

Business Computing

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A free monthly publication for small business. Over 20 years experience providing computer and network solutions.

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The Learning Center

The Blu-ray disc layout: The Blu-ray disc is about the same thickness as a DVD. Traditional DVDs are built by injection moulding a recording layer between two discs, giving a sandwich effect. The problem with the sandwich is it can give refraction errors when reading the disc. The Blu-ray disc overcomes the DVD issues by placing the data layer on top of the disc. A hard coating is then placed on top of the data layer to protect it from scratches and fingerprints. Having data on top prevents refraction and therefore prevents read problems. In addition, the recording layer sits closer to the lens of the Blu-ray reading device. A single disc layout reduces cost but with the protective layer puts the cost in the same ballpark as a DVD.



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Understanding the New High Definition Blu-ray Format and the Outcome for the PC

In 1997 DVDs revolutionized the movie industry. Today the business is set for yet another upheaval with the arrival of the Blu-ray technology. Blu-ray Discs or BDs were first introduced in 2006. With their high storage capacity, Blu-ray discs can hold and play back large quantities of high-definition video and audio. As a comparison a standard DVD can hold 4.7 gigabytes of information. But a high-definition movie, which has a much clearer image, takes up about five times more storage, rendering the DVD as unsuitable. As TVs and movies make the move to high definition, consumers need playback systems with a lot more storage capacity. Hence the advent of high capacity Blu-ray Discs.

Blu-ray is the next-generation digital video disk. It can record, store and play back high-definition video and digital audio, as well as computer data. The advantage of Blu-ray is the sheer amount of information it can hold. A single layer Blu-ray disc can hold more than 25 gigabytes of data which can accommodate two hours of high-definition video or about 13 hours of standard video. The Blu-ray name is from "blue," for the color of the laser that is used, unlike DVDs which use a red laser. The "ray" part of the equation is for the optical ray used to access data. Finally the misspelling of the color blue to "blu" was purposefully done to create a copyrightable name.

Blu-ray discs also offer a new level of interactivity that is constantly being updated. For example users will be able to connect to the Internet via their Blu-ray players and instantly download

subtitles and other interactive movie features. With BDs you can record one program while watching another on the disc, create playlists and many other data management features. DVDs and CDs initially got underway with read-only formats and later developed recordable and rewritable formats. Unlike the earlier disk formats Blu-ray was designed in several different formats: BD-ROM or read-only for pre-recorded material; BD-R or recordable for PC data storage; BD-RW rewritable for PC information storage and BD-RE for rewritable HDTV recording.

A big bonus for computing is the high transfer rate of Blu-ray. It can transfer data at 36 megabits per second unlike today's DVDs which transfer at only 10 megabits per second. Also, the increase in area densities of optical disks makes them prime candidates for archival storage. Blu-ray with its high density capabilities leads the optical storage pack and is in pole position to develop the profitable archival storage market. At the moment the price gap between generic DVD drives and Blu-ray is huge but once the cost of production is reduced the demand will ensure that Blu-ray gains access to the mass market. With the muscle of Blu-ray it is a giant step in data storage technology for the personal computer.

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How to get rid of spam or junk mail received with your email

Direct marketers are taking advantage of cheap Internet technology to market their goods. It is frustrating when you discover most of your mail is junk and you can not stop it. It is not a good idea to go to suggested web sites for name removal. This will not save you from future mail-outs. Once you opt-out or complain and give them a valid email address you will get even more junk mail! Your email address will probably be sold to other spammers or Internet marketers. These people usually hide behind temporary hotmail addresses and are hard to trace.

One way of defeating this incoming junk mail is to bounce it back before downloading it. This will send the email back and give the appearance of an invalid email address. Viruses are often sent via spam and it is a good feeling to be able to give this rubbish and payload a, "return to sender." Also

there is no time wasted downloading this annoying mail or having to run virus checks. All you need to do is check the "bounce" option in the software and you are rid of it forever.

Mail-Washer is this type of software. The good news is ...mail-washer is free! It comes with advertising installed in the software. If you pay a small sum of money the author will give you a key to get rid of the advertising.

Mail-Washer quickly downloads the headers off the email located at your Internet provider. (The headers and senders address are only downloaded at this stage.) You can then see who has sent you friendly mail, download it and bounce the rubbish. Also Mail-Washer allows you to automatically blacklist these spammers for an automatic bounce next time. You can also construct a friends list which makes the task a breeze.

When checking email you will need to click on the Mail-Washer icon. This will connect to your Internet provider and give you a list of mail waiting to be downloaded. By clicking on individual emails the contents can be seen without downloading. You can select the friendly mail for downloading and bounce the rest. There is only one small extra step involved but it saves you the hassle of downloading and checking for viruses. Mail-Washer can be located and downloaded from this site www.mailwasher.net

Remember don't give your valid permanent email address to persons unknown or any news groups. If web-sites request your email address for registration or downloading software etc ...use a forwarding address instead. If in the future they won't stop sending you email ...just drop your temporary forwarding address or redirect the stuff back to them.

How the Blu-ray Disc Stores its Data

Unlike DVDs which use a red laser to read and write to disc, Blu-ray uses a blue laser. A blue laser has a shorter wavelength of 405 nanometers rather than a red laser which is 650 nanometers. The smaller beam focuses more accurately, enabling it to read data recorded that is only 0.15 microns wide, which is less than half the size of a DVD's. In addition, Blu-ray has reduced the track to track pitch from 0.74 microns to 0.32 microns. The smaller pits (or bumps), smaller beam and reduced track pitch together enable a basic Blu-ray disc to hold more than 25 gigabytes of information. This is about five times the amount of info that can be stored on a DVD.

Disks store digitally encoded information in spiral grooves that run from the center of the disc to its edges. For backwards compatibility Blu-ray Disc players and recorders can and will support DVDs by the addition of red lasers to use the wider tracks. For movie fans, there is a hybrid version of the Blu-ray Disc that can hold both high and standard definition versions of a movie on a single disc. The hybrid disc is an elegant solution as it holds both versions of the film on the same side of the disk. This provides for easy labelling and greater ease of use for consumers rather than using a cluttered double sided disc.

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