

# HOW-TO: INSTALL A NEW HARD DRIVE



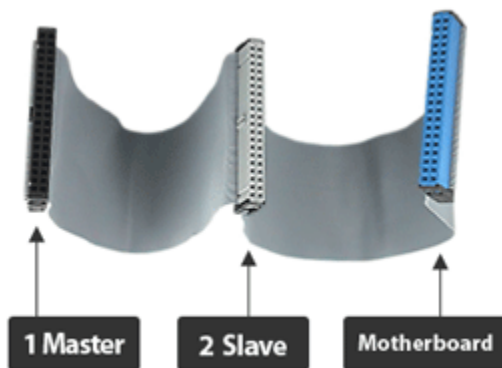
The more you use your **desktop computer**, the more stuff you're going to be saving to the **computers hard drive**. Your photos, music, software, and all of your other critical data are stuck on that thing and unless you're being extra careful, chances are you're going to fill it to capacity. When this happens, instead of going on a deletion spree, why not just install another drive? **If you're installing a brand new one, this guide will be for you, but if you're replacing a drive, you should find this helpful as well.** In either case, installing a hard drive is very easy and an important skill to have in your arsenal. I'll explain how to install a new hard drive to a desktop system and prepare it for a fresh operating system installation. If you're a **notebook computer** or **cheaper netbook** user, the same principles will apply, but the connections and the sizes will differ. For the purpose of this guide, I'll be referencing disk-based hard drives instead of **solid-state drives**, but the same principles apply for those as well.

A hard drive (IDE or **Serial ATA**) A screwdriver (usually a Phillips head) Four screws (usually included with the drive if purchased new) An available data connection (the cable, plugged into an available port on the motherboard) An available power connector (4-pin large "Molex" for IDE or 15-pin flat "wafer" for Serial ATA) An available drive bay (usually labeled in your case) Operating System Low-static environment or a place to ground yourself

## Steps:

1. Screw in the drive
2. Connect the data cable
3. Connect the power cable
4. Partition and format

## Note for **IDE hard drives**



**Since the cables they use can accommodate two drives per channel, the drive is equipped with jumpers that set its priority on the cable.** The settings are Master, Slave, and Cable Select. When using two drives, Cable Select will allow the motherboard to select which drive gets priority on the cable. Otherwise, the Master drive gets the priority and the Slave must wait for the Master's operations to complete before its own are allowed to go. Since Serial ATA drives are only one drive per channel, they do not require jumper settings. When using a dual head IDE cable and two drives, connect the Master to the middle connection and the Slave to the end. When using optical drives on the same channel as your hard drive, which I do not recommend for performance reasons, set the optical drive to the Slave and your hard drive to the Master setting. Most devices are labeled with the settings for each mode, but in any case, you can check your devices manufacturer's website for the correct jumper settings.

## Screw in the drive

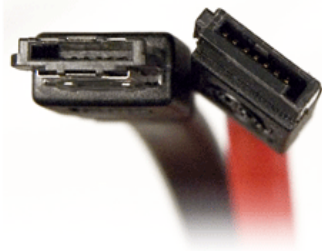
**Before you start touching stuff, make sure you've grounded yourself to prevent any electrostatic discharge.** When you've chosen the drive bay you're installing to, hold the drive

in place with the label facing up and partially screw in two of the screws to the side facing you, but only enough to hold the drive steady. From here, check the power and data cables to make sure you have the length. Too many times I've screwed the whole thing in to find my one of my cables doesn't reach, enough times that I would be remiss to not pass it along to you. Once you're confident your power and data cables will reach, you can begin screwing in the drive. Tighten each screw until it's about three quarters of the way in, then tighten the opposite corners completely. This will help mount the drive securely in the bay and help prevent vibration during use.

## Connect the data cable

For Serial ATA hard drives, the connection is very straight-forward. The L-shape design prevents you from inserting it incorrectly. For IDE connections, the red line on the cable goes to the right. Usually the cables are keyed to prevent improper insertion, but I've noticed through the years that this is not always the case, so just remember this rule of thumb: red to the right.

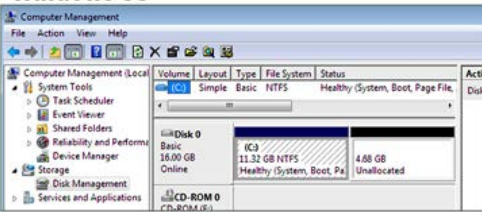
## Connect the power cable



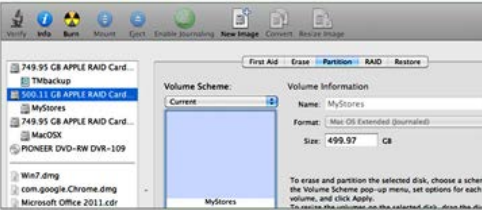
Your drive isn't going to be sending or receiving any data without getting any power. Serial ATA power cables are also L-shaped to prevent improper insertion, but much wider than their data-carrying counterparts. IDE drives use the large 4-pin Molex connectors; you probably have at least three or four of these hanging about in your case. The top corners of these connectors are slanted and the bottom corners form right angles to prevent improper insertion as well.

## Partition and format

### Windows OS



### Mac OS



Before you can use the drive, you need to create partitions and format them so they can be read and written to. There are a variety of ways to accomplish this, the easiest being just inserting your operating system into your optical drive, booting up your system, and starting the setup process. From here, the software should take you through the rest of the setup and prepare the drive for use. If for some reason it doesn't, have your **"pocket tech support"** ready. From there, you'll be able to prepare the drive for nearly any operating system.

Source : <http://www.geeks.com/techtips/2011/how-to-install-a-new-hard-drive.asp>