

CD-R's digital destiny.(recordable compact discs) 2

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CD-R will continue to prosper because it fills a need as opposed to other formats, which impose a solution where no problem exists. Some aspire to greatness while others have greatness thrust upon them. Certainly, greatness appears to have been thrust upon CD-R, which started life humbly enough as an expensive prototyping system. Beginning almost in obscurity, it now is poised to be the dominant optical storage technology for the next five years. Where else can so much be done so reliably for so little?

For years, manufacturers and analysts alike underestimated CD-R and dismissed it as not being a serious contender in the storage market. It didn't stand a chance, they said, because it wasn't rewritable, didn't have a cartridge and wasn't a true random access medium. But, although Magneto Optical (MO), Phase Change Dual (PD) and rewritable DVD are all technically superior solutions to CD-R, they have never found the wide public acceptance their makers felt they deserved. Even CD-RW, which tried to make CD-R respectable to its critics by bringing it closer to other optical formats, has largely fallen on its face.

Much like the original Volkswagen Beetle, CD-R has been embraced not for its luxury but because it fits the everyday need for a simple, reliable and low cost system for data and audio distribution, storage, backup and archiving.

CD-R Momentum

To the amazement of a dumbfounded DVD Forum, the compact disc is proving to be more difficult to kill than was ever imagined. With an installed base of 200 million CD-ROM drives and some 600 million CD audio players, the advent of DVD is receiving a rather chilly reception from consumers. What with multiple incompatible rewritable disc formats, mixed messages and products made obsolete before they are released, DVD doesn't exactly make a compelling case for the existing contented market to make the switch. In contrast to the push by the DVD technology activists, CD-R respects, protects and builds on the consumer's present technology investments and is being rewarded handsomely for filling needs rather than trying to impose a solution where no problem exists.

Manufacturing And Pricing

It's hard to imagine, but there are now more than 35 companies worldwide manufacturing CD-R discs. With production on every continent, competition is fierce among producers in a market where demand already equals or even outstrips supply. More than 600 million discs were made in 1998 with billions more expected to roll off the production lines within the next few years.

Defying the arguments that successful storage and distribution media must be rewritable, CD-R has proven itself a type of "Digital Kleenex," affirming the proposition that if something good is inexpensive enough, it becomes ubiquitous and can be treated as disposable. Happening faster and deeper than even most insiders predicted, the steep decline in blank CD-R disc pricing is something that impresses industry watchers and users alike. Currently, the ex-factory price for a bare disc is in the neighborhood of 50 cents, with finished product available on the street for \$1 to \$2 a piece. These incredibly favorable conditions drive adoption as the consumer prospers from lower prices and increased choice between brand names, disc quality, finish and packaging.

PC Integration

Dismissed not that long ago by PC makers as the wrong removable storage solution for their computers, low media cost and improved reliability are now propelling CD-R to make impressive strides in the world of PC integration. Recently, leading manufacturers including Gateway, Hewlett-Packard and Compaq have taken the plunge and incorporated CD recorders as optional equipment in several of their mid- and high-level PCs. In fact, the options have been so well received that several of the vendors have now made them standard line-fit equipment rather than choices. Others, including 'Big Blue,' are expected soon to jump on the bandwagon and even HP's server division is reported to be getting into the act. Some expect that with OEM recorder prices falling to around \$80 and growing channel assembly, white box, and build to order programs, more PCs in 1999 will come equipped with CD recorders than with any other removable storage device.

Consumer Audio

In contrast to other digital media, CD-R has a privileged position as a bridge between the desktop and set-top worlds. CD-R is truly the first real digital convergence technology. In addition to being an efficient and inexpensive method for computer data storage, archiving and distribution, it is a potent consumer audio solution. From existing digital or analog material, most PC recording bundles can create for consumer enjoyment compilation discs playable on any home, car or personal CD audio player. By all accounts, most of the recorders sold in the retail channel end up serving these two functions in the home.

Putting this in perspective, it should be remembered that as large as the computer market is for removable data storage, a replacement device for the humble audio cassette recorder in the home market has far greater potential. Thanks to the advantages of leveraging media manufacturing infrastructure and components from computer CD writers, consumer audio CD recorders have entered the market with attractive initial prices that are falling rapidly. Philips can't make enough of them to satisfy demand, so it's only a matter of time before savvy Asian manufacturers enter to push the technology into the mainstream. Total supremacy may take a while, but time isn't a problem where there isn't any other credible competition on the horizon.

Connecting With DVD

As might well be imagined, the general lack of consumer interest in rewritable DVD product is causing great dismay among the various DVD

manufacturer camps. Before embracing the newer technology, consumers want ways to exchange data between not only DVD and older CD products, but also among the apparently incompatible rewritable DVD drives. In addition, they want to be able to write audio CDs well into the future. Some manufacturers are thus coming to the realization that to make their DVD products palatable, rewritable DVD drives must be also able to write CD-R discs (MultiWrite). It should be by now acknowledged that as the lowest common denominator writable format, CD-R is the digital bedrock upon which all recordable and rewritable CD and DVD products must be based for the foreseeable future.

CD-R Offers Familiarity And Stability

Grounded in widespread popular support and driven by expanding practical applications, familiarity in the case of CD-R has not bred contempt and a desire to move on, but rather contentment in the stability and reliability of a storage format that serves real needs. And although greatness was not originally on the mind of its designers, CD-R is more than equal to the task and its digital destiny now all but assured.

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