEI Partition Assistant main interface.
2. Click “**Update**” to update AOMEI Software (AOMEI Partition Assistant and AOMEI Backupper) from Recovery Environment when you install the new version of AOMEI Software.
3. Click “**Remove all**” to remove AOMEI Software (AOMEI Partition Assistant and AOMEI Backupper) from Recovery Environment.
4. A notification will pop up, click “**Yes**” to continue the operation.

Note:

- Your operating system must be Windows 7 or later version, Windows 8/8.1/10 or Windows Server 2008 R2/2011/2012/2012 R2/2016, because only these systems have recovery environment.
- Before integrating, please make sure that there are not any performing operations on AOMEI Partition Assistant or AOMEI Backupper.
- The recovery environment of the current system can be used normally. You can try to create the winpe media via AOMEI Partition Assistant to check. If the winpe can be created successfully, so the recovery environment can work normally. If not, the recovery environment might have some problems, you can’t integrate AOMEI softwares to here.
- If you don’t install AOMEI Backupper in this computer, the option of AOMEI Backupper will be disabled.

- In windows 7, you can keep pressing F8 at startup to into the recovery environment. For the higher system versions, you also can press “Shift” key and click “reboot” button simultaneously to into the recovery environment. Or, you can open “**Settings**”-> “**Update & security**”-> “**Recovery**”, then Click “**Restart Now**” button under “**Advanced startup**” into the recovery environment.

4.18 Disk Speed Test

After buying a new disk, you may need to know the read and write performance of the disk. By Disk Speed Test, you can scan the disk and figure out the read and write performance of the disk under different circumstance.

To test in Simple Mode

1. Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**Disk Speed Test**".
2. Choose disk to be tested and click “**Start**”. You can click “**Stop**” while testing.
3. After testing, the read and the write performance can be checked. Click “**Export**” and choose the file type of test result, then you can find the detailed test result saved.

To test in Pro Mode

1. Install and launch AOMEI Partition Assistant, and then click "**All Tools**" and "**Disk Speed Test**".
2. Click “**Pro Mode**” to enter the professional test mode.
3. “**Partition**”, “**Speed**”, “**Size**”, “**Tests Number**”, “**Duration**” are all set in advance, and you can click to choose other parameter. Test will be four rounds, of which “**Test Mode**”, “**Block Size**”, “**Queues**”, “**Threads**” are all set in appropriate numbers. You can click and choose other parameter.
4. After setting parameters, click “**Start**”. You can click “**Stop**” while testing. After setting parameters of one round of test, you can click the start button corresponding to that round for a single round of testing.
5. After testing, the read and the write performance can be checked. Click “**Export**” and choose the file type of test result, then you can find the detailed test result saved.
6. Open the test result file such as text or picture to see the detailed testing result.

Note:

- The smallest size of test file to be generated is 16MB. If the free space of the test disk is below 16MB, the disk can only be tested after cleaning.

- If the test disk is a mechanical hard drives with enough free space but not enough continuous sectors, a discontinuous test file will be generated and the test will continue. After testing, you will see a prompt of perform disk defragmentation which will help improve the disk speed. Click “**Start**” to perform disk defragmentation or click “**Cancel**”.
- If the test disk is not partition aligned, you will see a prompt that partition alignment will improve the disk speed and get start partition alignment after testing. Click “**Start**” to perform partition alignment or click “**Cancel**”.
- If you choose a partition with ext file system, it will not be able to test.
- The unformatted disk cannot be tested. After making sure that the disk data is backed up elsewhere, you can test it after formatting or restoring the disk.
- If you want to test a disk with BitLocker encryption, please turn off BitLocker before testing.
- Removing the removable device during the test will result in a test result of 0.

4.19 AOMEI Partition Assistant Command Lines

Export Execution Results to File

Because this command execution cannot use the“>”symbol to export execution results to file, so we specially add /out parameter for exporting execution results to file, which supports to export execution results of all command lines to file. The examples are as follow:

```
partassist.exe /list /out:text.txt
```

```
partassist.exe /resize:F /extend:right /out:c:\test.ini
```

```
partassist.exe /hd:0 /cre /pri /size:200GB /out:..\..\test.txt
```

List Disks and Partitions

List all the disks in current system.

```
partassist.exe /list
```

Only list all the USB flash drives and other USB disks in current system.

```
partassist.exe /list /usb
```

List all the partitions on a specified disk.

```
partassist.exe /list:0
```

Resize Partition without Data Loss

Automatically extend a specified partition using the unallocated space on its both sides and align partition to optimize reading/writing speed.

```
partassist.exe /hd:0 /resize:0 /extend:auto /align
```

```
partassist.exe /resize:F /extend:auto /align
```

Automatically extend a specified partition using the unallocated space on its right side.

```
partassist.exe /hd:0 /resize:0 /extend:right
```

```
partassist.exe /resize:F /extend:right
```

Automatically extend a specified partition using the unallocated space on its left side and align the partition to optimize reading/writing speed.

```
partassist.exe /hd:0 /resize:0 /extend:left /align
```

```
partassist.exe /resize:F /extend:left /align
```

Extend a specified partition using 1000MB or 10GB unallocated space on its right side.

```
partassist.exe /hd:0 /resize:0 /extend:1000
```

```
partassist.exe /hd:0 /resize:0 /extend:10GB
```

Shrink a specified partition to create 1000MB or 10GB unallocated space on its right side.

```
partassist.exe /hd:0 /resize:0 /reduce-right:1000
```

```
partassist.exe /resize:F /reduce-right:10GB
```

Shrink a specified partition to create 1000MB or 10GB unallocated space on its left side and align the partition to optimize reading/writing speed.

```
partassist.exe /hd:0 /resize:0 /reduce-left:1000 /align
```

```
partassist.exe /resize:F /reduce-left:10GB /align
```

Notes:

- /hd followed by disk number, which starts with 0.
- /resize followed by partition number or drive letter, and the partition number starts with 0. If the specified value is drive letter, disk number can be ignored.
- The value of /extend can be left, right, auto or specified size.
- /align means align a partition to optimize reading/writing speed. If the beginning of a partition is changed when resizing it (in other words, move the beginning of a partition to a new location, forward or backward), then the /align works. But if the beginning of a partition is not changed when resizing it, then the /align doesn't work.
- By default, the specified size is in MB, and GB is also available.

Move a Partition without Data Loss

Change the location of a partition by moving 1000MB or 10GB to the left side and align the partition to optimize reading/writing speed.

```
partassist.exe /hd:0 /move:0 /left:1000 /align
```

```
partassist.exe /move:F /left:10GB /align
```

Move a partition to occupy all unallocated space on its left side and align the partition to optimize reading/writing speed.

```
partassist.exe /hd:0 /move:0 /left:auto /align
```

```
partassist.exe /move:F /left:auto /align
```

Change the location of a partition by moving 1000MB or 10GB to the right side and align the partition to optimize reading/writing speed.

```
partassist.exe /hd:0 /move:0 /right:1000 /align
```

```
partassist.exe /move:F /right:10GB /align
```

Move a partition to occupy all unallocated space on its right side and align the partition to optimize reading/writing speed.

```
partassist.exe /hd:0 /move:0 /right:auto /align
```

```
partassist.exe /move:F /right:auto /align
```

Notes:

- /hd followed by disk number, which starts with 0.
- /move followed by partition number or drive letter, and the partition number starts with 0. If the specified value is drive letter, disk number can be ignored.
- The value of /left can be auto or specified size.
- The value of /right can be auto or specified size.
- /align means creating aligned partition to optimize reading/writing speed.
- By default, the specified size is in MB, and GB is also available.

Create a New Partition

Create a 200MB, 10GB or auto size partition at the end of a disk.

```
partassist.exe /hd:1 /cre /pri /size:200 /end /fs:fat16 /act /hide /align /label:EFI
```

```
partassist.exe /hd:1 /cre /pri /size:10GB /end /fs:fat32 /act /hide /align /label:EFI
```

```
partassist.exe /hd:1 /cre /pri /size:auto /end /fs:ntfs /act /hide /align /label:EFI
```

Create an auto size or 500MB partition using the first block of unallocated space on a disk.

```
partassist.exe /hd:0 /cre /pri /size:auto /fs:ntfs /align /label:DATA /letter:E
```

```
partassist.exe /hd:0 /cre /pri /size:500 /fs:ntfs /align /label:DATA /letter:E
```

Create a partition using offset. Here is creating a partition at the location of 100MB offset and 100GB offset.

```
partassist.exe /hd:0 /cre /pri /size:auto /offset:100 /fs:fat32 /act /align /label:DATA /letter:F
```

```
partassist.exe /hd:0 /cre /pri /size:10GB /offset:100GB /fs:fat32 /act /align /label:DATA /letter:F
```

Notes:

- /hd followed by disk number, which starts with 0.
- The value of /size can be auto or specified size in MB by default, and GB is also available.
- /fs means file system, whose value can be fat16, fat32 or ntfs.
- /pri means creating a primary partition.
- /act means creating an active partition.
- /hide means creating a hidden partition.
- /letter means assigning a drive letter to the partition, in addition, /letter:auto can automatically assign the drive letter.
- /offset means creating a partition from the location of specified offset, starting with the beginning of the disk.
- /label means setting a label for the partition.
- /end means creating a specified size back end partition using the unallocated space at the end of a disk.

Format a Partition

Format a specified partition

```
partassist.exe /hd:0 /fmt:0 /fs:fat16 /label: test
```

```
partassist.exe /fmt:F /fs:fat32 /label:test
```

```
partassist.exe /fmt:F /fs:ntfs /label:test
```

Notes:

- /hd followed by disk number, which starts with 0.
- /fmt followed by partition number or drive letter, and the partition number starts with 0. If the specified value is drive letter, disk number can be ignored.
- /fs means file system, whose value can be fat16, fat32 or ntfs.

Delete a Partition

Delete a specified partition

```
partassist.exe /hd:0 /del:0
```

```
partassist.exe /del:F
```

Delete all the partitions on a disk

```
partassist.exe /hd:0 /del:all
```

Hide a Partition

Hide a specified partition

```
partassist.exe /hd:0 /hide:0
```

```
partassist.exe /hide:F
```

Unhide a specified partition

```
partassist.exe /hd:0 /unhide:0
```

Mark Partition as Active

```
partassist.exe /setact:1 /hd:0
```

```
partassist.exe /setact:F
```

Initialize a Disk

Initialize a disk as MBR

```
partassist.exe /init:1
```

Initialize a disk as GPT

```
partassist.exe /init:1 /gpt
```

Rebuild MBR

Rebuild Master Boot Record (MBR) for Hard Disk, Removable Disk, USB Flash Drive, etc.

```
partassist.exe /rebuildmbr:0
```

```
partassist.exe /rebuildmbr:0 /mbrtype:0
```

```
partassist.exe /rebuildmbr:0 /mbrtype:1
```

```
partassist.exe /rebuildmbr:0 /mbrtype:2
```

Notes:

- /rebuildmbr followed by disk number, which starts with 0.
- /mbrtype supports specified MBR type and its values are 0, 1, 2. The 0 means creating a Windows XP/2000/2003 MBR type. The 1 means creating a Windows Vista/2008 MBR type. The 2 means creating a Windows 7/8/8.1/10/2011/2012/2016 MBR type.
- If the value of /mbrtype is not specified, the default type is the one of current system. For example, if current system is Windows XP, then the value of /mbrtype is set as 0 by default; if current system is Windows 8.1, then the value of /mbrtype is set as 2 by default.

Change Drive Letter

Remove drive letter

```
partassist.exe /hd:0 /setletter:0 /letter:*
```

Change drive letter to F

```
partassist.exe /hd:0 /setletter:0 /letter:F
```

Notes:

- /hd followed by disk number, /setletter followed by partition number, and the disk number and partition number always start with 0.
- If a drive letter needs to be removed, you need to set /letter value as *
- You had better not to remove and change the drive letter of system partition, which may cause Windows to fail to boot.
- If you use “/letter auto” to replace “/letter:F”, the drive letter will be assigned automatically.

Write Files to a Hidden Partition

Write files and folders to the root directory of a hidden partition

```
partassist.exe /hd:0 /whide:0 /src:C:\file.txt
```

```
partassist.exe /hd:0 /whide:0 /src:C:\folder
```

Write files and folders to the subdirectory of a hidden partition

```
partassist.exe /hd:0 /whide:0 /src:C:\file.txt /dest:subfolder
```

```
partassist.exe /hd:0 /whide:0 /src:C:\folder /dest:subfolder/test
```

Notes:

- Before using the /resize and /move of AOMEI Partition Assistant Command Line, we suggest you use Windows built-in chkdsk utility to check the partition you want to resize and automatically fix file system error so that the data safety can be ensured effectively. Example: `chkdsk.exe /f C:`

5 Technical Support

Before seeking technical support, please first refer to our tutorials at www.disk-partition.com/manual.html.

If further assistance is required, then please send an email to support@aomeitech.com.

To assist with a problem, please compress (zip) the “log” folder located in the program installation directory, attach the compressed file to an email and send it to support@aomeitech.com.

AOMEI Partition Assistant FAQs are located at www.disk-partition.com/help/faq.html and www.aomeitech.com/php/concept/knowledge.

Part FAQs are as follows:

5.1 AOMEI Partition Assistant common FAQs

Common Error and Solution of Extend Partition Wizard

Q: I receive the Error Description: “The wizards only extend a NTFS partition, but detected that your partition isn't a NTFS” by using “Extend Wizard”? How to deal with it?

A: “Extend Partition Wizard” does not support any FAT or FAT 32 partitions resizing directly. To solve this problem you need to convert your partition from FAT or FAT 32 to NTFS first by using the command line (convert drive letter: /fs:NTFS) or you could resize the FAT or FAT 32 partition on the main console of Partition Assistant directly.

Q: I get the Error Description: “Sorry, the program doesn't extend this partition yet because of the free disk space insufficient. We recommend you try to extend the partition in Partition Assistant Main Console”. How could I solve it?

A: This error always appears when the partition you want to extend was at the end of the hard disk, to solve this problem; you could only extend the partition on [main console of Partition Assistant](#).

Q: What is the Error Description: If in your system there is a bitlocker volume, you need to turn off the bitlocker, and then you can extend the partition again. Besides, we recommend you try to extend the partition in Partition Assistant Main Console.

A: Extend Partition Wizard does not support resizing any bitlocker volume; therefore, you could only turn off the bitlocker first. [Learn how to deal with a bitlocker partition?](#)

Q: I get the Error Description: The wizard does not support to extend partition on a GPT disk; you can extend the GPT partition by using Partition Assistant Main Console. How could I solve it?

A: Extend Partition Wizard does not support any GPT hard disk, if you want to resize partition on GPT hard disk; you need to resize it on [main interface of Partition Assistant](#).

Q: In the case of double system (XP and Win9X) environment, you move/resize the partition of Win9X under the XP environment. At last, you can't start Windows9X. Why?

A: It is directly related to the characteristics of Win9X because the Win9X partition can't be resized or moved. That's why we strongly advise you don't resize/move the old Windows9X. Otherwise, it will cause a lot of problems.

Q: The program is not response when locking volume, how do I?

A: You can forcibly terminate the program by using Task Manager, and re-run the Partition Assistant, redo the operation before. When press the Shift key, and click the Apply button on toolbar to solve the lock issue volume.

Q: After the operation complete, I can't find my drive in "My computer", how to solve it?

A: If you can not find the drive in "My Computer", this problem may caused by the loosing drive letter. To solve this problem, you could launch Partition Assistant, on the main interface, right-click the partition which has no drive letter (if a partition has no drive letter it will show as "*") use the feature "Change drive letter" to assign a drive letter.

Q: When I right-click partition C, the option "Split Partition" and "Create Partition" are grayed out, how to active them?

A: This situation always cause by the numbers of the primary partition. If you have four primary partitions already, to solve this problem, you need to change one of your primary into logical partition (refer to the section: Convert primary/logical partition). After that the option will be reactive.

Q: The program supports to convert a GPT disk that has more than 4 partitions to MBR disk, but sometimes why does it prompt that current disk cannot meet the requirement of conversion? Then, what's the requirement?

A: It is related to conversion principle and MBR limits. To convert a GPT disk that has multiple partitions to MBR disk, the program will convert the primary partitions except the first three to logical partitions. However, such conversion has to strictly follow the structure of MBR disks, so there will be some restrictions.

GPT disks can be converted to MBR disks except the following conditions:

- If the distance between start address of a GPT partition and end address before it is less than 63 sectors (namely no extra space between two partitions) and the file system of the former partition is neither FAT32 nor NTFS, then this disk cannot be converted to MBR disk, because it is unable to adjust the size of the former partition to free up required space for the conversion. Under such circumstance, we suggest you temporarily remove the partition which is neither FAT32 nor NTFS to solve the problem.
- The current system is on a GPT disk and there are 3 or more other partitions before or after the EFI partition, then the disk cannot be converted to MBR disks. We suggest you temporarily delete one or two partitions before or after EFI partition and then try again.
- The current system is on a GPT disk, meanwhile the EFI partition is on the end of this GPT disk (at the right end of the disk). At this time, while converting, it needs to convert the 3 partitions at the end of the disk including EFI partition into primary partitions, and the other partitions into logical partitions in the front. If there is no at least 7.8MB unallocated space before the first partition on the disk, it cannot be converted. Such cases, it is suggested to shrink first partition on the disk from the left side to create at least 7.8MB unallocated space before the first partition, or temporarily remove the first partition on this disk.

Q: After converting GPT disk to MBR disk, what about the MSR partition?

A: The program will delete the MSR partition while converting GPT disk to MBR disk, because an MSR partition disk is unformatted and have no effect on an MBR disk.

Q: After converting GPT disk where the current system locates to MBR disk, why is it prompts to install the Windows AIK or ADK when creating a bootable media?

A: After converting GPT disk where the current system locates to MBR disk, the recovery partition (WRE partition) will fail, which means the failure of the recovery environment, and AOMEI Partition Assistant creates a Windows PE relying on the WinRE.wim file from the recovery partition, so you will be prompted to install the AIK or ADK. You can copy the "Recovery" folder of the recovery partition to the root directory of C: drive, and then try again.

Q: AOMEI Partition Assistant can't reboot into Windows PE to perform operations.

A: Windows XP/Vista/Server 2003/2008 can only reboot into PreOS mode to perform operations. If you want to use Windows PE, you need to install Windows AIK first, and then create Windows PE bootable media with "Make Bootable Media" feature. After that, please boot computers from Windows PE bootable media to perform operations.

Windows 7/8/8.1/10/Server 2008(R2)/2012/2012(R2)/2016 can't reboot into Windows PE. It may be there is no recovery environment to create Windows PE or the environment is broken. You can try to install Windows AIK/ADK first and then perform operations again.

5.2 AOMEI Partition common Error Codes

Description to Partition Assistant Error Codes

Error Code: 1

Error description:

Unmount drive letter failed, please reboot and retry.

You will get this error code in case of below conditions:

When change the drive letter failed. - eg. The program needs a change of drive letter from D to F, the program needs to unmount the D drive in order to stop the system from occupying it. If there is any system process running in this drive then the unmount operation end up failing.

When remove the drive letter failed. - eg. when partition operations such as resizing partitions, the program needs to unmount the target partition to prevent users from reading the data in it. If the program failed to unmount, you will get this notice.

Solutions:

1. You may reboot your computer and try again.
2. Remove the target drive letter with Partition Assistant or Windows Disk Manager first and retry the operation.

Error Code:

2

24

Error description:

Failed to assign a drive letter for the volume, please manually add a drive letter for the volume by disk management.

Or

Failed to update drive letter, please manually set a drive letter for the volume by disk management.

You will get this error code in case of below conditions:

When assign the drive letter failed. -- Eg. The program attempts to change the drive letter from D to F but failed.

When reassign the drive letter failed. -- Eg. The program reassigns the drive letter after finishing partitioning but failed.

Solutions:

1. In case of assigning drive letter failed, you may reboot your computer and retry with Partition Assistant.
2. Reboot your computer and you can assign the drive letter with Windows Disk Management.

Error Code: 4**Error description:**

Failed to lock the volume, please reboot and retry.

When the program is manipulating partition operations, the target partition should be locked to avoid interrupting by data changing from other programs, however those obstinate applications such as anti-virus and firewall cannot be stopped normally. The program fail to lock the partition then you will be given this error code.

Solutions:

1. You may manually close other running applications including Anti-virus etc. and retry.
2. Follow the indication given by Partition Assistant to restart to PreOS mode and continue the operation.
3. If you are still getting the error after trying the above ways, you may create a Windows PE Partition Assistant with the CREATE BOOTABLE CD function, and

finish your operation in Windows PE mode.

Error Code: 5

Error description:

Failed to lock the volume, please reboot and retry.

In operation of partitioning, partitions need to be locked firstly, when the operation has been finished, the program will unlock the target for you, if the unlock process failed, you will be given this error.

Solutions:

Restart your computer then the locked partitions will be reopened by windows automatically.

Error Code:

6

1006

Error description:

The partition table on the disk failed to update as other programs locked the partition table, please close other programs and retry.

All operations regarding to resizing partitions need to modify the partition table to take effect the task, the operations fails as modification fails.

Solutions:

1. In case of an offline or read-only status disk or volume, the modification of partition table could not be finished, then you need to switch them onto Online mode with Windows Disk Management or Diskpart tool, or to relieve the read-only attribute by Diskpart.

2. The underlying error of partition table such as the partition table overlap will lead to an update partition table failure. Meanwhile we should figure out the errors with some partition table repair software then retry the operation.

Note: A partition table backup before the problem fixing is recommended.

3. Applications which are made to protect disk and system will occupy or lock the

partition table to prevent the system from being damaged. Partition Assistant will be shackled by these programs, so you need to close them then retry the operation. Or, you may create a Windows PE Partition Assistant with the CREATE BOOTABLE CD function, and finish your operation in Windows PE mode.

Error Code: 8

Error description:

Partition table overlap & the following operations will stop. Reboot computer recommended.

There may be underlying problems on your partition table after having your system in use for a long time, the most popular one is partition overlap. Partition Assistant will detect the disk for this error, and you will be given this error code when the partition table overlap detected.

Solutions:

1. Partition Assistant is capable of fixing normal partition table overlap, you need just follow the indications you are given to fix the error and a reboot after the operation is required.
2. Regarding to those out of Partition Assistant's ability, you may use other tools to detect and fix them then retry the partition operation.

Note: Doing a backup of your partition table is recommended during the partition overlap fixing.

Error Code: 9

Error description:

Update configuration file fail.

You may be told to restart to PreOS mode when applying some partition operations, then program will save the operations into a configuration file named ampa.ini which is located in the directory of C:\Windows. Partition Assistant under PreOS mode will need to read the instructions in ampa.ini to finish the operations. You will be given this error code if the process of writing the ampa.ini failed.

Solutions:

1. The reason is usually being that the Anti-virus or System Protection programs prevent Partition Assistant from writing ampa.ini, otherwise is the insufficient disk space for writing data. By then you should close those program or clean up your system for more space.
2. If you tried out and still are unable to do the operation, you may create the Partition Assistant bootable media then finish the operation under Windows PE mode

Error Code: 10

Error description:

Update registry failed. Allow writing to registry when antivirus software block.

Some operations should be done under "PreOS" mode, program then needs to add the "ampa" information to the registry item named "BootExecute" which is lying in "HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Session Manager" for the execution after reboot to run "C:\Windows\ampa.exe" to finish the task. You will be given the error code when writing to registry fails.

Solutions:

1. It is usually because the process of changing the registry is stopped by Antivirus or System Protection program. By then you should close those programs or let them allow Partition Assistant to do so then retry it.
2. If you tried out but still are not able to cross over the issue, then you may create the Partition Assistant bootable media and finish the operation under Windows PE mode.

Error Code: 11

Error description:

No operations available. Please reboot and retry.

Solutions:

Please reboot and retry.

If the issue persists, you may create the Partition Assistant bootable media and finish the operation under Windows PE mode.

Error Code: 12**Error description:**

Disk environment has changed and not consistent. Please reboot to again run the software to retry.

Solutions:

1. Do not insert or remove external storages during the operation.
- 2.If the issue persists, you may create the Partition Assistant bootable media and finish the operation under Windows PE mode.
- 3.If the operation in PreOS mode aborted, the operation is not finished and you will be given this error when the computer starts next time, then you need just press any key to reboot your computer to solve it. Or, After login Windows, re-run Partition Assistant once to solve the issue.
4. When reboot from destination disk after copying disk or migrating system with Partition Assistant, when you boot the system on the destination disk, you may be given this error, then you need just press any key to reboot your computer to solve it. Or, After login Windows, re-run Partition Assistant once to solve the issue.

Error Code 13**Error description:**

No operations need to be processed. Please reboot and retry.

Solutions:

Please reboot and retry.

If the issue persists, you may create the Partition Assistant bootable media and finish the operation under Windows PE mode.

Error Code: 14**Error description:**

Failed to set partition label. You can use Computer->Explorer to set.

Volume labels are the names of your volumes you specified to differentiate them,

for example we usually specified the C partition with the label System, D partition with the label Data or Work. It is a simple operation, Partition Assistant allows you to set the volume label as well. The operation rarely fails or sometimes fails due to unknown reasons.

Error Code: 15

Error description:

Load driver failed, please reinstall the program.

After having installed Partition Assistant, you will have a driver program named ampa.sys located in C:\windows\system32. You will be given this error code when Partition Assistant failed to load the driver because it's been loss or corrupted.

Solutions:

1. Try to reinstall Partition Assistant and if your Anti-virus or system protection program prevents the process from installing the driver, you should admit the process to install the driver.
2. If the issue persists after reinstallation, then you may download again from our site and retry it.

Error Code:

16

17

19

Error description:

Failed to update ARC number.

Or

Failed to update boot.ini.

Or

Error in the process of evaluating if the boot.ini exists.

The above errors codes are indicating the process of changing the boot.ini failed. boot.ini is a system file to save the partition parameters and boot information for

Windows XP/2000/2003. Partition Assistant will need to save the partition changes to boot.ini before finalizing the process. You will be given this error when the Partition Assistant failed to change the file, and this will cause a system start failure.

Solutions:

1. If you are able to boot your system next time after the operation, then you should no more care it. If you are not able to boot from any or all your installed system, you could insert your Windows XP installation CD and get into system failure console to fix the boot.ini with bootcfg or fixboot, for detailed instructions you can search google for "bootcfg", "fixboot".
2. If you have no idea how to fix the boot.ini file, you may pull off your hard drive and insert to another computer or your friend's computer as a slave disk, then start the computer and find out the boot.ini file in the C partition on your hard drive, and send it to our Support team, we will help you to fix it.

Error Code: 21

Error description:

Not enough memory, please release more memory to retry.

You are given this error code when your computer has no enough memory for the execution.

Solutions:

You can enlarge your memory by adding new memory bank to your computer or close some running applications to release the memory.

Error Code: 23

Error description:

The operation already being canceled.

You are given this error code when you manually canceled the operation.

Solutions:

Please try the operation again.

Error Code:

33

34

Error description:

Failed to read sector (with bad sector).

Or

Failed to write sector (with bad sector).

You will be given these error codes when there are bad sectors on your disk.

Solutions:

You may check your disk with Partition Assistant or HD Tune to find out the physical errors (Note. Our program cannot fix the bad sectors.) If the bad sectors are detected, we suggest you to apply a full backup of your disk with our free Backuper to prevent your system from being corrupted. You may try the MHDD to fix the bad sectors and we highly suggest you to fix the errors before the partition operation.

Error Code:

37

1031

Error description:

Failed to update BCD file. Please use Windows Installation CD to amend it.

BCD(Boot Configuration Data) file is used to save the boot information and partition parameters for WIN7 and higher systems. Partition Assistant will update BCD file after having changed the system partition or boot partition's position, either when the disk index ID has been changed after copying disk and migrating system. You will be given this error code when the process of updating BCD fails.

Solutions:

1. If the system is able to boot after receiving the error, then you should pay no attention to it. Otherwise you could redo the partition operation by Windows PE bootable CD created by Partition Assistant with Create Bootable CD function.
2. If your system failed to start after the operation, you may try to amend BCD with Windows 7/8 installation CD or with a third-party tool like EasyBCD. If you know the bcdedit command line inside out, you may also use bcdedit to try to rebuild BCD file with the command line from Windows 7 System Repair Disc. Or you should contact AOMEI support if you have no idea of the error.

Error Code: 38**Error description:**

Failed to copy files from one partition to another.

The program will copy the entire files from one partition to another when applying Merge Partition. You will be given this error code when the program fails to copy files that refuse to be copied.

Solutions:

The files not copied will be recorded in the log file (a folder named log which is located in the Partition Assistant installation directory.) we suggest that you could copy the not-copied files to another partition manually then retry the operation. Otherwise you may copy all the data manually to another partition then delete the previous partition, after that extend the partition forward to the unallocated space with Partition Assistant to realize the merging.

Error Code: 39**Error description:**

Failed to copy encrypted files (EFS) from one partition to another. There are some EFS encrypted files on this partition, please first decrypt before merging.

The program might require PreOS mode to finish merging partition, but the EFS encrypted files cannot be processed by PreOS mode, then you are given the error code.

Solutions:

1. Decrypt the EFS encryption before merging the partitions and retry. Or copy the files manually to another partition then delete the previous one, after that extend the partition to merge them.
2. The operation under windows is recommended since EFS encrypted files can be processed by desktop mode. If the program under PreOS mode is definitely required, we suggest you to try finish the merging operation with Windows PE Bootable CD created by Partition Assistant.

Error Code: 45

Error description:

Failed to initialize this disk.

After adding a brand new disk to your computer , you need to initialize it before using it. It will automatically initialized when a brand new disk is partitioned by using Partition Assistant. But there are a few unknown reasons leading to the error.

Solutions:

You can manually initialize the disk with Windows Disk Management tool then apply the partition operations. For initializing the disk with windows tool please press Win+R then type diskmgmt.msc in the run dialog box then press Enter to run into the management interface to choose the disk to be initialized.

Error Code:

42

44

Error description:

Failed to get volume GUID. Please reboot computer and retry.

Or

Failed to create a directory when merging partitions.

Solutions:

The above errors occur when failed to get volume GUID or create a directory

when merging partitions due to unknown reasons. You may reboot your computer and retry it, if the issue persists, we suggest you to copy the files manually to another partition then delete the previous partition, after that extend the partition with Partition Assistant to merge them.

Error Code: 46

Error description:

FAT12 or FAT16 file system could not be resized.

You will receive the error code when there are partitions of FAT16 or FAT12 Format file system. They cannot be resized but can be changed the position by Partition Assistant. However when the program unintentionally resizes these partitions during some operations, you will be given the error code.

Solutions:

Generally because you have multiple operations in the Pending Operation List of Partition Assistant leading to the error. After clicking Apply button on the toolbar, Partition Assistant has a lot of tasks to do contemporaneously, there may be tasks in conflict. So we suggest you to apply them one by one to avoid these problems.

For more details please read the page: Commit and perform the tasks one-by-one .

Error Code: 48

Error description:

The program found some errors on the partition, you could right-click the partition in Partition Assistant, and select "Advanced" ->"Check Partition" to fix it. If you need to get more detailed information about repairing the errors, please visit at: <http://www.disk-partition.com/lib/fixit.html>.

Solutions:

Before the partition operation, the program will check the target for errors, if errors are detected, you will be told to fix them, then you could visit at: Commit and perform the tasks one-by-one or the webpage you are given to fix. And retry the operation after the problem is resolved.

Error code: 49

Error description:

The version of your system is equal or higher than 1703. We suggest you don't move system partition which may cause system boot failure .

Solutions:

Please update to the latest version of AOMEI Partition Assistant.

Or, please try to create Partition Assistant bootable media and finish the operation under Windows PE mode.

Error Code:

101

102

105

106

107

108

109

Error description:

The above error codes are generally due to physical disk errors like bad sectors.

Solutions:

You may check your disk with Partition Assistant or HD Tune to find out the physical errors (Note. Our program cannot fix the bad sectors.) If the bad sectors are detected, we suggest you to apply a full backup of your disk with our free AOMEI Backuper to prevent your system from being corrupted. You may try the MHDD to fix the bad sectors and we highly suggest you to fix the errors before the partition operation.

Error code

103

104

Error description:

Total sectors too large & exceed the file system allowed capacity.

Total clusters too large & exceed the file system allowed capacity.

Solutions:

Please send the log files under installation directory of AOMEI Partition Assistant to AOMEI support team.

Or, please try to create Partition Assistant bootable media and finish the operation under Windows PE mode.

Error Code:

202

203

219

204

205

206

207

213

210

217

Error description:

The above error codes are due to write metadata failure in formatting NTFS partitions, generally because of the bad sectors on the target partition.

Solutions:

1. Format the partition with windows tools like Disk Management, press Win+R and type diskmgmt.msc in the run dialog box to run disk management and format

your target partition or open "Computer" and right-click the partition you want to format then choose Format in the pop-up menu.

2. If you could not format the partition even with Windows tools, you may check your disk with Partition Assistant or HD Tune to find out the physical errors (Note. Our program cannot fix the bad sectors.) If the bad sectors are detected, we suggest you to apply a full backup of your disk with our free Backuper to prevent your system from being corrupted. You may try the MHDD to fix the bad sectors and we highly suggest you to fix the errors before the partition operation.

Error Code:

201

214

Error description:

Not enough space in disk.

Or

Reserved space insufficient. Please reserve more free space into the current partition.

The error code indicates that you have no enough reserved space for the NTFS partition when you shrinking the NTFS partition. For example if you try to shrink an NTFS partition and lead to its free space is less than 200MB, you may get the error.

Solutions:

Please reserve more free space when shrink the target partition then the problem is gone.

Error Code: 215

Error description:

Too many fragment files on the volume needs to be defragged. Or reserved space insufficient, please release more free space.

The error code indicates that there are too many fragment files on the partition needs to be defragged or the reserved space is not enough for the partition you

are shrinking.

Solutions:

We suggest you to run defrag the partition with Windows Defragment or SmartDefrag before the operation. Otherwise if you do not want to defrag, you may release more free space or reserve more free space for the partition.

Error Code: 220

Error description:

The feature on the NTFS can not be supported by the program yet.

The metadata of NTFS partition contains the feature which cannot be supported by Partition Assistant will lead to the failure of Resize/Move Partition or Copy Partition.

Solutions:

You may create a new NTFS partition of the proper size and duplicate the files from the partition to be resized/moved to the new partition or try other tools to resolve this issue.

Error code

1004

Error description:

The partition cannot be locked in the wizard; please reboot and retry, or you could try to resize the partition in Partition Assistant Main Console.

In order to avoid other applications to visit the target partitions during the operation, the program need to lock these partitions.

In some situations the partition could not be locked, the main reason is some system services, antivirus, firewall or other applications which were running on the target partition.

Solutions:

You'd better check out the applications and shut down. (Note: you'd better shut

down all the Antivirus Program or other protection software before launch Partition Assistant).

You can create the WinPE bootable media via AOMEI Partition Assistant, and then boot from the WinPE to resize partitions. (Learn more about creating the WinPE bootable media).

Error code

1029

Error description:

There is an issue during extend the partition with the wizard; you could try to extend the partition in Partition Assistant Main Console.

This error code is caused by the "Extend Wizard" could not resize the partition directly.

Solutions:

To solve this problem, you could only resize the partition under Partition Assistant main console. After resizing the partition, and when you click "Apply" to commit the operation, you need also hold down the "Shift" button and let the operation completed under the PreOS Mode. (Learn more about PreOS Mode).

Error code

1030

Error description:

The program detected the Paging File (pagefile.sys) is on your target partition. To commit the operation please remove the paging file first.

This error code is caused by the page file. Extend Partition Wizard could not handle any partition which contain the page file.

Solutions:

You need to first remove the page file from the partition that you want to resize. (You could Right click "Computer" -> "Properties" -> "Advanced system settings" -> "Performance Settings" -> "Advanced" -> "Virtual Memory Change".)

You could read more details about "How to remove Page file?"

Or let Partition Assistant extend the partition under the Main Console.

You can create the WinPE bootable media via AOMEI Partition Assistant, and then boot from the WinPE to resize partitions. (Learn more about creating the WinPE bootable media).

6 Glossary

Term	Meaning
System/Boot	<p>The system partition (or system volume) is a primary partition that contains the boot loader, a piece of software responsible for booting the operating system. This partition holds the boot sector and is marked active.</p> <p>The boot partition (or boot volume) is the disk partition that contains the operating system folder, known as the system root or %systemroot% in Windows NT.</p> <p>A single partition may be both a system and a boot partition. However, in case they are separate, the boot partition does not contain the boot loader and the system partition does not have the system root.</p>
Partition/Volume	<p>Disk partitioning or disk slicing is the creation of one or more regions on secondary storage, so that each region can be managed separately. These regions are called partitions. The main difference between a storage volume and partition is the type of disk used. A volume is created on a dynamic disk -- a logical structure that can span multiple physical disks -- while a partition is created on a basic disk.</p>
Bootable Media	<p>Bootable media can be a CD, DVD, USB external drive or flash drive that can be used directly to boot a computer into Windows, and which also contains a standalone version of Partition Assistant. This bootable media can be used to perform operations of Partition Assistant when the system is unable to boot.</p>
Clone	<p>Clone refers to creating a duplicate of the source partitions/disk by coping them to a destination disk/partition</p>

	<p>sector-by-sector. Consequently, the destination disk/partition possesses identical content as the original. It is important to know that the cloning process will overwrite all the previous data on the destination partition/disk.</p>
Basic/Dynamic disk	<p>Basic disks are the storage types most often used with Windows. The term basic disk refers to a disk that contains partitions, such as primary partitions and logical drives, and these in turn are usually formatted with a file system to become a volume for file storage.</p> <p>Dynamic disks provide features that basic disks do not, such as the ability to create volumes that span multiple disks (spanned and striped volumes) and the ability to create fault-tolerant volumes (mirrored and RAID-5 volumes). Like basic disks, dynamic disks can use the MBR or GPT partition styles on systems that support both. All volumes on dynamic disks are known as dynamic volumes.</p>
GPT/MBR	<p>MBR was first introduced with IBM PC DOS 2.0 in 1983. It's called Master Boot Record because the MBR is a special boot sector located at the beginning of a drive. This sector contains a boot loader for the installed operating system and information about the drive's logical partitions.</p> <p>GPT stands for GUID Partition Table. It's a new standard that's gradually replacing MBR. It's associated with UEFI, which replaces the clunky old BIOS with something more modern. GPT, in turn, replaces the clunky old MBR partitioning system with something more modern. It's called GUID Partition Table because every partition on your drive has a "globally unique identifier", or GUID—a random string so long that every GPT partition on earth likely has its own unique identifier.</p>
UEFI/Legacy	<p>Legacy boot mode is the traditional boot mode. It is a common boot mode before WIN8. Legacy boot mode has better compatibility with the system, no matter what 32 or 64 bit.</p> <p>Legacy mode uses the MBR disk format, which features:</p> <ul style="list-style-type: none"> The system can only be installed on the MBR format disk; Only supports up to 4 primary partitions; Does not support more than 2TB hard drive;

	<p>Only one operating system's boot record can be stored in a single MBR.</p> <p>UEFI is the successor of Legacy and is currently the mainstream boot mode. Compared to Legacy, UEFI has better programmability, better scalability, higher performance and higher security. Windows systems support UEFI from WIN 7, and WIN8 starts using UEFI by default.</p> <p>UEFI mode uses the GPT disk format (GUID partition table), which features:</p> <p>The system can only be installed on a GPT format disk;</p> <p>GPT supports up to 128 partitions;</p> <p>GPT breaks the 2TB limit and supports up to 18 EB;</p> <p>UEFI provides a secure boot function to prevent viruses from loading at boot time;</p> <p>The UEFI BIOS graphical interface is more intuitive and interactive, supporting mouse operation and multi-language;</p> <p>There is no self-test when booting,so the startup speed can be faster.</p>
<p>NTFS/FAT32</p>	<p>A file system provides a way of organizing a drive. It specifies how data is stored on the drive and what types of information can be attached to files—filenames, permissions, and other attributes. Windows supports three different file systems. NTFS is the most modern file system. Windows uses NTFS for its system drive and, by default, for most non-removable drives. FAT32 is an older file system that’s not as efficient as NTFS and doesn’t support as big a feature set, but does offer greater compatibility with other operating systems. exFAT is a modern replacement for FAT32—and more devices and operating systems support it than NTFS—but it’s not nearly as widespread as FAT32.</p>
<p>Erase/Wipe</p>	<p>Erasing something, at least in the technology world, implies that it's gone for good.</p> <p>Wiping will write 0 or random numbers to every sector.</p>
<p>Sector</p>	<p>On a hard disk, each track is divided into several sections, called a ‘sector’. A sector is the smallest logical storage unit</p>

	on a hard drive, and each sector holds a fixed amount of data. A sector size can be 512, 1024, 2048 or 4096 bytes.
Sector Alignment	Partition alignment is understood to mean the proper alignment of partitions to the reasonable boundaries of a data storage device (such as a hard disk, solid-state drive (SSD) or RAID volume). Proper partition alignment ensures ideal performance during data access.
Drive Letter	Alternatively referred to as a device letter, a drive letter is a single alphabetic character A through Z that is assigned to a physical computer drive or drive partition.
Volume Label	A volume label, sometimes called a volume name, is a unique name assigned to a hard drive, disc, or other media. In Windows, a volume label is not required but it's often useful to give a name to a drive to help identify its use in the future.
SSD	Solid State Disk