

video on a budget – what components do I need?

Basically what you need is a camera, a computer, software, and a way to get the images into the computer. This can be four separate things or it can be as few as two, if the computer you buy has everything already on it.

digital cameras

You can do really cool things with just about any video camera. So why is there such a wide range of cost? The quality grade makes all the difference:

- **consumer grade** – The vast majority of low-cost units are consumer grade, designed for home use. Consumer grade digital video cameras run from **\$700-\$1500** or more.
- **professional grade** – This is the high end of the spectrum, used for broadcasting and similar environments. These run into the **tens of thousands of dollars** in total cost.
- **prosumer grade** – In the middle is a combination of the two,. These cameras provide a significantly better-looking image than consumer models, and cost around **\$2500-\$5000**. Make sure the retailers you research know the difference and can explain what your results will look like.

The main thing to keep in mind is that weak initial quality will result in weak final quality. Compare the difference between the quality of your home videos, the local news, and broadcast TV programs. Consumer grade cameras – even the higher priced, feature-rich models – won't look much better than home videos. Prosumer grade cameras will give you an image that approaches the appearance of your local news. Professional grade cameras can look as good as anything on TV.

computers

All you need for the most basic video editing is a good computer. The key here is to know what “good computer” means. A good computer for office work probably won't be a good computer for video editing.

- **PC users**, anything involving video gobbles up a lot of memory and requires a hefty processor. Look for as many gigabytes (GB) of memory and as many gigahertz (GHz) of processor speed as you can afford (or borrow). Also, if you can install a separate high speed hard drive only for video storage, this will help in the performance of the computer.
- **Mac users** will tell you that you can do more with a lot less memory on any Macintosh with a G5 processor. (For example, Macs can run all features of their highest-end video software on just 512MB of RAM!)

Be sure to look at the requirements for the software you choose and plan to get more than the minimum. **We can't emphasize this enough!** Most conflicts with editing software and hardware stem from using a computer that is less than what is recommended for the software. You can usually go online to research the recommendations for the editing software or hardware you're thinking about buying.

You may not need more than a PC computer with a FireWire (IEEE 1394) or USB port and Windows® Office XP®, which includes Microsoft Movie Maker, the basic editing software Andy Linquist uses. (It is also available at microsoft.com as a **free** download or a CD-ROM

for **\$10**.) Many Macs come with FireWire or USB ports and iLife software, which includes iMovie. (You can pick up iLife for Macintosh for around **\$50**.) It is always best to use a different computer for video editing than for projection, particularly if you use PC. Apart from the fact that video editing can take a lot of time (some professionals leave a computer rendering video all night), you don't want to run the risk of crashing the computer on Saturday night that you need for Sunday morning.

Remember the two cardinal rules of electronics:

- 1) **Just because you can plug it in doesn't mean it will work.** Your computer may have connections that match your camera, but if those connections lead to anything other than a video capture card, you won't get the results you want, and it may not work at all.
- 2) **Just because you can do something doesn't mean you should.** Sure, you could probably use a lawn mower to cut your hair, but it's not the best way to get the job done and the results could be disastrous!

video capture cards and devices

Video capture devices have regular RCA (white/red/yellow) and/or S-video (4-pin) inputs to take analog video signals from a camera or other source and convert them to digital computer signals. If all you have is an analog video camera, you will have to have a video capture device. There are two kinds: Internal cards that are installed directly into your computer and external devices. Internal cards cost anywhere from **under \$100** to **over \$1000**. The variance depends on such things as input resolution compatibility, output resolution, and memory. Be careful not to confuse them with FireWire port cards that simply take in a FireWire signal that is already digital.

There are 3 main ways external video capture devices connect to the computer:

USB 1

- lowest bandwidth, which generally means the lowest quality
- primarily designed for home use
- cost range: **\$60-\$120**.

USB 2

- a significant improvement in bandwidth and quality
- home use and some professional use
- cost range: **\$80-\$200**

FireWire

- has been around longest
- arguably better quality than USB 2
- many professionals prefer FireWire for its compatibility with other hardware
- most prosumer grade cameras and video capture devices have FireWire connections (sometimes labeled "iLink").
- cost range: **\$175-\$300**

Again, research the software first before buying a card; some are not compatible. Some video capture cards and devices include video editing software. The capability of included software varies from one to another. It would be a good idea to get opinions from people who have used it or to look for online user's forums to get feedback about the product.

video editing software

If either your computer or video capture device doesn't already have software, there are a number of products available, from the free Movie Maker[®] program or low-cost iMovie to professional programs that can cost **\$1000** or more. Don't discount professional programs out-of-hand because of the higher price tag. Some have more than one version with different levels of functionality and different costs. At least one company, AVID, now has a free version of their editing software. This is huge because it allows beginners to check it out and learn the same AVID platform that is used in their high end systems. You can try the free version and then move up to one of the higher-end versions as you grow in your expertise and use of the product. Most professional programs are available in both Mac and PC formats.

One final note about Mac: All of the Mac editing software (iMovie, Final Cut Pro) is great because it is a Mac product in a Mac computer. Depending on how you use it, this could give you a big bang for your buck.

Again, be sure to try a demo or get feedback from people who have actually used a program before you invest in it. Sometimes you can catch demos of various products at local dealers. Just jump online to find a dealer that does this near you.