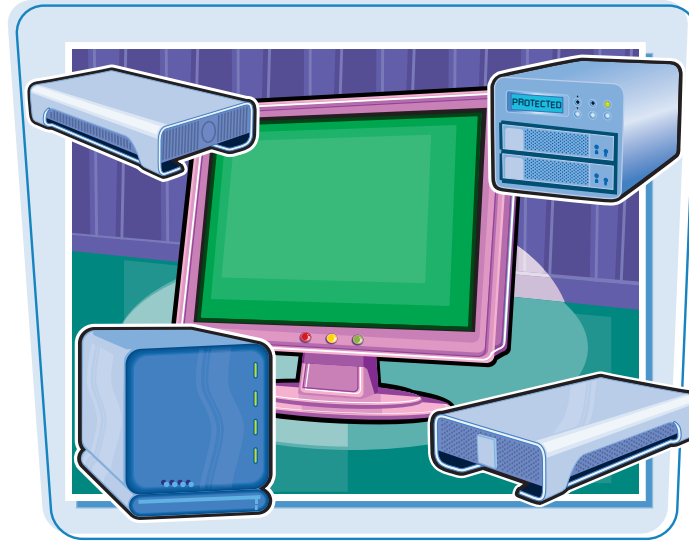
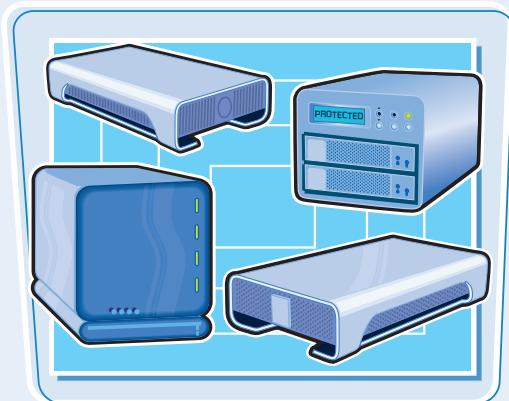


Hard drives come in different physical sizes, different capacities, different connection types, and different configurations. They include single drives, photo-specific copying and photo-viewing devices, and various RAID (Redundant Array of Independent Disks) options. Understanding how to select and use these hardware devices with Lightroom and your photo files can make a big difference in the security and longevity of your images.



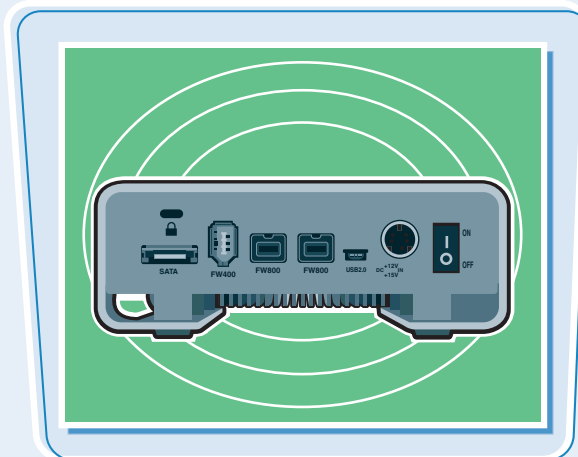
Hard Drive Options

External drives can be used for storage or archives, and are perfect for backups. The rotational speed, 5400 or 7200 RPM, describes how fast the data is read, written, and retrieved from the drive. Some options include single drives such as the G-Drive or G-Drive-Q, and RAID-type hardware systems such as the G-Safe (g-technology.com), and the Drobo system (www.drobo.com), which automatically place the data on multiple hard drives.



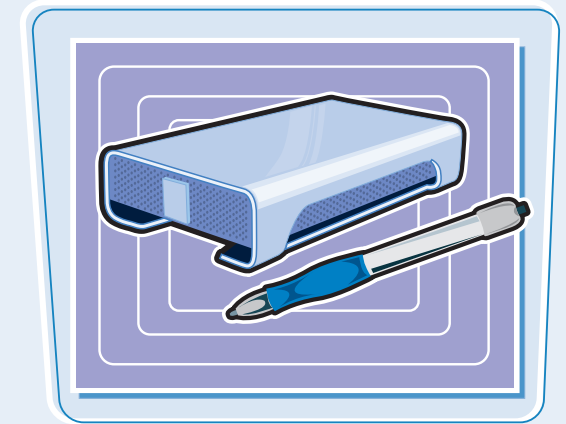
Cables and Connections

The most common hard drive connections are USB2, FireWire 400, and FireWire 800. Generally, USB is more available because of its lower cost, yet FireWire handles data transfers more efficiently and is better when you need to constantly access the drive. eSata connections are newer, and currently not as many computers include an external eSata port.



Travel Hard Drives

Although the small format external drives can be used anywhere, they are particularly useful when traveling with a laptop. Small drives can have large capacities and are bus powered, taking their power from the laptop and eliminating the need for an external power supply. Some such as the G-Drive mini include a protective carrying case.



Multipurpose Picture Viewer

A picture viewer is a portable, battery-operated hard drive with a built-in viewing screen. You can download photos from a memory card directly to a picture viewer without using a computer. Some picture viewers, such as the Picture Porter Elite (www.digitalfoci.com), also function as an MP3 player and a voice recorder, and can even connect to a television to both record videos from the TV or display a slide show of your images with a sound track.

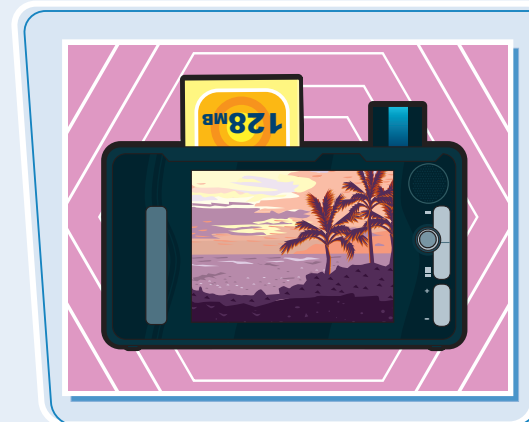


Photo-Centric Travel Hard Drive

Other portable photo storage devices combine a memory card reader and a portable hard drive without a viewing screen, making them essential photographic travel tools with or without a computer. Devices such as the Photo Safe II from Digital Foci (www.digitalfoci.com) can act as a memory card reader to transfer files to and from the computer, as well as copy and store your photos from the memory card.



In addition to the camera, you should travel with multiple memory cards, spare camera batteries or the battery charger, and a mini surge suppressor. You should also have two separate forms of photo storage to make copies of your photos while traveling.



Traveling with a Laptop

If you travel with a laptop, you can download photos from memory cards to the laptop's hard drive. You should also carry a card reader to transfer the photos as well as some type of external travel hard drive to store duplicates. Make sure the travel drive is bus-powered, protected in a case, and that you carry the appropriate USB or FireWire cable.



Mini Travel Hard Drive

You can connect a card reader and a travel drive to the laptop and copy the contents of the memory cards to both the internal and external drive. If you import photos directly using Lightroom you can set the preferences to automatically back up the images to the external drive upon import. Lightroom then creates two sets of photo files, one on the internal drive and one on the external hard drive. See Chapter 2 for the steps to import and back up your photo files.



Multipurpose Travel Drive

Using a picture viewer such as the Picture Porter Elite, you can copy the photos from the memory cards and also copy them to the laptop, creating two separate copies of your photos. You can also preview the photos anytime on the viewer without starting up the laptop, and even view them on a television.

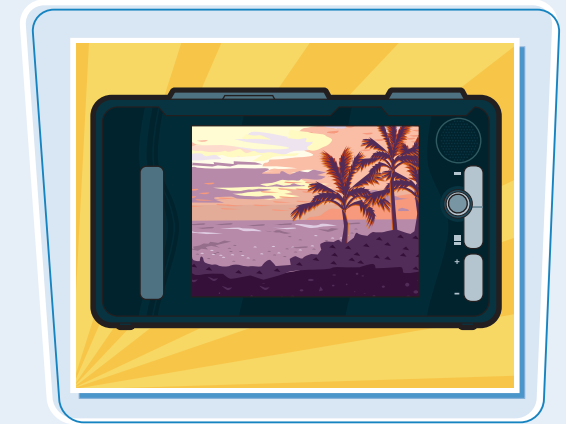


Photo-Storage Travel Hard Drive

You can travel with a drive such as the Photo Safe II and use it as both a card reader to copy the photos from the memory cards to the laptop's hard drive, and as an external drive for downloading and storing a duplicate set of images. Such a unit can be recharged with a power adapter or directly from the computer using the USB cable.



Traveling without a Laptop

In this electronic universe you need to have a backup, even when on the road. If you travel without a laptop, consider using a picture viewer and a second photo storage device, such as the Photo Safe II. Carrying two such multipurpose travel hard drives is more economical and practical than purchasing as many gigabytes of memory cards, and you will always have duplicate sets of photos.

