

File sizes are important to consider when downloading and uploading. A fast connection and smaller files sizes permit quick transfer of files from the Internet. Currently, most people benefit from the rapid connection speeds of Cable and DSL. Others access the Internet using a *modem* for dial up through the telephone lines, which has very slow upload and download rates. Provided below are *common file size conversions, data space* for file storage options, and a comparison of Internet connection speeds.

File Sizes and Disk Space

- 1000 bytes = 1 Kilobyte (Kb, K)
- 1,000 Kilobytes = 1 Megabyte (Mb, M, “meg”)
- 1,000 Megabytes = 1 Gigabyte (Gb); 1 million kilobytes
- 1,000 Gigabytes = 1 Terabyte

How much data can fit on a . . .

- 3.5" Floppy disk:1.44 Mb
- CD-R (compact disk, recordable):700 Mb
- CD-RW (compact disk, rewritable):700 Mb
- DVD-R (DVD disk, recordable):5.2 Gb
- Iomega Zip Disks:.....100Mb - 250Mb
- Flash Drive:256 Mb - 2 Gb
- Hard Drive on computer:60 - 80 Gb, (standard on average)

How big is a file?

- The Internet Episode 2 logo at top of this page: ~4 Kb
- Photo developed to disk for screen viewing: ~100 Kb per photo
- Hi-Resolution photo to print: ~500 Kb – 10 Mb
- A four-minute mp3 song: ~4.5 Mb
- Complete Netscape Communicator Program for download: 20 Mb
- AOL Instant Messenger program for download: 2.17 Mb
- A 1 hour "movie" with streaming video and audio (RealMedia): 250 Mb

Internet Connection Speeds

Transfer rate and bandwidth (the amount of information that can pass through a channel- modem, T1, etc.) are dependent on a number of factors like static electricity in telephone lines, internet traffic, your connection speed, etc. Look at the table below for the maximum transfer rate with a variety of Internet connections:

Connection Speed	Time to download 1 megabyte	Where seen?
9.6 Kbps modem	~15min ,40 sec	common in PCs purchased before 1993
14.4 Kbps modem	~10 min, 25 sec	common in PCs purchased in 1993
28.8 Kbps modem	~5 min, 15 sec	common in PCs purchased in 1995
33.6 Kbps modem	~4 min	common in PCs purchased in 1997
56 Kbps modem	~2 min	common in PCs purchased in 1999
DSL/Cable (1500 Kbps)	5 sec	common in most homes and offices
T1 (1500 Kbps)	5 sec	common in offices and classrooms (LAN)
T3 (45000 Kps)	1.6 sec	common in modern offices and classrooms (LAN)

A good resource for explaining bandwidth, and to test the current connection speed of the computer you're connected to the Internet with, visit: <http://computingcentral.msn.com/topics/bandwidth>