Chapter Three

Back up, Data recovery and system care

Windows back up options and utility

What to back up

Before you can know how you should best back up, you must know what you need to back up. The choice is ultimately yours, but I recommend protecting anything you might want or require later that you can't re-create: electronic documents (tax stuff, business stuff, any hard copies you've scanned and discarded), artistic creations, memorabilia (photos, videos, your old band recordings), or pretty much anything whose loss would evoke extreme negative emotions. Wondering about your downloaded movies, music, and other purchased media? You can always download those items again later, though if you're ambitious enough you can back them up as well. I don't bother. Note that If your data is spread over multiple devices, you'll need to consolidate it.

Though not strictly necessary, it is especially convenient to have a complete backup of your desktop or laptop (ideally with your mobile-device data on board), as described in Method B. It's by far the quickest and easiest way to restore your operating system, applications, and data, should your system succumb to hard-drive failure or a malware attack. This procedure is referred to as *disaster recovery,* and it requires a boot disc/flash drive created by the backup/recovery software. Without a disaster-recovery backup, you'll wind up restoring the operating system and applications individually from scratch.

Where to back it up

This is an easy one. I'm going out on a limb here and guessing that you don't have a tape backup drive. You may not even have an optical drive. If you do, there's nothing wrong with keeping a backup or two on disc, but that's your concern. I think old technology that slows down the process stifles motivation.

If your broadband connection has enough upstream bandwidth, back up to an online file-hosting service. Using such a service is pay-to-play, but costs a fraction of what it costs to recover data from a failed hard drive. It's also ridiculously easy—you just set it and forget it.

Obviously, many people don't have sufficient upstream bandwidth, or a data set small enough to make the online option viable as a complete solution. In that case, reduce your backup set (what you select to back up—don't remove the data itself) to the bare minimum, keep it online, and then back up the rest locally using storage drives you attach to your computer or network.

For local backups, use an external USB 3.0/eSATA/FireWire/Thunderbolt drive, or if the data set is small, use a USB 3.0 flash drive, also known as a thumb drive. Use two drives and alternate between them if you don't plan to back up online, or ideally, even if you do. With hard-drive space costing about 5 cents a gigabyte, and flash costing about 60 cents per gigabyte currently, you can afford it. Don't use USB 2.0 unless you have to: It's slow—and once again, older technology demotivates.

Alternatively, you could use a network-attached storage box. Gigabit Ethernet is as fast as USB 3.0, and a NAS box lets you back up multiple computers on a network

without having to drag a box from location to location. Most NAS boxes support *rsync*, which allows you to mirror one to another in a remote location (such as your aunt's house)—a possible alternative to online backup.

How to back it up

Ah, the nitty-gritty. Here's how to back up once you have your backup repository (a hard drive or other device) and/or service in place.

First, select your disaster-recovery and backup software. Windows 7 and 8 both offer integrated applications that can create complete system-recovery images, though in Windows 8 it's somewhat hidden under *Control Panel > All Items > Windows 7 File Recovery*. Alas, the restore routine isn't particularly robust, and it can fail with as simple a change in hardware as replacing your hard drive with a smaller solid-state drive. In this case, you can still have the PC mount the system image as a virtual hard drive, but only after reinstalling the operating system manually.

Once you decide on the software, the basic procedure is as follows:

1. Run the software.
2. Select the destination for the system backup. This will be the external drive you purchased as a backup repository, a NAS box, or even a shared location on another PC.
3. Select the partitions (C:, D:, or the like) that you want to back up. You should select all of them the first time around, excluding the destination drive for the backup. (Most backup software prevents you from selecting the destination partition/drive.)

4. Run the backup process.
5. When the process is finished, put the backup media in a safe place (if applicable).
6. Create your recovery media (CD/DVD/thumb drive).

For backing up just your data, Windows has its own capable backup application, but you can find dozens of backup programs that are easier or more versatile, including notables such as Acronis Backup & Recovery and True Image, Easeus Todo Backup, Genie Timeline Backup, and NovaBackup. If you're using an online service, the service will provide a backup application. Most of the time it'll create a local backup on your external hard drive at the same time it backs up online.

If you want something more along the lines of Apple's elegant and easy-to-use Time Machine (which combines full system backup with data backup), Genie Timeline may be what you seek. You'll also find continuous backup products, such as Stardock's KeepSafe, which perform a full data backup (no OS or applications) and then look for and back up changed files at short intervals (such as every 5 minutes). If your data set changes quickly (or if you don't like scheduling backups), you can opt for real-time backup. NTI's Shadow, for instance, performs a full backup, after which it hooks to the operating system and saves files as they change.

After you've installed your software, follow these steps:

1. Run the software.
2. Select the files and folders you want to back up.

3. Select the destination for the system backup. This will be the external drive you purchased as a backup repository, a NAS box, a shared location on another PC, and/or your online backup service.
4. Run the backup process. (Make a full backup of all your data the first time.)
5. Verify the backup.
6. When the backup process is finished, put the backup media in a safe place (if applicable).
7. Repeat as necessary—daily, weekly, or monthly, depending on how often things change and how risk-averse you are.

Tip: After your initial full backup, perform *incremental backups* (backing up only the changes since the last backup) or *differential backups* (backing up all changed files since the initial full backup) to save time. Start over with a new full backup once a week if you're backing up daily, once a month if you're backing up weekly, or once every four to six months if you're backing up monthly. **Note:** Never, *ever* delete the old backup until the new one is finished.

Step 7 and the tip above describe what are affectionately known as *backup methodologies*. There are far more complex ones, but complexity, like slow technology, demotivates. (Unless, of course, you're being paid a lot to back up something. I'm guessing you're not, if you're reading this primer.)

Getting the data off your devices

Although free online backup and storage space is available for each major mobile platform (5GB for iOS/iCloud, 15GB for Android/Google Drive, 7GB for Windows Phone/SkyDrive), centralizing the data from all your devices can be a tad

more complicated. With Google Drive and SkyDrive, you get local copies of your files on your PC if you install their respective apps. Just add those files to your list of locations to back up, and you're golden. Or, you can simply copy stuff over from the appropriate folder when the device is attached to your PC via USB.

How to use the Backup utility to back up files and folders in Windows XP Home Edition

Things that you should know before you use the Backup utility

What to include in your backup

If you want to back up your computer, we recommend that you back up all the data on your computer, including the System State data. The System State data includes the registry, the COM+ class registration database, files under Windows File Protection, and boot files. You can only back up the System State data on a local computer. You cannot back up the System State data on a remote computer.

What is not supported

If you use Backup in Windows XP Home Edition, Automated System Recovery (ASR) is **not a supported feature**. You can use the current version of Windows XP Home Edition to start the configuration process for ASR, but you cannot complete the process. For more information about errors that occur if you try to use the ASR feature with Windows XP Home Edition, click the following article number to view the article in the Microsoft Knowledge Base:

Volume considerations

You can use the Backup utility to back up and restore data on either FAT16, FAT32, or NTFS volumes. However, if you back up data from an NTFS volume that is

used in Windows XP, we recommend that you restore the data to an NTFS volume that is used in Windows XP. If you do not, you can lose data and some file and folder features.

Some file systems might not support all the features of other file systems. For example, the following features are lost if you back up data from an NTFS volume that is used in Windows XP, and then restore the data to a FAT volume or an NTFS volume that is used in Windows NT 4.0:

- Permissions
- Encrypting File System (EFS) settings
- Disk quota information
- Mounted drive information
- Remote Storage information

How to back up files and folders by using the Backup utility

After you install the Backup utility from the CD-ROM, follow these steps to create a backup of your files and folders.

In order to back up files and folders, you must be logged on to the computer as an administrator or with a user that is part of the Administrators group.

Note The following steps explain how to create a backup manually by using the Backup Utility. You can also create a backup by using the Backup and Restore Wizard. However, the steps will be slightly different from those that are listed in the following section.

1. Start the Backup utility and select the files and folders that you want to back up.
    1. Click **Start**, point to **All Programs**, point to **Accessories**, point to **System Tools**, and then click **Backup**.
    2. Click **Advanced Mode**.

Note

If the Backup and Restore Wizard starts, the utility is running in Wizard mode. You can click to clear the **Always start in wizard mode** check box, and then restart the Backup utility. If you continue to use the Backup and Restore Wizard, your steps will vary slightly from what is listed in this procedure.

    3. Click the **Backup** tab.
    4. On the **Job** menu, click **New**.
    5. Select the check boxes next to the drives that you want to back up. If you want to select specific files or folders, expand the drive where these files or folders are located. Then, select the check boxes next to the files or folders that you want to back up.
2. Select the **System State** check box that is located under **My Computer** in the navigation pane.

3. If the **Backup destination** list is available, click the backup destination that you want to use.

   Notes

   - If you selected **File** in this step, type the full path and file name for which you want to back up data in the **Backup media** box or in the **file name** box.
   - You can specify a network share as a destination for the backup file. Typically, backup files have the .bkf file name extension. However, you can use any file name extension that you want.

Click **Start Backup** to open the **Backup Job Information** dialog box.

Under **If the media already contains backups**, do either of the following:

- If you want to append this backup file to previous backup files, click **Append this backup to the media**.
- If you want to overwrite previous backup files with this backup file, click **Replace the data on the media with this backup**.

Click **Advanced**.

Select the **Verify data after backup** check box.

In the **Backup Type** box, click the type of backup that you want to create. For a description of a backup type, click a backup type and the description appears under **Description**. You can select any of the following backup types:

- Normal
- Copy
- Incremental
- Differential
- Daily

Click **OK**, and then click **Start Backup**.

When the backup is complete, click **Close**.

Back up your files

To help ensure that you don't lose your files, you should back them up regularly. You can set up automatic backups or manually back up your files at any time.

To back up your files

1. Open Backup and Restore by clicking the Start button , clicking Control Panel, clicking System and Maintenance, and then clicking Backup and Restore.
2. Do one of the following:
    - If you've never used Windows Backup before, click Set up backup, and then follow the steps in the wizard. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.
    - If you've created a backup before, you can wait for your regularly scheduled backup to occur, or you can manually create a new backup by clicking Back up now. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

Notes

- ***We recommend that you don't back up your files to the same hard disk that Windows is installed on.***

- ***Always store media used for backups (external hard disks, DVDs, or CDs) in a secure place to prevent unauthorized people from having access to your files—we recommend a fireproof location separate from your computer. You might also consider encrypting the data on your backup.***

To create a new, full backup

After you create your first backup, Windows Backup will add new or changed information to your subsequent backups. If you're saving your backups on a hard drive or network location, Windows Backup will create a new, full backup for you automatically when needed. If you're saving your backups on CDs or DVDs and can't find an existing backup disc, or if you want to create a new backup of all of the files on your computer, you can create a full backup.

Here's how to create a full backup:

1. Open Backup and Restore by clicking the Start button , clicking Control Panel, clicking System and Maintenance, and then clicking Backup and Restore.
2. In the left pane, click Create new, full backup.

   Note

   - ***You will only see this option if your backup is being saved on CDs or DVDs.***

To set up a backup after upgrading from a previous version of Windows

After you upgrade Windows, you will need to set up Windows Backup, even if you had a scheduled backup in the previous version of Windows. This is because there are several changes to the backup program. Instead of selecting file types to back up, you can have Windows back up data files saved in libraries, on the desktop, and in default Windows folders, or you can choose specific libraries and folders to be backed up. You can also create a system image of your computer.

To set up your backup, follow these steps:

1. Open Backup and Restore by clicking the Start button , clicking Control Panel, clicking System and Maintenance, and then clicking Backup and Restore.
2. Click Set up backup, and then follow the steps in the wizard. If you're prompted for an administrator password or confirmation, type the password or provide confirmation.

How to perform an image backup in Windows 8.1 or 10

1- Right-click the **Start** button and launch **Control Panel**.

2- Click **File History**.

3- While in File History, click the **System Image Backup** link in the bottom-left corner of the screen.

4- Connect an external USB hard drive with enough free space.

5- In the backup wizard, you'll be prompted to choose from one of the three options to save the backup. For this example, we are going select the hard drive you just connected. However, keep in mind that you can backup to DVD blanks and a network share, but these options will slow down the backup process.

6- Click **Next**.

7- Confirm and begin the process by clicking **Start backup**.

The backup could take anywhere from 10 minutes to 2 hours, it all depends on the amount of data to be backed up.

And yes, during the backup process, you can use your computer as you would normally do.

After the System Image Backup utility completes the task, remember to keep the hard drive in a safe place.

Although, a lot of tech savvy users are aware of how to perform a full backup in Windows, you'll be surprised how many people fail to know the basics. Often times I get asked questions such as: "I upgraded my system and now Windows won't boot, how can I rollback?". Or "My hard drive is ruined, is there any way to recover my data?", and most of the times a simple backup could have saved them a lot of troubles.

How often do you do a full backup of your computer? What software do you use? Let us know your backup experience in the comments below!

Update: To restore your computer from backup, connect the drive with the system image backup and reboot your computer with the Windows installation media. During the Windows Setup, click **Next**, then click the **Repair your computer** link in the bottom-left corner of the screen. Click on **Troubleshoot**, click **Advanced options**, and select **System Image Recovery**. Now select the target operating system you want to recover, click **Next** and **Finish**.

Using backup software

Best Free File-Based Backup Program

Introduction

The theme of this category is to provide reviews for the most popular and best free **file-based backup programs** that provide adequate features, ease of use and ability to set and forget. File based backup programs **do not usually support** the creation of a **system boot restore disk**.

The intention behind backup software is to **backup important data** you create, **not** generally to restore your operating system or applications.

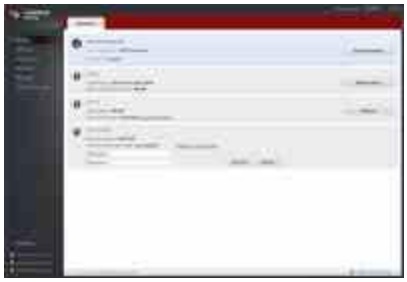
Use backup software to save document files, browser favorites, pictures, videos and other data, documents and media. There are other options for creating system restore disks and restoring applications. Some of the backup programs are easier to use than others usually at the cost of some features. Backup programs do have their own nomenclature for processes. Please take the time to educate yourself on the process and terminology. Gizmo's has several articles for reference, some mentioned later in this review and the Freeware Forum to post questions. Downloading and trying two or three different programs to perform a test backup

may be preferable to determine the proper fit for your needs and experience.

Important Features:

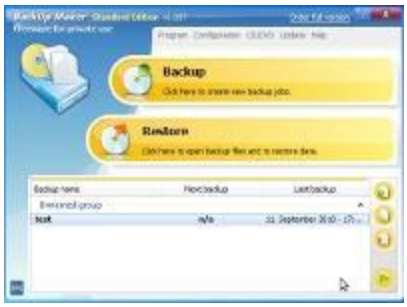
- Shadow Copy or VSS - Comodo Backup
- GPT drives - EaseUS - AOMEI
- Incremental & Differential Backup - Comodo, Backup Maker
- AES Security Encryption - Comodo, Backup Maker

Note: There are a lot of free backup programs that have some unique features and excellent functionality that really deserve mentioning, but room here does not allow. If you are looking for more advanced programs, or some specific functionality, please check out the three links directly below. *Special Review*



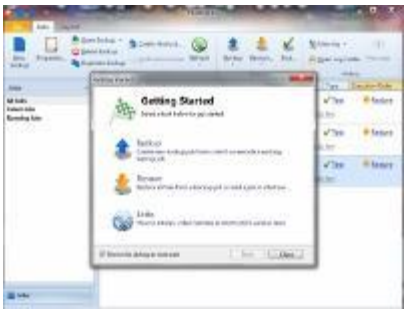
Comodo Backup represents what a truly full functional free backup software should be. Although lacking a wizard for novice users, the essential functions are clearly laid out. Installation notes; you can opt out of using the cCloud 10GB free storage. The software will reboot your system after installing, so make sure you don't have any other applications open. Comodo Backup starts out with the option to perform a System backup with their default settings when you run it for the first time, I skipped this step. To begin creating a backup, click the Backup menu from the left sidebar to configure specific source files and folders or select from the Shortcuts menu to easily backup common folders like My Documents, My Pictures, My Videos and My Music. Once a backup has been configured and run, on-demand is easily selected from the Home Summary list of backups already

performed. Like most backup software once configured, it's easy to do again. Tip: in the backup window there is an option to choose Fewer Options or More Options. Select the view you are most comfortable with. Comodo does offer full backup, incremental and differential as well as Shadow Copy. There are options to choose the level of compression from none to maximum, and the backup format. Types of backup formats include CBU file, simple copy, ZIP file, ISO file, self-extracting CBU file and file sync. Comodo can only restore CBU and Simple Copy formats. Comodo does offer scheduling. From the backup screen, near the bottom in the middle is a gray clock icon to use for setting the backup schedule. The good, this program is full of usable features. The bad, they take time to learn and it lacks GPT format support. I recommend their online help guide as a resource to getting familiar with the program. The step by step image filled help is easy to navigate and very informative. If you are short of drive space and need another source, try Comodo's free 10GB of cloud storage. Comodo's extensive online help includes RSS feeds in the lower left corner of the main console view to the latest news releases and video's explaining many of their features and offerings. I really like this program for it's unrestricted functionality.



Backup Maker: Backup Maker opens with a clean console inviting the user to start with a backup or restore. Click backup to start the restore wizard. Choose presets or specific files and folders, scheduling, full or partial backups, a target

location, and a backup name, those are the basic wizard features. The advanced features include the ability to catch up missed backups, creating settings for not overwriting older backups, security options, back up condition options, actions to occur before/after backup, and splitting the backup. The wizard did a good job of walking me through the options. The developer has fixed the system slowing or freezing when drilling down directory trees that one of our user's pointed out. I've tested this feature again and cannot recreate the issue. The software has one of the most extensive sets of options for customizing backups. Unfortunately imaging, cloning or system boot backups are not supported. Backup Maker does not limit any of the functionality versus the paid version. The omissions from the paid version are commercial use and technical support. For restoration, assuming your operating system is installed and functional, Backup Maker will restore data in a few short steps. Click the restore button, select the files to restore and where to restore them. Keeping with the program's trait of selection detail, the options to select specific files to restore from a group, and being able to select an alternative destination or restore the original path are nice options.

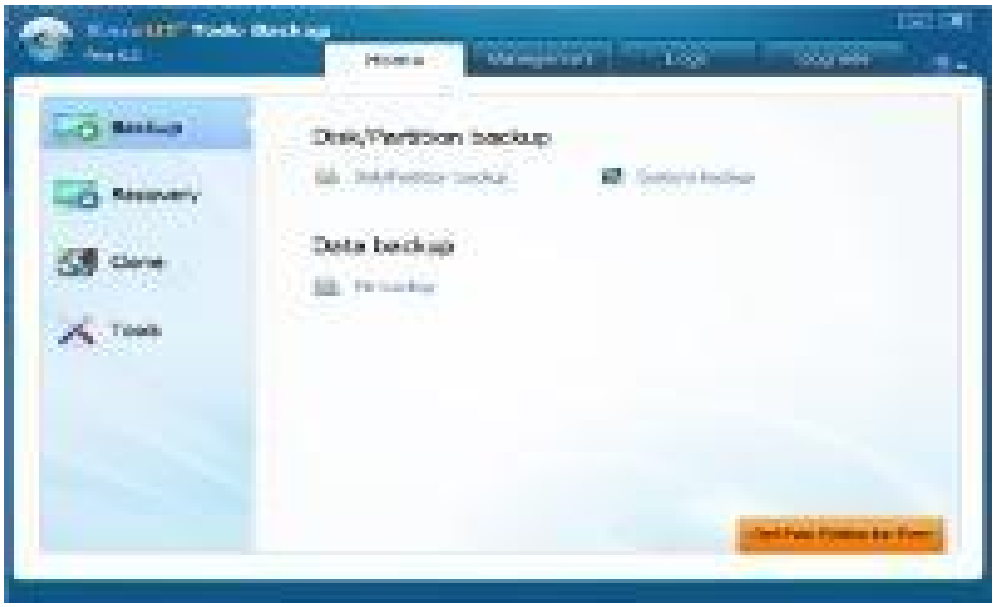


FBackup: starts with a Getting Started window over the main window. The Getting Started window can be turned off after the first use however this window is also a Wizard that novice users may find beneficial. The Getting Started options are Backup, Restore and Links. Select Backup another window will open. Name

your backup, choose the target destination, click next. The following window is for selecting and excluding files. This requires a familiarity with file tree structions and locating the information you want to backup on the hard drive. The next window is for encryption and selecting full or mirror backup. Mirror backup will essentially copy files from one location to another. Mirror backups cannot be compressed or password protected. The next window is for scheduling. A nice feature is each window has a help link associated with the information on that window. There is also an advanced button at the bottom of the screen to access other options.

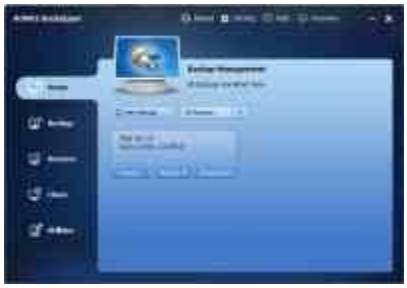
Essentially there are **four steps** to creating a backup. After the backup is complete a notification window will pop-up showing the files backed up. This is part of the CRC32 test. The test cannot be performed again after the backup. FBackup will return to the main window. FBackup free does not offer incremental or differential backups. Compressed files are zipped so no need for mounting/unmounting. Backups can be password protected but they are not encrypted. A unique feature of **FBackup** is the use of **plugins** which can be used to automate backups. These plugins are preset for specific applications like game saves, email data, web browser settings, anti-virus configurations, etc. The developer has created a rather long list of available plugins to help capture specific application files. The options menu under the File tab provides access to configuring essential functions of the software. Since FBackup is heavy on pop-up notifications, the Notifications option is very handy for customizing what pop-up windows you see and for how long. The UI is similar to MS Office 2010's ribbon toolbar making FBackup more comfortable for users of MS products. Overall a nice backup program for users of moderate computer knowledge. My dislikes are the restrictions in the free version

compared to the paid version.



<u>EaseUS Todo Backup</u>: EaseUS is designed to be **user friendly** by simplicity without a wizard. However this assumes a level of experience that may exclude some novice users. The main menu has three quick link options, Disk/Partition backup, System backup and File backup. System backup is essentially the same as Disk/Partition backup only the presets are fixed for backing up the system files. In the free version EaseUS will not create a bootable system restore disk. Using the cloning or imaging features however hard drive information can be completely restored by using a separate boot disk/drive like a system CD or Flash drive. Using File Backup the default view is a directory tree to manually select files or accept the default settings. There is another option by clicking the arrow on the file tab and selecting File Type to see a list of presets or create your own. Once the files are selected, a small row of links will open other windows for additional options. There is a link for scheduling, backup options and Image-Reserve Strategy. The

backup options are limited in the Free version. Compression is either none or normal, splitting, and priority settings of normal or medium. VSS is not an option, incremental backups are available, not differential with the Free version. Once configured however backups are essentially two clicks away using presets. The Clone menu on the left sidebar has links to perform Disk and Partition Cloning. The Tools menu on the left sidebar offers Check Image, Wipe Data, Enable PreOS, Create Emergency Disk, and Mount/UnMount. EaseUS does support GPT disks and is for personal use only. Admin level use is required to restore and perform other functions. Overall EaseUS ToDo Free is a quick simple program to use. Being a restricted version of their full version leaves it lacking in overall features compared to other backup programs.



AOMEI Back upper- Well worth a mention in this category because of its additional ability to quickly make backups of files and folders. The latest edition at time of writing is 2.0.1 and now has a few extra features such as the ability now to select multiple files and folders at the same time for backup along with support for performing a backup or restore across a network or NAS (Network Attached Storage), in addition you are now able to import and export all the backup tasks in XML format. The developers at AOMEI are constantly improving on their software whilst still maintaining a clean and easy to use GUI.

System restore in recovery console.

I have worked very hard to try each fix listed on the site and put easy to follow step by step instructions on each page. If this helps you fix your problem please donate with the Paypal link at the bottom of this article to keep this site going for the next time you need help. This information is supplied without warranty. It can help if done correctly. Use at your own risk. Thanks... Dale

This covers some helpful resolutions for:

Windows XP could not start because the following file is missing or corrupt:

\WINDOWS\SYSTEM32\CONFIG\SYSTEM

Windows XP could not start because the following File is missing or corrupt:

\WINDOWS\SYSTEM32\CONFIG\SOFTWARE

This stop message

Stop: c0000218 {Registry File Failure} The registry cannot load the hive (file): \SystemRoot\System32\Config\SOFTWARE or its log or alternate

This system error

Unmountable boot volume

Also may help with system restore when system restore doesn't work in normal or safe mode.

If you have a hall.dll error upon boot up try this article first. **Click here to fix your hal.dll error.**

Note: This troubleshooting step is usually used for the specific issue indicated above but it may also work for BSOD issues which recently occurred and you're unable to boot to either safe mode or normal mode.

Important! Stop and read this. Before starting this process, Please do yourself a favor and stick your head by your computer and listen. If you hear a louder than usual click noise that's out of the ordinary, "SHUT OFF YOUR COMPUTER" and do not restart it till you can make a backup of your drive. This may be the clunk(crash) of death for your hard drive.

Okay now lets get started.

A: First, The basics. You will need a Windows XP CD. If you only have a recovery disk set like the ones from a HP or Compaq, they will not do what you want. You can normally use a Dell disk, also retail box disks (XP Purchased from the store), or some OEM versions of XP will work (most of these will have the Microsoft hologram on them). There are a few other places with bootable CDs on the net, but the easiest thing to do if you don't have an XP CD is to borrow a Dell or Retail box disk and get right to work. If you can't find a boot disk set and don't want to make a floppy disk set, you can use an Umbuntu disk or another Linux based live CD version like Knoppix

If your computer already starts at the CD rom first, or you know how to make it go there skip to part C:

B. The next step is to make sure that your CD rom is the first drive your system starts at (or the floppy if you have to use the floppy disk set). If you are using a Dell then most of the time you can go directly to a boot menu by clicking the F12 key, I believe that some HP's and Compaq's do this as well. If not, then the most common keys to get into the Bios (Cmos) are:

Delete (DEL on many keyboards), F1, F2, or F10 will normally get you there.

If your system doesn't go to the bios screen with one of these keys pressed several times right after you start the computer then consult the manufacturers website or owners manual. Once you are in the bios you want to find the boot section. there are so many different versions of bios that I could build a whole section of this site just telling you about the bios. The 2 most common places are:

B1: On the main bios screen a tab that says BOOT. Highlight the section by using the right arrow key on the keyboard, then highlight the first boot by using the down arrow and change it to "CDROM" or "ATAPI CDROM" by using the + or - keys on your keyboard or sometimes you can click enter and then use the arrow keys on your keyboard. To make this change then click enter again when you have picked the CDROM. (If you are booting to the A: drive then you would choose FLOPPY as the first boot drive) after you have made the change, then use the right arrow key to highlight Exit and then click enter as long as the Exit Saving Changes is highlighted. You may also be able to exit saving your changes by clicking the F10 Key

B2: On the main Bios screen you will see a choice of "ADVANCED". If you use the arrow keys to get to the advanced choice then click enter you should see "BOOT" or in some Bios it will already have the drive order listed. If it says BOOT then highlight that using the arrow keys and click enter to show the boot order of your drives. Then using the arrow and the + or - keys make the first boot the CD rom, or floppy drive depending on which you have to boot with. Click the

ESC key till you get to the main Bios screen, then use the arrow keys to highlight the choice that implies you will be saving the settings you just made and click enter.

After doing one of the above mentioned choices your computer should reboot and automatically try to start at the drive you told it to boot to. Now ON to Step C:

C. After you know that the computer will boot to the correct drive, insert your disk into the appropriate drive. If you have more than one cd rom or floppy drive you may find that your system only checks one drive before going to the hard drive for boot up. If this happens you can just move the disk to the other drive and restart your computer.

When you get the system started and it finds your startup disk you will see a screen that says Press any Key to boot from CD. I normally use the space bar as my any key and then you should see a blue screen that says Windows setup in the left hand corner. Wait untill you see the welcome to setup screen and then click the "R" key to get to the Recovery Console How long it takes to get to each of these depends on the speed of your system, but I will tell you that it will take a few minutes to finally get to the Console.

Once you are at the Recovery Console you will be given at least one choice of Windows installations. Normally the choice you want is the number 1 choice. Click the number 1 key at the "top" of the keyboard and click enter.

NOTE: at this point your numbers to the right of your keyboard are turned off. If you insist on using these keys for your numbers remember to hit the Numbers Lock key before clicking a number over there or your computer will automatically reboot and you will have to wait through the previous steps to get back to the console. I know because I've done it several times out of habit and had to wait it out again.

You will be given a message asking for the administrator password. Unless someone or something has messed with your computer there is no password so you just click the enter key.

If your computer insists you have a password and you never had one before or it isn't working with your password, "CLICK HERE" to see how to fix a corrupted password.

This will bring you to a prompt that says:

C:\WINDOWS>

Type: cd \ and then click enter(Note: between "cd" and "\" there should be a "blank space" otherwise the command won't work. If you find that a command hasn't worked make sure you typed it correctly. These are similar to old DOS commands where spaces had to go between each command so DOS knew where one command stopped and another started.)

You are now at the ROOT of the drive where it all begins. The Prompt should now say C:\>

Now type: CHKDSK /R and click enter.

The chkdsk / r command also includes the P command and will also look for lost recoverable information in bad sectors.

This Disc check takes some time especially if you have a lot of information on your drive, so you should go take a break now and come back periodically to check on the progress. It has taken as much as several hours for this on some machines I've worked on, so be patient.

Now after the chkdsk has run type: FIXBOOT then click enter.

It may prompt you with a warning but continue through it and once fixboot has finished type: EXIT and click enter.

Your system should reboot and when it does click the F8 button to get a windows start menu. Use the up or down arrow to highlight the LAST KNOWN GOOD CONFIGURATION and click enter. If it was a simple drive error this should have fixed it.

If you still get a system32 error reboot the system to the Recovery Console and follow the steps below.

I. Boot to Recovery Console as described above.

II. Restore the registry with the steps below.

1. Type: cd \

(Reminder: between "cd" and "\" there should be a "blank space" otherwise the command won't work. These are similar to old DOS commands where spaces had to go between each command so DOS knew where one command stopped and another started.)

2.Type: Cd system~1_resto~1

If it gives an error "Access Denied" while accessing the folder, follow the method below

Type: cd \

Then click enter

Type: cd windows\system32\config

Then click enter

Type: ren system system.bak

Then click enter (note the spaces between ren and system, and then between system and system.bak)

Type: exit

Then click enter now the computer should restart, then follow steps 1-6 of the article.

3.Type: dir

Then click enter

NOTICE: When you hit enter it will list all the restore points folders like "rp1", "rp2" we have to see the last restore point to copy the file from a recent backup. If the restore points have more than one page then you have keep on hitting the key to view the last restore point folder.

NOTICE: It is a good rule of thumb to choose the files from the restore point folder which the second to the last one.

4.Type: cd rp {with the second to the last restore point no. } (Note: Example: cd rp9. if rp10 is the last restore point. where last restore point no. =10)

Then click enter

5.Type: cd snapshot

NOTICE: Now the command Prompt will look like this

c:\system~1\resto~1\rp9\snapshot

(Note : restore point 9 assumed for clarity of the content, you have to go to the last restore point folder as described in the previous lines) Now according to the error message we have to copy the appropriate file from the restore point folder.

II.

NOTE: The appropriate command should be used according to the error message. But often times I do both to make sure they match each other. Also, there is a SPACE between "copy" and the underscore and also a space between system or software and the c:

If the file "system" is corrupted

Type: copy _registry_machine_system c:\windows\system32\config\system

Then click enter

If the file "software" is corrupted

Type: copy _registry_machine_software c:\windows\system32\config\software

Then click enter

Type: Exit

Then click enter to restart computer and boot to the hard drive normally.

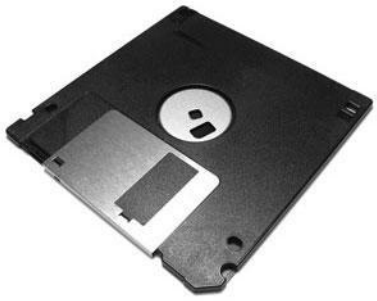
If this does not work, then you should try an earlier restore point. Normally 2 or 3 more restore points back. If that does not work your drive may be corrupt. At this point you will have a couple of different options.

1: You can copy your drive to a new drive and then try again. Make sure the software you use copies the restore folder with the rest of the windows system. Some do not move the system restore folder over to save time and space, but you can manually tell the program to move the restore folder. I use Casper XP, and it has the option to move the restore folder.

NOTE: Only do step 2 if the above has failed. Step 2 will remove all system restore points from your system and as far as I can tell they will be gone forever unless you have a copy of your hard drive. Also this should remove all MS updates and service packs and you will have to do your windows updates over again.

2: Another is to start the system from the cd as described previously and then, instead of loading the command prompt by clicking "R" at the first recovery prompt, you tell it to install windows and after you click the F8 key to agree to the End User License, you then will be given a chance to recover a previous version of windows (if the installation software does not recognize a previous version of windows !!!"STOP"!!!, or you will loose everything on the drive). Carefully follow through that repair setup wizard and that may also fix your problem.

How to create a boot disk



A boot disk allows you to boot off of a diskette instead of your hard drive. This diskette can be used to fix issues that may arise during the lifetime of your computer or to help load older MS-DOS games. Keep in mind this diskette is completely different than a restore CD or disc that may have been included with your computer.

Tip: After creating a boot diskette, it is highly recommended that you write-protect the diskette to prevent any virus from infecting the disk or the disk getting erased.

Creating an MS-DOS boot disk

Note: These steps are for users who have MS-DOS installed on the computer. If you have any version of Windows follow the steps below for your version of Windows.

To create an MS-DOS diskette, begin by getting to the DOS directory by typing:

cd\dos

Once at the C:\DOS directory, skip to copying files.

Creating a Windows 3.X boot disk

Note: These steps are for users who have Windows 3.x installed on the computer.

To create a Windows 3.x diskette, from Windows Program Manager, click File and then choose the option to Exit Windows, which will get you to a prompt; at the prompt, type:

cd\dos

Once at the C:\DOS directory, skip to copying files.

Creating a Windows 95 boot disk

Note: These steps are for users who have Windows 95 installed on the computer.

In Windows 95, Microsoft has created a new method of creating a bootable recovery diskette. Unfortunately, however, this diskette does not support CD-ROM support and is missing a few recommended files. To do this, click Start, Settings, Control Panel, double-click the Add/Remove programs icon, click the startup disk and create disk.

Alternatively, to create a Windows 95 boot diskette manually from Windows, click Start, Shutdown, and choose the option to restart the computer in an MS-DOS prompt. At the prompt, type:

cd\windows\command

Once at the C:\DOS directory, skip to copying files.

Creating a Windows 98 and ME boot disk

Note: These steps are for users who have Windows 98 or Windows ME installed on the computer.

An excellent feature of Windows 98 and ME is its boot diskette. Using Windows to create you a Windows 98 boot diskette gives you all the needed files as well as CD-ROM support. To create a Windows 98 boot diskette, click Start, Settings, Control Panel, double-click the Add Remove programs icon, click the startup disk and create disk.

Alternatively, to create a Windows 98 boot diskette manually from Windows, click Start, Shutdown, and choose the option to restart the computer in an MS-DOS prompt. At the prompt, type:

cd\windows\command

Once at the C:\DOS directory, skip to copying files.

Copying additional files

Note: When making a boot disk, if you are running "Stacker" or some kind of a DoubleSpace or drive swapper program, this could not work.

Once you are in DOS and at the correct directory as instructed in the above sections by operating system, you are ready to create your bootable diskette. Insert a diskette that does not contain any information (it will be erased).

At the prompt, if you have MS-DOS 6.2, Windows 3.x, Windows 95, Windows 98, type:

FORMAT A:/S

If you have MS-DOS 5.0 Type using double density 5.25" diskettes type:

FORMAT A: /360 /S

If you have MS- DOS 3.11 through 4.0 using double density 5.25" diskettes, type:

FORMAT A: /4 /S

Once the diskette has been formatted and the system has been transferred, you should be returned to your original directory. In this directory, type:

copy format*.* a: [PRESS ENTER]
copy fdisk*.* a: [PRESS ENTER]
copy mscdex*.* a: [PRESS ENTER]
copy sys*.* a: [PRESS ENTER]
copy edit*.* a: [PRESS ENTER]
copy qbasic*.* a: [PRESS ENTER] (Win 95/98 users skip this line)
copy debug*.* a: [PRESS ENTER]
copy himem*.* a: [PRESS ENTER]
copy emm386*.* a: [PRESS ENTER]

If you are planning to use this diskette as a diskette to load games or you feel that you need mouse support, you need to copy the mouse driver onto the boot diskette. The MS-DOS mouse driver is mouse.com or mouse.sys. Locate this file and copy it to your bootable diskette.

For CD-ROM support, visit our CD-ROM drivers page for information on loading your CD-ROM driver.

Once you have copied the above files, create an autoexec.bat and a config.sys. Get to the floppy drive by typing **A:**, once at the floppy drive, type:

copy con autoexec.bat [PRESS ENTER]
@echo off [PRESS ENTER]
LH A:\MSCDEX.EXE /D:CDROM [PRESS ENTER] (this line is used for your CD-ROM drive).
LH A:\MOUSE.* [PRESS ENTER] (skip line if you did not copy mouse file, the * is either sys or com).

Press and hold **CTRL + Z** - this should return ^Z. Once this is displayed, press enter to copy the file.

copy con config.sys [PRESS ENTER]
device=a:\himem.sys
dos=high,umb
device=a:\emm386.exe noems
files=30
buffers=20
devicehigh=a:\oakcdrom.sys /d:CDROM (this line is used for your CD-ROM drive).

Press and hold **CTRL + Z** - this should return ^Z. Once this is displayed, press enter to copy the file.

Congratulations, after completing the above steps you should now have a bootable floppy diskette.

Creating a Windows NT boot disk

To create a boot diskette you must have access to the i386 directory located on your Windows NT CD or possibly your hard drive.

Format the floppy diskette you want to make a bootable Windows NT boot disk using the Windows NT machine.

Copy boot.ini, ntdetect.com, and ntldr to the floppy diskette just formatted.

If you are using any SCSI devices that you need access to, you also need to load these drivers onto the diskette.

Creating a Windows 2000 boot disk

To create a Windows 2000 Professional bootable diskette you need four 1.44MB diskettes and the Windows 2000 Professional CD.

Click Start, Run, browse to the CD-ROM drive.
Open the "BOOTDISK" folder and double-click makeboot.exe and click ok to launch the program to create the diskette.

Users can also create an Emergency Repair Disk by clicking Start, Programs, Accessories, System Tools, and opening backup. From the backup window, click the button for Emergency Repair Disk and follow each of the steps.

Creating a Windows XP boot disk

Note: The Microsoft Windows XP CD is a bootable CD and in many cases you should not need a bootable floppy diskette. Booting from the Windows XP CD allows you to not only install or reinstall Windows XP, but also allows you to troubleshoot.

Create MS-DOS bootable diskette

When formatting a floppy diskette, users have the option of creating an MS-DOS startup disk, follow the steps below to do this.

1. Place diskette in the computer.
2. Open My Computer, right-click the A: drive and click Format.
3. In the Format window, check *Create an MS-DOS startup disk.*
4. Click Start

Create Windows XP Setup diskettes

Microsoft is beginning to phase out bootable floppy diskettes in favor of bootable CD discs and has not included a method of creating a bootable floppy diskette in Windows XP or from the CD. However, Microsoft has downloads available for users who still need to create bootable diskettes to install (not upgrade) Windows XP. These downloads can be found through KB310994.

- How to or can't boot from a CD or DVD.

How to use a boot diskette

Once the bootable diskette has been successfully created, follow the steps below to use the boot disk.

1. Place the diskette into write-protect mode (in case a virus is on the computer, this will not allow the virus to transfer itself onto the diskette).
2. Insert the diskette into the computer and reset or turn on the computer to begin the boot process.
3. As the computer is booting, answer the questions prompted (if any).
4. Once at the A:\> take the appropriate actions depending upon the situation of the computer.
5. If you are unfamiliar with MS-DOS or the command line we recommend the MS-DOS page.