

<table style="width: 100%;" class="mceItemTable" border="0" cellpadding="0" cellspacing="0">
 <tr><td style="text-align: left;" mce_style="text-align: left;" colspan="1">1956 First harddrive RAMDAC 305 (from IBM)</td></tr><tr><td style="text-align: center;" mce_style="text-align: center;">IBM ships the first hard drive, the RAMAC 305 (Random Access Method of Accounting and Control), which holds 5MB of data at \$10,000 a megabyte. It is as big as two refrigerators and uses 50 24-inch platters.

The harddisk in full size

◆
the disk (platter) cabinet

A head crash has damaged on of the platters.

</td></tr> <tr><td colspan="1">1963 IBM Model 1311</td></tr><tr> <td style="text-align: center;" mce_style="TEXT-ALIGN: center">IBM comes up with the first removable hard drive which has six 14-inch platters and holds 2.6MB. It is known as the model 1311.

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</td></tr> <tr><td colspan="1">1970 Pertec Computer Corporation
</td></tr><tr><td colspan="1">1970: Pertec Computer Corporation (PCC), formerly Peripheral Equipment Corporation (PEC) was founded. This was a computer company based in Chatsworth, California that manufactured disk and tape drives. It's PERTEC disk interface was an industry standard for pre-winchester disk drives of 1970s.

For more about Pertec Computers: Click here

<br mce_bogus="1" /></td></tr><tr><td colspan="1">1971 >IBM 3300-1 "Merlin", Capacity 100MB
</td></tr><tr><td colspan="1"></td></tr></table>


1973 IBM Model 3340

The first modern "Winchester" hard drive, which has a sealed assembly, lubricated spindles, and low-mass heads, is announced by IBM. It is known as the Model 3340.


200 MB removable disk pack without protective cover

1975 Pertec Model D3000

Pertec Computer Corporation starts manufacturing the D3000 series 14 front- and top-loading disk drives with capacities of 5mb, 10mb and 20mb. [Click here](http://en.wikipedia.org/wiki/NeXT_Computer)

1979 Shugart Technology

AI Shugart the founder of Shugart Associates founds disk-drive manufacturer Seagate Technology with a group of engineers. For more information about AI Shugart: [Click here](http://en.wikipedia.org/wiki/Alan_Shugart)

1980 Seagate's ST-506 drive and interface

Seagate introduces the ST-506 drive and interface, which is then used in all early microcomputer implementations. The ST506 had a capacity of 5mb.


ST-506 5MB


ST-506 5MB inside view

The ST-506 controller interface card

Top: XT 8bit, Bottom: AT 16bit

The ST-506 was the

first 5.25 inch hard disk drive. Introduced in 1980 by Seagate Technology (then Shugart Technology), it stored up to 5 megabytes after formatting. The similar (but more expensive) 10 MB ST-412 was introduced in late 1981. Both used MFM encoding (already widely used in disk drives). A subsequent extension of the ST-412 used RLL for a 50% boost in capacity and bit rate.

[Read more at Wikipedia](http://en.wikipedia.org/wiki/ST-506)

1983 First 3.5" HDD by Rodime, the RO352. Capacity: 10MB




Rodime was an electronics company specialising in hard disks, based in Glenrothes, Scotland. It was founded in 1979 by several Scottish and American former employees of Burroughs Corporation and listed on the London Stock Exchange in 1986, becoming Rodime PLC. Rodime produced a wide range of hard disks, initially 5.25 in form-factor ST506-compatible devices, later launching the world's first 3.5 in hard disk and also producing SCSI and ATA disks. Due to increasing competition and delays in developing new products, Rodime became unprofitable after 1985, and a financial restructuring package was put in place in 1989. However, in 1991, Rodime ceased manufacturing and was reduced to a holding company which continued to pursue patent litigation against other hard disk manufacturers such as Quantum and Seagate.

Source: [Wikipedia](http://en.wikipedia.org/wiki/Rodime)

1983 First 5.25" 8-disk HDD, the XT1140 by Maxtor. Capacity 126MB



1985 IDE interface



The IDE interface

Control Data, Compaq Computer, and Western Digital collaborate to develop the 40-pin IDE interface. IDE stands for Intelligent Drive Electronics, more commonly known as Integrated Drive Electronics

1985 ESDI interface



ESDI Controller. The

HDD is connected with the controller by 2 flatcables.

Western Digital produces the first ESDI (Enhanced Small Device Interface) controller board, which allows larger capacity and faster hard drives to be used in PCs.

First 3.5" IDE drive mounted on an expansion card by Quantum. Capacity: 10.5MB



1985

SCSI Standardisation



Example of an external HDD casing with the early centronics SCSI connectors.

Small Computer System Interface, or SCSI (pronounced scuzzy), is a set of standards for physically connecting and transferring data between computers and peripheral devices. The SCSI standards define commands, protocols, and electrical and optical interfaces. SCSI is most commonly used for hard disks and tape drives, but it can connect a wide range of other devices, including scanners and CD drives. The SCSI standard defines command sets for specific peripheral device types; the presence of "unknown" as one of these types means that in theory it can be used as an interface to almost any device, but the standard is highly pragmatic and addressed toward commercial requirements.

Since its standardization in 1986, SCSI has been commonly used in the Amiga, Apple Macintosh and Sun Microsystems computer lines and PC server systems. Apple started using Parallel ATA (also known as IDE) for its low-end machines with the Macintosh Quadra 630 in 1994, and added it to its high-end desktops starting with the Power Macintosh G3 in 1997. Apple dropped on-board SCSI completely (in favor of IDE and FireWire) with the (Blue & White) Power Mac G3 in 1999. Sun has switched its lower end range to Serial ATA (SATA). SCSI has never been popular in the low-priced IBM PC world, owing to the lower cost and adequate performance of ATA hard disk standard. SCSI drives and even SCSI RAID arrays became common in PC workstations for video or audio production.

Read the full article about SCSI at Wikipedia: <http://en.wikipedia.org/wiki/Scsi>

1988

Conner introduced the first 1" high 3.5" HDD. Conner Peripherals CP3022, 21MB



style="overflow: hidden; color: rgb(0, 0, 0); background-color: transparent; text-align: left; text-decoration: none; border: medium none;" mce_style="overflow: hidden; color: #000000; background-color: transparent; text-align: left; text-decoration: none; border: medium none;">Connor introduces the first 1-inch-high 3.5-inch hard drive, which is still the common form factor. Before this, hard drives were either full height or half-height.
</div></div><br mce_bogus="1" /></td></tr><tr><td colspan="1">1991 IBM Corsair</td></tr><tr><td colspan="1"><p style="text-align: center;" mce_style="text-align: center;"></p>
IBM introduces the 0663 Corsair, the first disk drive with thin film magnetoresistive (MR) heads. It has eight 3.5-inch platters and stores 1GB. (The MR head was first introduced on an IBM tape drive in 1984.)

</td></tr><tr><td colspan="1">1991 Seagate Barracuda, 7200 RPM HDD</td></tr><tr><td colspan="1"><p style="text-align: center;" mce_style="text-align: center;"></p>
Seagate is first to market with a 7200-revolutions-per-minute hard drive, the 2.1GB Barracuda.

</td></tr><tr><td colspan="1">1994 Western Digital breaks the 528MB throughput barrier</td></tr><tr><td colspan="1">
Western Digital develops Enhanced IDE, an improved hard drive interface that breaks the 528MB-throughput barrier. EIDE also allows for attachment of optical and tape drives.

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<p style="text-align: center;" mce_style="text-align: center;"></p>

BM announces its Microdrive, the smallest hard drive to date. It fits 340MB on a single 1-inch platter.
IBM Microdrives are the size of a postage stamp and are now available with three capacities: 340 MB, 540 MB and 1 GB. While they sometimes raised problems of compatibility with earlier-generation cameras, all three of these are compatible with the Minolta, Nikon and Olympus 5-megapixel models. The characteristics of the 1 GB disk in Compact Flash format are worthy of a true hard disk. The average access time is about 15ms, with a (theoretical) transfer rate of 30 to 60 Mb/s.

</td></tr><tr><td colspan="1"><span style="color: rgb(255, 0, 0);" mce_style="color:

2000 Seagate releases the first 15.000 RPM disk.
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The X15 was the first drive to feature a spindle speed of 15,000 RPM and the first drive specified with a seek time below four milliseconds; as a result, the anticipation felt by both SR's staff and readers was immense. Three long months passed between the X15's February 23, 2000 announcement and its review here at SR. In the end, the wait was worth it. The X15 was by far the fastest drive around.

</td></tr><tr><td colspan="1">2003 Western Digital introduces the first 10.000 37GB Raptor SATA HDD.
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<p style="text-align: center;" mce_style="text-align: center;"></p>

Western Digital released the 37GB Raptor hard drive, the WD360GD. Though it was expensive and held only a paltry 37GB of data, this drive was capable of a rotational speed of 10,000 and used a Serial-ATA interface. This drive was an immediate hit with system builders and computer enthusiasts alike. Often used in a RAID 0 array the Raptors quickly became a cost-effective alternative to SCSI and a great way to speed up your system.

The WD740GD is the updated version of the original Raptor. It uses the same basic technology and design but has two 37GB platters. Even with a doubling in its storage capacity the new Raptor is capable of a 10,000 RPM spindle speed, has an advertised 4.5 ms seek time, uses an 8MB buffer, and comes complete with a five year warranty.

</td></tr><tr><td colspan="1"><div> <div style="overflow: hidden; color: rgb(0, 0, 0); background-color: transparent; text-align: left; text-decoration: none; border: medium none;" mce_style="overflow: hidden; color: #000000; background-color: transparent; text-align: left; text-decoration: none; border: medium none;">2006 Seagate releases a 160GB 2.5" HDD
</div> </div></td></tr><tr><td colspan="1">
<p style="text-align: center;" mce_style="text-align: center;"></p>
Seagate's Momentus 5400.3 notebook hard drive is the first 2.5-inch model to use perpendicular magnetic recording, which boosts its capacity up to 160GB.

 </td></tr><tr><td colspan="1">1980-2010 HDD Timeline in a nutshell
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* 1980 - The world's first gigabyte-capacity disk drive, the IBM 3380, was the size of a

refrigerator, weighed 550 pounds (about 250 kg), and had a price tag of \$40,000

- * 1986 - Standardization of SCSI
- * 1989 - Jimmy Zhu and H. Neal Bertram from UCSD proposed exchange decoupled granular microstructure for thin film disk storage media, still used today.
- * 1991 - 2.5-inch 100 megabyte hard drive
- * 1991 - PRML Technology (Digital Read Channel with 'Partial Response Maximum Likelihood' algorithm)
- * 1992 - first 1.3-inch hard disk drive - HP Kittyhawk
- * 1994 - IBM introduces Laser Textured Landing Zones (LZT)
- * 1996 - IBM introduces GMR (Giant MR) Technology for read sensors
- * 1998 - UltraDMA/33 and ATAPI standardized
- * 1999 - IBM releases the Microdrive in 170 MB and 340 MB capacities
- * 2002 - 137 GB addressing space barrier broken
- * 2003 - Serial ATA introduced
- * 2005 - First 500 GB hard drive shipping (Hitachi GST)
- * 2005 - Serial ATA 3Gbps standardized
- * 2005 - Seagate introduces Tunnel MagnetoResistive Read Sensor (TMR) and Thermal Spacing Control
- * 2005 - Introduction of faster SAS (Serial Attached SCSI)
- * 2005 - First Perpendicular recording HDD shipped: Toshiba 1.8-inch 40/80 GB[10]
- * 2006 - First 750 GB hard drive (Seagate)
- * 2006 - First 200 GB 2.5" hard drive utilizing Perpendicular recording (Toshiba)
- * 2006 - Fujitsu develops heat-assisted magnetic recording (HAMR) that could one day achieve one terabit per square inch densities.
- * 2007 - First 1 terabyte hard drive (Hitachi GST)
- * 2008 - First 1.5 terabyte hard drive (Seagate)
- * 2009 - First 2.0 terabyte hard drive (Western Digital)
- * 2010 - First 3.0 terabyte hard drive (Seagate)

Source: http://en.wikipedia.org/wiki/History_of_hard_disk_drives#1950s_-_1970s
http://en.wikipedia.org/wiki/History_of_hard_disk_drives#1950s_-_1970s
Wikipedia

For more information about the history of the harddisk:

<http://forums.legitreviews.com/about16883.html>
<http://forums.legitreviews.com/about16883.html>

<http://www.articlesnatch.com/Article/The-History-Of-The-Floppy-And-Hard-Disk-Drive/141857>
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