

BACKING UP YOUR MAC: Why and how

You never forget the first time your hard drive dies and you realize that you haven't backed up. The horrible, stomach-turning moment when you know you've just lost a whole bunch of stuff that's irreplaceable. Photos. Music. Videos that you took at family events. All gone.

You'll probably spend the next few hours sweating, downloading disk utilities and searching for boot disks to try and fix things. Perhaps you'll get lucky and be able to kick your drive back into life. Or perhaps everything will be gone, completely, for good. And it could all have been avoided.

You could have been sitting back relaxing, sure in the knowledge that everything was safely backed up - on another disk, or online. You could simply have reformatted your drive, restored everything from your backup, and picked up where you'd left off.

Then you would have grabbed a cup of tea, put your feet up on the desk, and felt mildly inconvenienced - rather than manically swearing at your Mac.

Let's face it - backup sounds particularly dull. But without it, that scenario of losing everything is a distinct possibility. In this feature we're going to look at different ways to ensure you're well backed up, without having to devote hours of time and effort to getting it sorted.

Don't confuse syncing with backing up: Syncing just allows multiple devices to share the same files/folders, it's not saving copies; it's only 1 copy!

Why you need to back up

Most of us use hard drives every day, without realizing what an amazing piece of engineering they are. Inside every hard drive are a number of extremely thin circular platters, made from glass or ceramic material, spinning at 7200 rpm or more.

Leave your hard drive on all day, every day, and each platter will spin 3,784 million times in a year. Floating just nanometers away from these platters is the read/write head, the part of the drive that (as the name suggests) reads and writes data to the drive.

As the head passes over the drive, it magnetizes the surface of the platters in a series of zeros and ones. And the drive has to carry on working like this even when knocked, without crashing the head into the platter, which could easily kill the drive.

Given this, it's perhaps no surprise that hard drives fail. Generally, though, catastrophic failure is relatively rare.

According to a study released by Google, based on the millions of drives it uses, there's approximately a one-in-three chance that a drive will fail in five years of use. Figures like that sound reassuring to us - after all, one in three over five years doesn't sound too bad. But figures like this can also give some false reassurance.

In Google's study, nearly 3% of drives failed in less than three months. And if your drive is one of that 3%, without a backup you will have lost your precious data.

You might imagine that the answer to this is simple: solid-state disks (SSDs), as found in the current crop of MacBook Airs. These 'disks' aren't disks at all, instead using memory chips to store your files. They have no

moving parts: no platters to spin out of control or heads to scratch the disks, which suggests that they should be more reliable.

Yet according to a survey of hard drive failure rates by French tech site hardware.fr, SSDs were no less prone to failure - particularly in the first few months - than spinning disks.

Some people are occasionally worried about the lifetime of SSDs, because of a quirk in the way they're rated. SSDs are rated in terms of write cycles, and a typical SSD might be rated at 100,000 cycles. Given that hard drives write thousands of times a day, this doesn't sound much - but in fact it's not quite that simple.

Through a process called 'wear levelling', the drive tries to ensure that no single storage element gets written to too often, making the entire drive more reliable. So there is no such thing as a drive that will last forever; this means that backup should be top of your agenda.

There are several kinds of backup, and which one (or more) will be right for you depends on your needs. The most complete kind of backup is also probably the most simple: a complete, working clone of your entire hard drive. This would include all of your documents, applications, and even the OS X system. The huge advantage of cloning your disk like this is you'll lose absolutely nothing.

Of course, the disadvantage is that it's time consuming, both to back up the whole thing and to restore it. The backup can be done incrementally, which means whatever backup application you're using only backs up files that have changed, but even this can be frustratingly slow under some circumstances.

The question to ask yourself is simply this: if your Mac was lost, stolen or fell into a pit tomorrow, what would you be unable to replace?

Whatever the answer is, that's precisely the stuff most important to back up. Everything else falls under the 'nice to have' category. So for data that's really, truly irreplaceable, you need to ensure that it's backed up away from your home or office too - and that this backup copy isn't too far out of date.

This is where online backup and other alternatives that move a copy of your data out of your home or office come in. You need to know where the 'irreplaceable' stuff lives, because not everything lives in your Documents folder, or even in your Home folder...

The next thing to consider is what the potential disasters are. For example, it's no good having a complete, up-to-date backup of your Mac if it only exists on a drive next to your iMac and your house burns down, all you'll have is two melted, unusable copies of your data instead of one.

If you're serious about not losing important files, then you'll need to not only back up to something close at hand (for your convenience), but also to save to something away from your home or office, to ensure that your files would survive even something like a house fire or flood.

Cloud services:

encryption-both directions?	cost
ease	reliability-will they last?
storage space	services: syncing, number of users, password,
selective back up, total backup, clone, etc.	reviews
support: from company, from members	

Backup cloud services:

Amazon S3 encrypts after uploading; (varied pricing from **\$4/mo**-glacial storage to **\$23/mo**-standard storage for first 50 TB)

Arq choose files to backup, any size files, accepts all file types, open source, **\$49.99** 1x fee; SSL/TLS network, open source

Carbonite virus free recovery, 128/encryption plus SSL/TLS, unlimited storage (**\$59.99/yr** basic, **\$75/yr** adds video backup, backup to external drive also)

CrashPlan incremental backups, unlimited versions, password for restore, 448 encryption, password security, unlimited storage (**\$5/mo**: backup to local drive, offsite drive or CrashPlan or all 3). Will begin focusing strictly on business service-their free service has terminated.

Just cloud 256 bit; unlimited storage, **\$48/yr**

SOS Online Backup 100 gb **\$96/yr**

Cloudberry Windows

Drive 156 bit encryption, sync real time, restore files, unlimited devices (free 5 GB; 2 TB **\$52.12 1st yr.**)

Google Drive collaborate (free 5 GB; **\$1.99/mo** 100 GB; **\$9.99/mo** 1 TB)

iDropbox-256 bit AES encryption (**1 TB \$8.95/mo**. 30 day version history & file recovery, password protected, 2 factor authentication

2 TB **\$12/50/user/mo**. 120 days version history & as file recovery plus extras we probably don't need.)

SpiderOak end-to-end encrypted, sync (**\$5/mo** 100 GB; **\$9/mo**. 250 GB; **\$12/mo** 1 TB; **\$25/mo** 5TB)

SugarSync 100 GB **\$7.49/mo**; 250 GB **\$9.99/mo**; 500 GB **\$18.95/mo**; 1 TB **\$55/mo** (1p-3 users)

Tesorit end-to-end encryption; file versioning; 2 factor authentication; 1 TB, unlimited version recovery (**\$12/monthly annually**; 10+ devices/users; **\$20/mo annually** 2-9 uses, 1 TB)

Application:

password?	destination choices
cost-initial, updating	reviews
backup choices: full, selective, cloning	support-from company, from members

Backup programs

Bonkey (free)	Carbon Copy Cloner (free trial or \$39.95)
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Chronosync (\$49.99)	Get Backup Pro (\$19.99)
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iBackup (free) Apple Store	Intego Backup Express (\$7.99)
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JaBack (free)	Mac Backup Guru (free trial; \$27.95)
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Silver Keeper (free)	Super Duper (free trial; \$27.95)
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Time Machine (deletes oldest when full; free)	Twin (\$39.99)
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How to back up your iPhone, iPad, and iPod touch

Choose a backup method Before you get started, [learn the difference between making backups with iCloud and iTunes](#) and choose the method that's best for you. In case you ever need an alternative backup, you can make one in iCloud and another in iTunes.

How to back up with iCloud


- 1 [Connect your device to a Wi-Fi network](#).
- 2 Go to Settings > [your name], tap iCloud. If you're using iOS 10.2 or earlier, go to Settings, scroll down & tap iCloud.
- 3 Tap iCloud Backup. If you're using iOS 10.2 or earlier, tap Backup. Be sure iCloud Backup is turned on.
- 4 Tap Back Up Now. Stay connected to your Wi-Fi network until the process completes.
- 5 Make sure that the backup finished: Go to Settings > [your name] > iCloud > iCloud Storage > Manage Storage, then select your device. If you're using iOS 10.2 or earlier, go to Settings > iCloud > Storage > Manage Storage, then select your device. The backup should appear in the details with the time and backup size.

Automatically back up with iCloud Backup

To let iCloud automatically back up your device each day, here's what you need to do:

- Make sure that iCloud Backup is turned on in Settings > [your name] > iCloud > iCloud Backup. If you're using iOS 10.2 or earlier, go to Settings > iCloud > Backup.
- Connect your device to a power source.
- Connect your device to [a Wi-Fi network](#).
- Make sure that your device's screen is locked.
- Check that you have [enough available space in iCloud](#) for the backup. When you sign in to iCloud, you get 5GB of iCloud storage for free. If you need more iCloud storage, you can buy more from your iPhone, iPad, iPod touch, or Mac. Plans start at 50GB for \$0.99 (USD) a month. [Learn more about prices](#) in your region.

How to back up with iTunes

- 1 Open iTunes and connect your device to your computer.
- 2 If a message asks for your device passcode or to Trust This Computer, follow the onscreen steps. If you forgot your passcode, [get help](#).
- 3 [Select your iPhone, iPad, or iPod](#) when it appears in iTunes. If your device doesn't appear in iTunes, [learn what to do](#).
- 4 If you want to save Health and Activity data from your iOS device or Apple Watch, you need to [encrypt your backup](#): Select the box called Encrypt [device] backup and create a memorable password.
- 5 Write down your password and store it somewhere safe, because there's no way to recover your iTunes backups without this password.
- 6 If you don't need to save your Health and Activity data, you can make a backup that isn't encrypted. Just click Back Up Now.
- 7 After the process ends, you can see if your backup finished successfully in iTunes Preferences > Devices. (If you're using iTunes for Windows, choose Edit > Preferences > Devices from the menu bar at the top of the iTunes window.) You should see the name of your device with the date and time that iTunes created the backup. If you encrypted your backup, you should also see  beside the name of your device.

Apple Support Published Date: May 30, 2017

Backup iPod with Third Party Software

If you'd prefer a complete backup, you need third party software. The same programs that you can use to transfer music from your iPad to a computer can, in most cases, **most will allow you to backup more data, apps, and music than either iTunes or iCloud does.** Cables to use: **USB-C or USB 2, 3 to Lightning**

Senuti \$18.99

Senuti--iTunes spelled backward, since it performs the reverse of that software's function--is a blazingly fast tool for Mac users who transfer the contents of their iPods. While its interface is a bit plain, its speed, simplicity, and ability to transfer **metadata, videos, and podcasts** make it a powerful tool. **iPod, iPhone; Mac only**

Transfers songs, videos, podcasts; also transfers metadata like ratings, playcounts, & cover art

Desktop only software

Pros

Simple to use for basic backups & transfers

Can use iTunes & Senuti at the same time

Cons

Basic, plain interface

Lack of icons or labels makes identifying files at a glance tough

Method of showing what songs are in iTunes or not is unclear

Online help is very basic

iRip \$24.95

Not all programs on this list have the ability to **transfer iBooks files, as well as music, podcasts, and videos;** iRip does. In addition to that valuable feature, it's relatively speedy in performing transfers and handles most metadata well. The one exception to that is song ratings, which didn't transfer in testing. If that omission is fixed, iRip could move even further up this list. **iPod, iPhone; Mac & pc**

Pros

Simple, smooth transfer process

Can move iBooks files

Moves photos, podcasts, videos

pc & Mac compatible

Cons

Slower than some competitors - 16 minutes to transfer 2.41 GB

Slower than the previous version by 7 minute

Doesn't show which songs are in iTunes and which aren't

Failed to transfer song ratings

TouchCopy \$29.95 1 yr. rental; \$39.95 lifetime license

Of the first two programs, TouchCopy offers the fullest set of features: **it transfers music, video, podcasts, and additional data like address book entries, text messages, voicemails, and ringtones.** These powerful features are very valuable, though middling transfer speed and some interface quirks and occasional crashes hold it back.

A utility designed to transfer music from **iPod, iPhone, and iPad** to computer

Works on both **Mac OS X and Windows XP, Vista, and 7**

Desktop only

Pros

Clear reports of what's been copied, what hasn't

Cons

Interface is confusing & inconsistent in some places

Crashes backup function during calendar transfer

CopyBot \$19.95

At this point, the programs become a bit more buggy. Of these buggy programs, iCopyBot offers a solid, & only somewhat flawed, package. **It transfers iBooks files, photos, ringtones, voice memos, and podcasts in addition to music--it does it pretty quickly.** It's let down by its interface & problems handling more advanced uses (like computers with multiple iTunes libraries). **iPod, iPad, iPhone, iPod Touch4; Mac only**

Desktop only

Pros

Speedy: transferred 2.41 GB in 10 minutes

Cons

No indication of what songs have/haven't been transferred or are already in iTunes

Songs can end up transferred to the wrong place without warning

iPod Rip \$24.95

Xilisoft's iPod Rip is another program that **doesn't include iPad support**, and can't move iBooks, song ratings, and playcounts. It does, however, transfer songs, album art, voice memos--and does so reasonably quickly.

iPod, iPhone; Mac & pc; saves messages, can create & edit photo albums

TuneAid free?

TuneAid is a pretty bare bones program: it moves your **iPod's** music & doesn't do anything else. It's reasonably speedy and easy to use, but with so few other features, it's hard to recommend it. **iPod, iPhone; Mac only**

Pod to Mac \$19.95

Pod to Mac is blazingly fast & can move **album art, song ratings, ringtones, & photos**. Easy to handle interface, too. So what's the problem? It crashes during transfers, can't move iBooks, & has buggy transfers of types of data. **iPad, iPhone, iPod; Mac only**

Bigasoft iPod Transfer \$24.95

While Bigasoft iPod Transfer is amazingly fast, it's not really a tool to move files from one place to another. As a result, it doesn't move ratings, playcounts, iBooks files, photos, or ringtones. Speed doesn't make up for so many missing features. Works with **iPhone, iPad, iPad mini, iPad Air to computer**

iPod Access \$8.95

iPod Access is a strange bundle of bugs. When testing it, it didn't always work. When it did work, I couldn't tell why the bugs I'd previously encountered had resolved themselves. When it works, though, it's a solid program: though it lacks more advanced features, its music transfer is very fast. **iPod**; music transfer program. **Mac & pc**