

For number six in this series, suppose you go to a swapfest, and find a super buy on an IBM-compatible computer. Trouble is, it is an old laptop, with only a single drive. It has the full 640k of memory, and the screen is clearly visible, but it has no hard drive and only a single 360k (5-1/4 inch) drive. My gosh, what can you do with that? With a single drive, how can you copy a disk? Is the computer worth the \$35 you paid? Darn right it is!

Lets explore how to copy a whole disk. Your friend loaned you one, just chock full of programs that you want to copy entirely. Furthermore, you want to make a copy of the boot disk that came with the machine, just for safety purposes. But with only a single drive, how to do that?

Easy as pie, assuming the necessary DOS file is available. To make an image copy of the boot disk, it needs to contain a program called DISKCOPY.COM. If you are using DOS 5, this program is 11,793 bytes in size; the DOS 3.3 version is 6,264 bytes long. Put in the boot disk, boot up the machine, then give the command:

DISKCOPY A: A:

You may well have used that command before, to copy a disk from the A drive to the B drive, or the reverse. But DOS is perfectly happy with this command, which says in effect, "copy absolutely every byte from the disk in the A drive to the disk in the A drive". That includes EVERY byte, all those in files (whether hidden or not), in subdirectories, and even in the boot sector. Indeed, the DISKCOPY program is one of the few ways available to create a boot disk. "But that is dumb," you say, "because all it will do is overwrite the original boot disk". Not so. DOS will give you a chance to swap disks during the copy process.

When you give that command, DOS will ask you to put the SOURCE disk in the A drive (even though it is already there), and to "Press any key to continue". When you tap a key, DOS will merrily begin to read that disk, EVERY byte, and to store it in memory (the 640k of Random Access Memory - RAM - the kind of memory that gets total amnesia when you turn off the power). When it is done, it will ask you to put in the DESTINATION disk and "Press any key to continue". Take out the boot disk and replace it with ANY 360k floppy - even a brand new one that has not been formatted. Press a key and DOS will copy the image to that floppy. If it is an unformatted disk, DOS will format it for you. When it is all done, DOS will ask if you want to copy another disk. If you say N)o, it will quit. You now have a perfect image copy of the boot disk, which will work just as well as the original. How about that!

You can use this mechanism to copy any disk that your computer can handle. For example, if you have a 360k A: drive and a 720k B: drive, this is a quick and easy way to make exact copies of either size. However, note this. If you use DISKCOPY to make a copy of a 720k floppy (OR LARGER), DOS may ask you switch disks two or more times. Why?

DOS uses the so called CONVENTIONAL or BASE or LOW or REGULAR or DOS memory - 640k - to make copies with DISKCOPY.COM. Well, 640k is not 720k. You know the old adage; "you can't stuff 4 pounds of potatoes in a 2 pound sack" (or something like that!). DOS cannot stuff 720k of data in a 640k memory. So it does the next best thing - it does it in two passes. Actually, if DISKCOPY is used with a 1.2m or 1.4m drive, it will take three passes. Try it - it works just fine with a 486 AT computer, too.

A couple of caveats. The DESTINATION disk gets completely overwritten (with no hope of recovering anything that was on it before), so be sure you know what disk you are putting in the machine. DISKCOPY will not work with hard drives, so don't try to make an image copy of yours if you have one. Also, it will not work between drives of different types. Don't expect the command DISKCOPY A: B: to work if the A drive is a 360k unit and the B drive is 720k. But, DISKCOPY B: A: (or A: B:) is perfectly valid if the drive types are the same.

I almost forgot. That disk you friend loaned you. How do you copy it? Boot your machine and give the command DISKCOPY A: A: again. When it tells you to put in the SOURCE disk, take out the boot disk and replace it with your friend's disk. Press a key, and you already know the rest. Simple!

So, we have the bases covered with making copies of whole disks. But what if you want to copy just one or a couple of files to a different disk. How can you do that with only one drive? It is easy! Next time we will look at a way that you can temporarily copy files from your lone A: drive to a drive that doesn't exist (until you create it)! Then you can put a different disk in the A drive and move the files over to it.