CD – A little bit of History:

The Optical digital disc can be attributed to two people. The 'inventions' go back to David Paul Gregg in 1958 (videodisk) and James T. Russell 1965 (Compact Disk). It was not until the late 60's and early 70's (Licensing and many Patent acquisitions later), that working models appeared.

Laserdisc as it became known, entered the market in 1978, 2 years after the introduction of VHS VCR. CD as introduced by Dutch company Philips and Sony in 1982/3, is a derivative of Laserdisc technology.

Both their respective efforts had developed over several years prior, more or less at the same time but along different lines. Audio Timeline. (Perhaps not fully inclusive?)

A handful of Japanese electronics firms were also developing prototype optical discs and in 1979 Philips pitched 'their Compact Disc' to various Japanese companies, including Sony - who said yes. Model Example – New Format Introduction.

A partnership ensued, that could easily have developed into a major format war (as with Betamax v. VHS VCR earlier) otherwise. Avoiding different sized discs, playing time and audio codes ensured compatibility for the world market. Both companies were endeavouring to ensure consumer needs were met. Crucially, music catalogues were available through both companies, but one initial drawback was the limited number of disc manufacturing plants.

Norio Ohga (Sony's driving force behind CD) said - "Even if we have the hardware, it's useless without the software." Sony also had quality reservations about a European disc pressing plant being capable of handling their 16-Bit technology, the agreed specification for CD.

In a quirk of fate, Philips, who have become popular with various manufacturers, using their D/A chips in non-oversampling permutations, introduced their first CD100 Player - with 4 x Oversampling (as it has become known). The reason was to try and overcome Philips 14-Bit depth technology, which placed Sony at an advantage, with their 16-Bit development.

Sony's CDP-101 (binary code), featured one D/A converter (due to cost of production), for both channels. It was a non-resampling 16-Bit design, manufactured in house by Sony. The developmental D/A converter, had cost nearly 300,000 Yen to produce, due to part costs.

Production models were able to use just one IC (integrated circuit), cutting the cost to approximately 10,000 Yen. This device reduced the size of the player considerably, contributing to cost reduction. In addition, the group successfully miniaturized the 500 IC's used for signal processing, condensing them into three small LSI (Large Scale Integration) circuits.

Although history records dissatisfaction with early CD Players, the first Review by Stereophile of this player, says otherwise. 1st NOS Dac CD
From the review, it was in fact CD recording quality that drew criticism, not the player.

As more players became available, many also criticised amplifier RCA input design – which seemed inadequate, given the extra information available from CD. Auxiliary amplifier inputs of the day, were used mainly for secondary connections to tape decks and tuners.

In 1988, 400 million CD’s were manufactured by 50 pressing plants around the world. By 2007 some 200 billion CD’s have sold (plus Piracy and Bootlegs of course) and this figure is considered very conservative. The most expensive part of a CD is the jewel case. In 1995, material costs were 30 cents for the jewel case and 10 to 15 cents for the CD. Wholesale cost of CDs was US$0.75 to $1.15, which retailed for US$16.98.

CD sales peaked around the new millennium, with sales approaching 1 billion in the US alone.

Today, Japan perhaps leads the world with CD – 85% (2014) of all music sales are CD’s. Online music has failed there and has been in decline for years. The Japanese love technology and are very quality conscious. It is surprising therefore, that CD is held in such high esteem.

Perhaps their Disc recording quality is better?