

Computer manufacturers no longer ship computers with floppy disc drives. Instead today's computers have CD-RW drives, also termed CD burners.

This workshop will discuss the tools available in Windows XP. Familiarity with file and folder management in Windows XP is a prerequisite.

Background

A blank CD is labeled CD-R meaning "CD Recordable". Staples often has them on sale for as little as \$0.20 each. They hold either 650 Mbytes or 700 Mbytes of data each. By comparison a floppy disk holds 1.44 Mbytes of data.

Once data has been written to a CD-R disc it cannot be erased. It is possible to write to a CD-R many times (termed multi-session writes) in such a way that appears that files can be erased or replaced; but this is an illusion, after a time the disc is full and a fresh blank disc must be used.

Another type of disc, the CD-RW disc, can be written to and erased much like a floppy disk. Special software can be used that makes the disc very much like a floppy. You can format the disc, drag & drop files to it, erase files, etc. We will not discuss CD-RW discs.

Note

An optical drive that can read, but not write, CDs is termed a CD-ROM drive. An optical drive that can both read and write CDs is termed a CD-RW drive.

A write-once disc is called a CD-R disc. An erasable disc that can be written to many times, like a floppy, is called a CD-RW disc.

This is confusing.

One can easily jump to a wrong conclusion; namely that a CD-RW drive can only read & write CD-RW discs.

Not so!

The CD-RW drive is being replaced with a larger capacity drive termed a DVD-RW drive.

Now things get really confusing. There are DVD+RW drives, DVD-RW drives and DVD+/-RW drives. There are DVD+R, DVD-R, DVD+RW and DVD-RW discs.

These drives can: read CDs, write CD-Rs, write CD-RW, read and write all flavors of DVD+/-R and DVD+/-RW. If that's not enough, you can now buy double-layer DVD media and burners; and soon much higher capacity DVD media and burners.

Seven of the eight computers here at the Learning Center have CD-RW drives. The drive in "Snow White" is a DVD+/-RW drive.

Where will it all end? Floppy: 1.44 MB, CD: 700 MB, DVD: 3.7 GB, Double-layer DVD: 8.5 GB and Blu-ray DVD: 25 GB.

If you want to learn more than you would ever want to know about this stuff, go to Google and search CDR FAQ or DVD-R FAQ. Or go to Wikipedia and search there.

Keep a bottle of aspirin handy☺.

Burn a CD-R

Burning files to a CD-R in Windows XP consists of two basic steps:

1. Copy the files to the optical drive using the usual Windows methods. In Windows XP this is best done with the "File and Folder Tasks" pane showing on the left. Click the Folders icon in the toolbar if the tasks pane is not showing.
2. Start XP's "CD Writing Wizard".

Place a blank CD-R in the in the optical drive tray, label side up and centered in the tray. Gently push the tray in. If the Auto-Play window for the CD Drive appears, click **Cancel**.

Find and copy three files:

- Open the My Documents folder (from the desktop or the Start menu) and navigate to the Introduction to Computers folder. Open the folder to view the files.
- Select three files. Click on the first file (note how the File and Folder Tasks pane changes) and, with the **Ctrl**-key held down, select two others.
- Click "Copy the selected items" and a navigation window opens.
- Navigate to the CD-RW drive and click **Copy**. If the "You have files waiting..." balloon pops up, ignore it.
- Click the Folders button in the toolbar to open the folders tree in the left pane and **double-click** to open the CD-RW drive.

The right file pane should be headed "Files Ready to Be Written to the CD" and the three file icons should have a down-arrow lower left.

The files have not been written to the CD. They have been copied to a temporary location on the hard drive, a CD copy buffer. It is possible to edit the contents of the buffer: add more files (even replace files with a later version), or folders.

Click the **Folders** button in the toolbar to return to the Windows XP “File and Folder Tasks” pane which now is headed by “CD Writing Tasks”. (If we’ve done everything right that is).

Click “Write these files to CD” the “CD Writing Wizard” will open. Change the CD name to “workshop1”, place a checkmark in “Close the wizard...” and click **Next**.

After the burn completes the disk should eject from the drive.

Congratulations! You have completed the course.

Add more files and folders.

The Windows XP burn tool works in a multi-session mode, that is more files and folders can be added and existing files or folders can be replaced in later burn sessions.

We will add more files and folders using a drag-and-drop technique. Push the tray in and a second explorer window opens to show “Files Currently on the CD” Click the **Up** icon on the toolbar to note the title of the CD, “workshop1”. Click the **Back** arrow on the toolbar and minimize the window to the tray.

In the first explorer window now on the screen click “My Documents” in the “Other Places” pane on the left. Click the middle “Restore Down” icon to the right on the title bar. Restore the CD-RW drive window (G:) so that two small windows are open. Using your mouse, drag-and-drop a folder (such as FTM) from the “My Documents” window to the optical drive window.

We should now have a folder under “Files Ready to be Written to the CD”. Return to the “My Documents” window, double-click a folder (suggest a Graphics Class folder) to open it. Select some graphics files (Ctrl + Click) and drag-and-drop them to the optical drive window.

Click “Write these files to CD” in the “CD Writing Tasks” pane to open the wizard. Name the CD “workshop2”, and click **Next**.

After the burn completes the tray will eject. Push the tray back and close the optical drive (G:) explorer window. and in the main explorer window click the **Folders** button the toolbar to view the folders tree on the left. Check out the contents of the CD. In the folders pane on the left, right-click the (G:) drive and select **Properties**.

Other Burning Programs

In this workshop we have been exploring the Windows XP burning tools. When you buy a computer with a CD-RW drive the manufacturer furnishes other, more versatile tools, than does Microsoft in the XP Operating System.

The most widely used software in this country is Roxio Easy Media Creator, now a division of Sonic Solutions. Windows XP burning tools are licensed from Roxio.

A popular program elsewhere is the Nero family of products. There are many more, including freeware and open source programs.

Click the **Start** button and go to All Programs to open the Sonic Record Now program. We won't be using the capability in this workshop but you should know that almost all computers with a hardware burner have better (and more complex) ways to burn CDs.

Miscellaneous

Burning CDs uses a lot of computer resources so it's a good idea to close all other applications when you decide to write data to a CD.

If your discs don't always read properly you might try slowing down the write speed. In "My Computer" right-click the CD-RW drive and select Properties. Under the "Recording" tab you can change the write speed as well as the location of the copy buffer.

The most vulnerable part of a disc is the label side where you can label the disc. A soft felt-tipped marker is OK except that Sanford, the manufacturer of the Sharpie marker, doesn't guarantee its use since some cheap blank CD-Rs are indeed cheap; and the protection is not all that it should be. To be safe you should use markers intended for CD/DVD discs.

Handle a disc by holding the outer edge and the inside hole. Try not to touch the recording side.

If a disc is smudged or dirty on the record side it may be cleaned with a soft lint-free cloth moistened in a water/alcohol mixture. Rub radially from the inside to the edge.

Discs should be stored in jewel cases, sleeves or on a spindle.

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