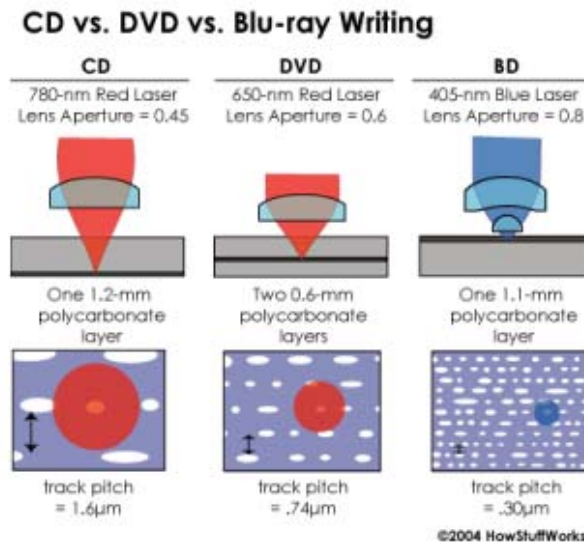


Blu-Ray Wins Format War



Blu-Ray Scratch Repair FAQ's

The Blu-Ray Disc has now been declared the winner in the new High Definition Disc format Battle. Toshiba Corporation officially announced they are withdrawing the competing format HD-DVD. What does this mean to you? How is this going to affect the Disc Repair Business? We have put together some frequently asked questions, and information regarding Blu-Ray to help you understand what this means to your business and disc collections.

Frequently Asked Questions:

Q: Are Blu-Ray Discs made the same as other discs such as DVDs and CDs?

A: Yes and No, Yes they are made using nearly the same manufacturing process, and no the data is not stored in the disc the same as CDs & DVDs. The main difference is the data layer is very close to the read side of the disc, 8% deep in fact. Compared to a DVD where the data layer located 50% deep. Music CDs have the data stored just below the Printed Label, or 99% deep from the reading side. This means a Music CD can be scratched and repaired far more times than any other format. A DVD can be repaired half as much, and now the Blu-Ray disc, has a narrow window of plastic that can be scratched and repaired... scratch them too deep, and you hit the data layer....

Q: Do Blu-Ray Discs Get Scratched?

A: Yes, they still get scratched, although not as often when compared to a softer Music CD, or DVD. Deep Scratches in Blu-Ray Discs can permanently ruin the disc. Mostly due to the fact that the information is VERY close to the reading surface, if a scratch is as deep as 7-8% it can actually penetrate the data layer, ruining it forever! Deep Scratches on Blu-Ray Discs can be Fatal to the disc!

Q: Is it true that Blu-Ray Discs are hard coated?

A: Yes, turns out it is a great protector against the casual "light" scuffs & light abrasions.

Q: Are Blu-Ray Discs Repairable? If yes...How Deep of a Scratch can you repair?

A: Yes, however it is important to know how Blu-Ray differs from other discs.

Note that the Blu-Ray has the least amount of protection when compared to ANY other format FAR LESS!

1) A Blu-Ray disc has only an 8% Protection layer before you can scratch (from read side) into the actual data layer. This layer is Pure Hard Coat material, and is not made from standard polycarbonate like all other disc formats, since it is hard coated and must be repaired differently.

2) DVDs & HD-DVDs Have up to a 50% Polycarbonate protection layer (from read side) that can be scratched and repaired. (Double sided DVDs have 25% per side)

3) CD-ROMs and CDR discs, have a 99% Polycarbonate protection layer (from read side) that can be scratched and repaired.

Q: Can you remove the hard coat & then repair the disc?

A: No, once you understand how Blu-Ray discs are made, you will see that the 8% coating layer is a single layer of hard coating laid directly onto the data layer. Therefore if you remove the hard coated layer you have reached the data, keep removing material and you will wipe the data off the disc completely.

Q: Can you use HEAT and PRESSURE to remold or smooth the scratches out?

A: NO! Although there are companies claiming to do so, they are distorting the facts, they are not directly applying heat, or even pressure, what they are doing is dry or damp buffing, buffing does create heat, and too much heat warps the data layer by distorting the pits and lands that make up the data layer. Too much heat, you ruin a disc permanently. A true Pressure / Heat Design would work like an Iron, it would heat up a smooth surface, and apply pressure with that hot smooth surface. Dry or Damp buffing creates uneven heat, where the disc gets hot in spots, and cooler in others, causing warping of the microscopic pits (data layer). This is why a disc can look ok, but won't read after repair in a dry or damp buffing machine. Our first design machines used this technology way back in 1995, it was invented and patented by Jason Bauer, and has since evolved to a much more detailed science.

Q: How do you PROPERLY repair a Blu-Ray Disc?

A: Scratches in the hard coat of the disc needs to be buffed out smoothly and evenly. This is done by using a liquid polishing compound mixture that contains lubricants and cooling agents. The polish compound contains microscopic abrasives which polish the surface down slowly (just like toothpaste does to your teeth) it's not aggressive like sandpaper. A constant stream embedded in a liquid coolant keeps the heat down and the disc at an even temperature throughout the entire cycle. The lubricants prevent biting into the scratches which cause burnishing... or flash overheating of a spot. The lubricants also break down grease and oils that come from peoples fingers, allowing the surface to be polished to a mirror like quality. Blu-Ray Polishing takes longer because of the hard coat, it has to be done smoothly and evenly. The only way to speed this process up, is to use a constant flow of blended polish with coolant and lubricants. Azuradisc invented just such a product, called POLICOOL (TM), it will keep the disc cool, lubricated, break down the oils, and allow faster RPMS so the disc can be repaired in a much shorter period of time.

Pressure is also key, too much, and heat builds, not enough and the time cycle gets ridiculous long. Azuradisc Patented the process, and is the only company to develop this liquid specifically for Hard Coated discs such as the BLU-RAY. Other buffing machines can repair these discs too, but will take significantly longer, and cost a lot more to repair. Most companies use only polish compound, and do not add lubricants, or coolants, and use buffing pads that overheat the surface. The Most Advanced systems use Policool with a Radiator, that also removes heat from the Policool... this reduces repair times by large margins. Additionally these liquids have a specific useful life, go past it, and you start damaging discs, change it too soon and you waste money. This is why Azuradisc uses smart chip technology that measures the useful life of the liquid, to ensure you get the maximum useful life out of the liquid. It eliminates the guess work. You change your oil in your car at intervals for the same reason, it breaks down overtime, go too long and damage occurs, change it too soon, and you waste money. Policool with Microchip technology makes it a no brainer, just change the cartridge when the light comes on... no tracking or guessing or ruining \$50-\$60 discs before realizing your liquid is not affective and has burned up a disc or two. Smart cartridges make this super easy to work with.

Q: Can you use Paper or Fixed Abrasives on BLU-RAY Discs?

A: It's possible, but none have been found to be efficient enough yet. Fixed abrasives remove material quickly, and often fight against the hard coat on Blu-Ray Discs.... liquid cooled buffing is the current recommended method for repairing BRD.

Q: Are Blu-Ray Discs readable in DVD or CD Players?

A: No, they are not compatible with any other player, however Blu-Ray players will play DVD discs. Also the Play station 3 video game console can play PS3, DVD and Blu-Ray discs all in one drive. However the newest generation of the PS3 Consoles have removed the ability to play older PS1 & PS2 discs.... so if an older video game disc is not loading in your new PS3 console, it may still be a good disc, that just needs to be played on an older console.