

Points to be Covered:

- ①** Prior to flash memory, portable memory media was physically large, required mechanical movement of parts and had small capacity.
- ②** In contrast, flash memory modules are physically small with large capacity and have no moving parts.
- ③** USB flash drives allow a host personal computer's operating system to randomly access flash memory in the flash drive with the same instructions that would be used for disk drives.
- ④** During execution of a command in an application program, information is written into, or read out of the flash memory module of the flash drive using only one communication protocol—USB.

History of Portable Memory Media

1969

**8 INCH
MAGNETIC
FLOPPY DISK**

.....

80 kilobyte capacity
Eventually 1.2
megabyte capacity



1969

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8 INCH MAGNETIC FLOPPY DISK

80 kilobyte capacity
Eventually 1.2
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1982

3.5 INCH MAGNETIC FLOPPY DISK

280 kilobyte capacity
Eventually 1.44
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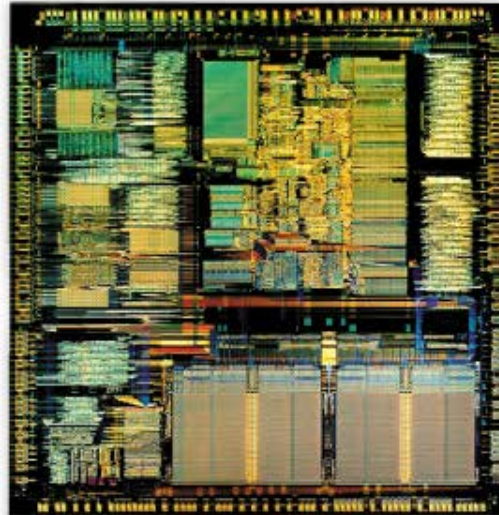
8 INCH MAGNETIC FLOPPY DISK

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FIRST PUBLIC DISCLOSURE OF FLASH MEMORY CHIP BY INTEL

32 kilobyte capacity
Eventually 2
gigabyte capacity



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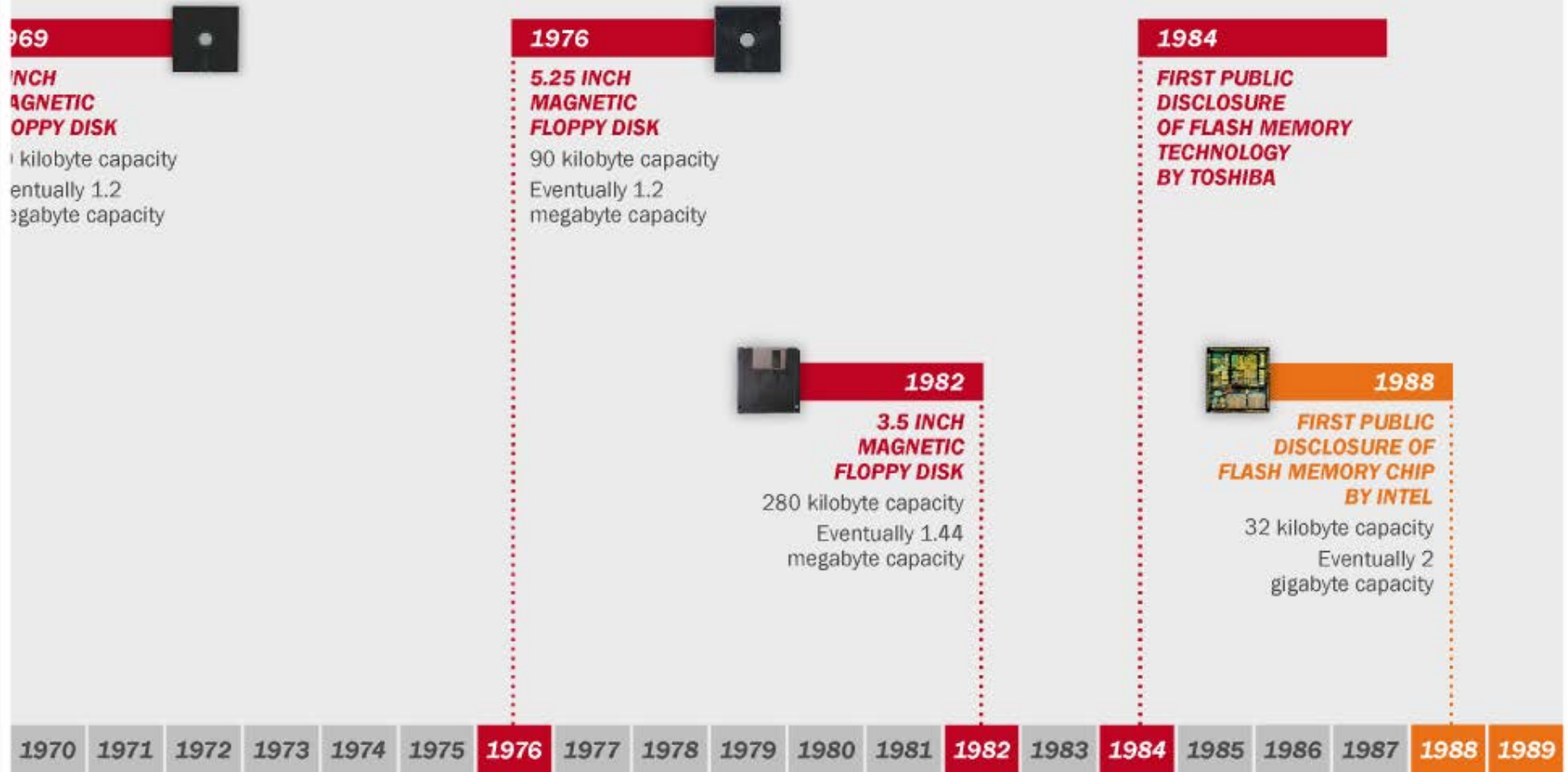


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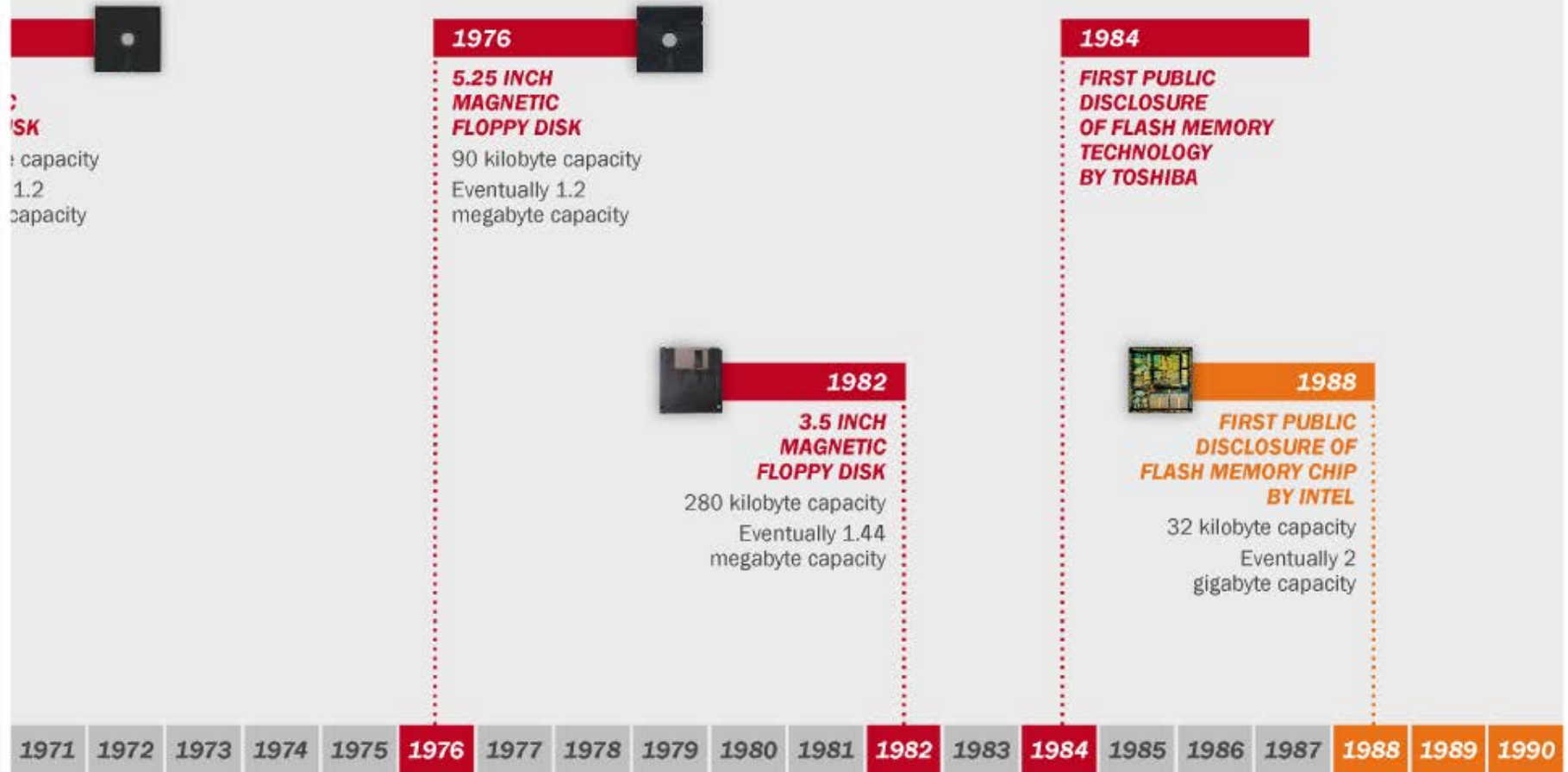
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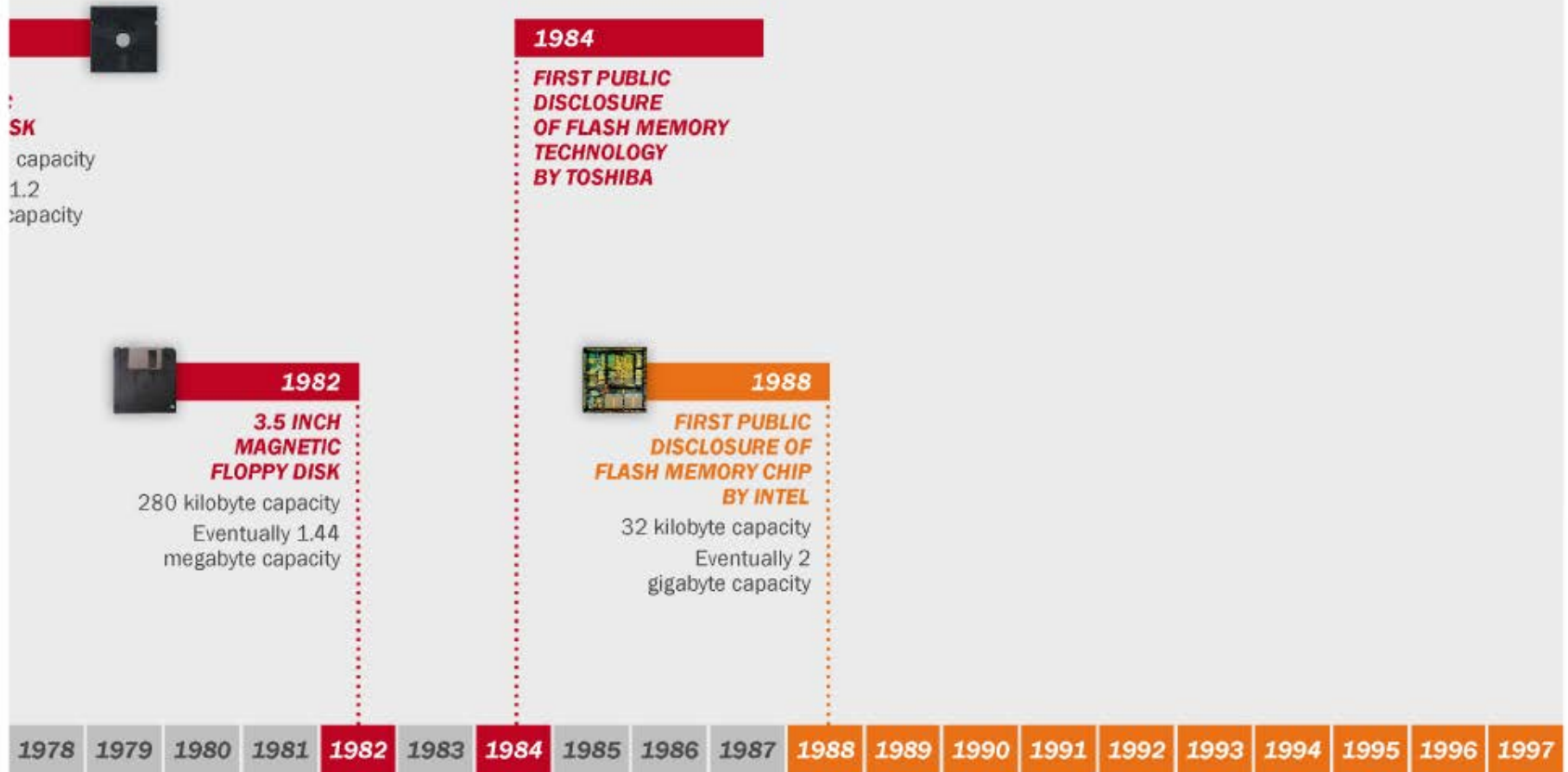


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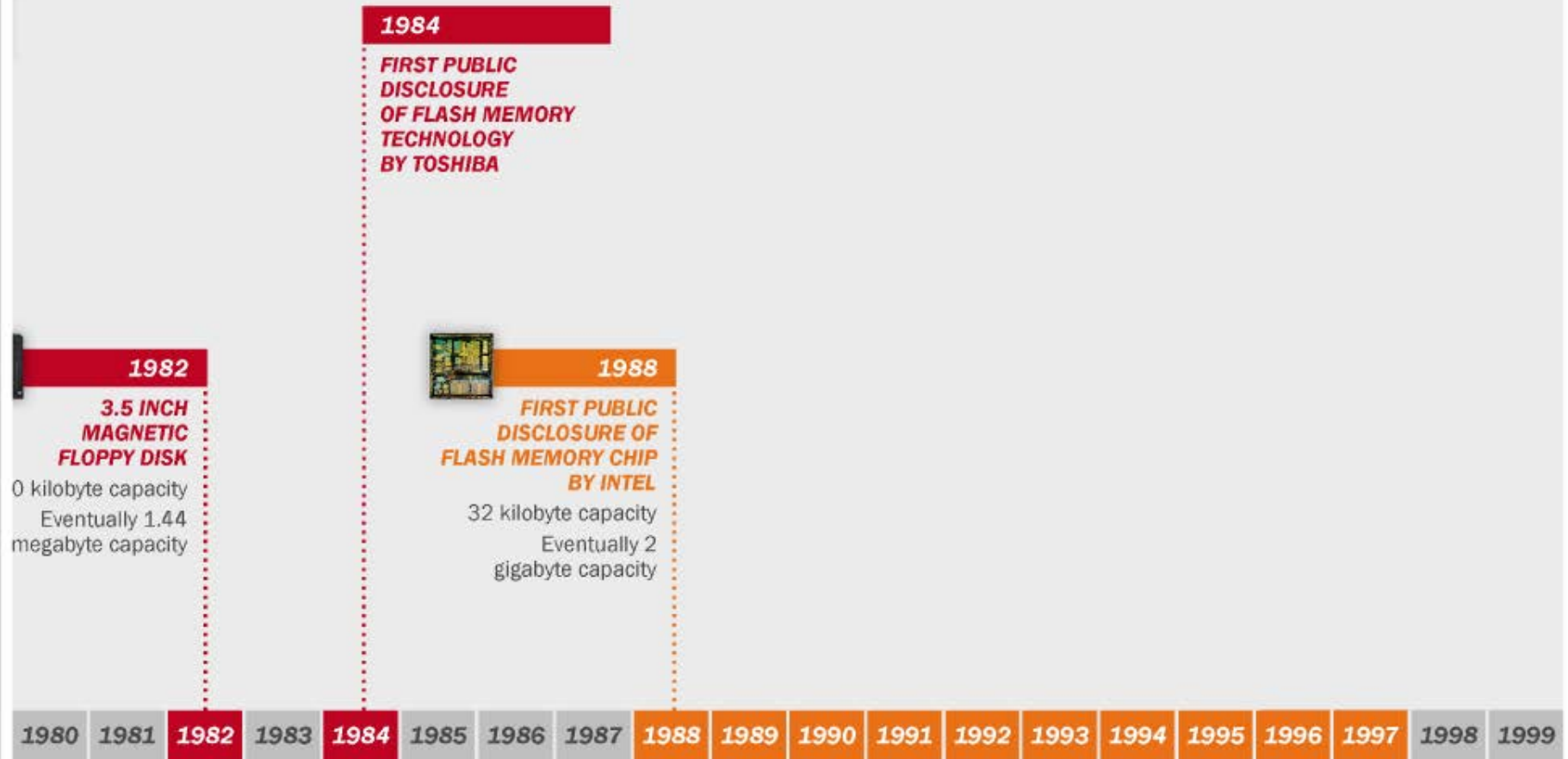
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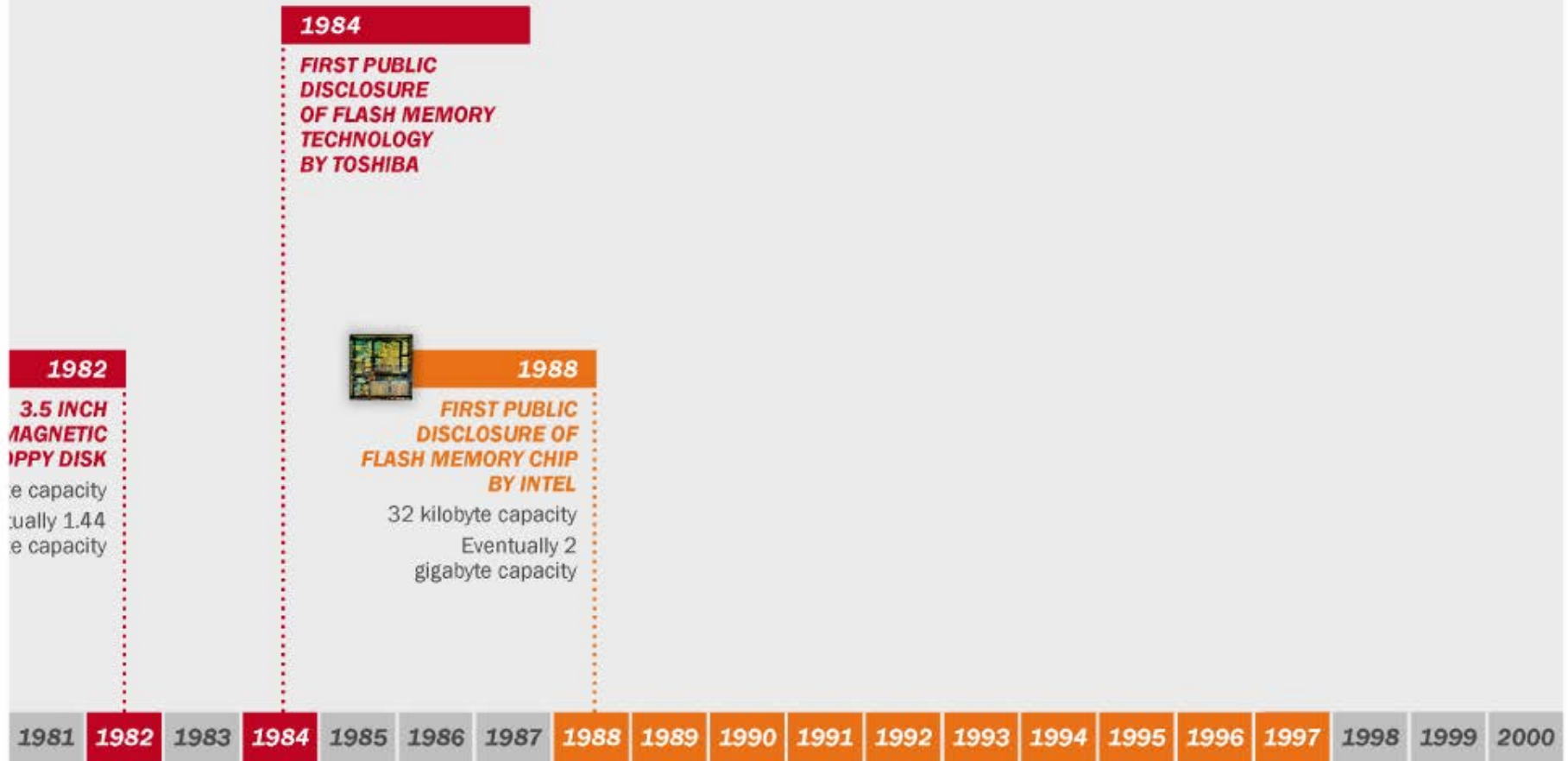
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1999 and 2000

U.S. FOREIGN APPLICATION PRIORITY DATA

November 14, 1999

February 23, 2000

U.S. Application Filed:
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2000

**NETAC
INTRODUCES
FIRST COMMERCIAL
FLASH DRIVE
DEVICE**



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***Comparison of a
3.5 Inch Floppy Disk
and a USB Flash Drive***

Comparison of a 3.5 Inch Floppy Disk and a USB Flash Drive

3.5 INCH FLOPPY DISK



1.44 megabytes

CAPACITY

USB FLASH DRIVE



1 gigabyte

MOST POPULAR CAPACITY

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3.5 INCH FLOPPY DISK

USB FLASH DRIVE

**A one gigabyte size flash drive
costs about \$15 dollars
and can store**

**MORE CONTENT THAN
694 FLOPPY DISKS**

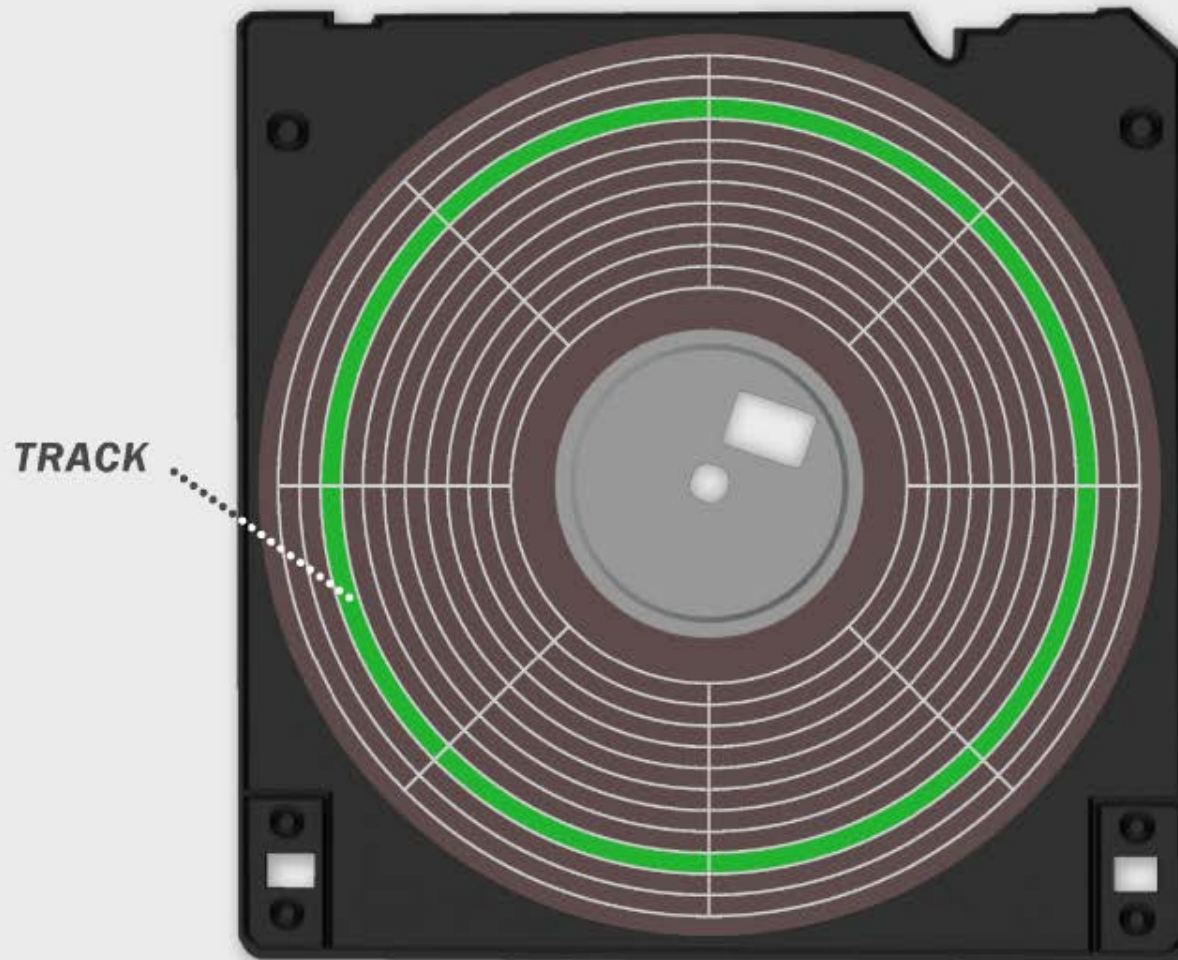
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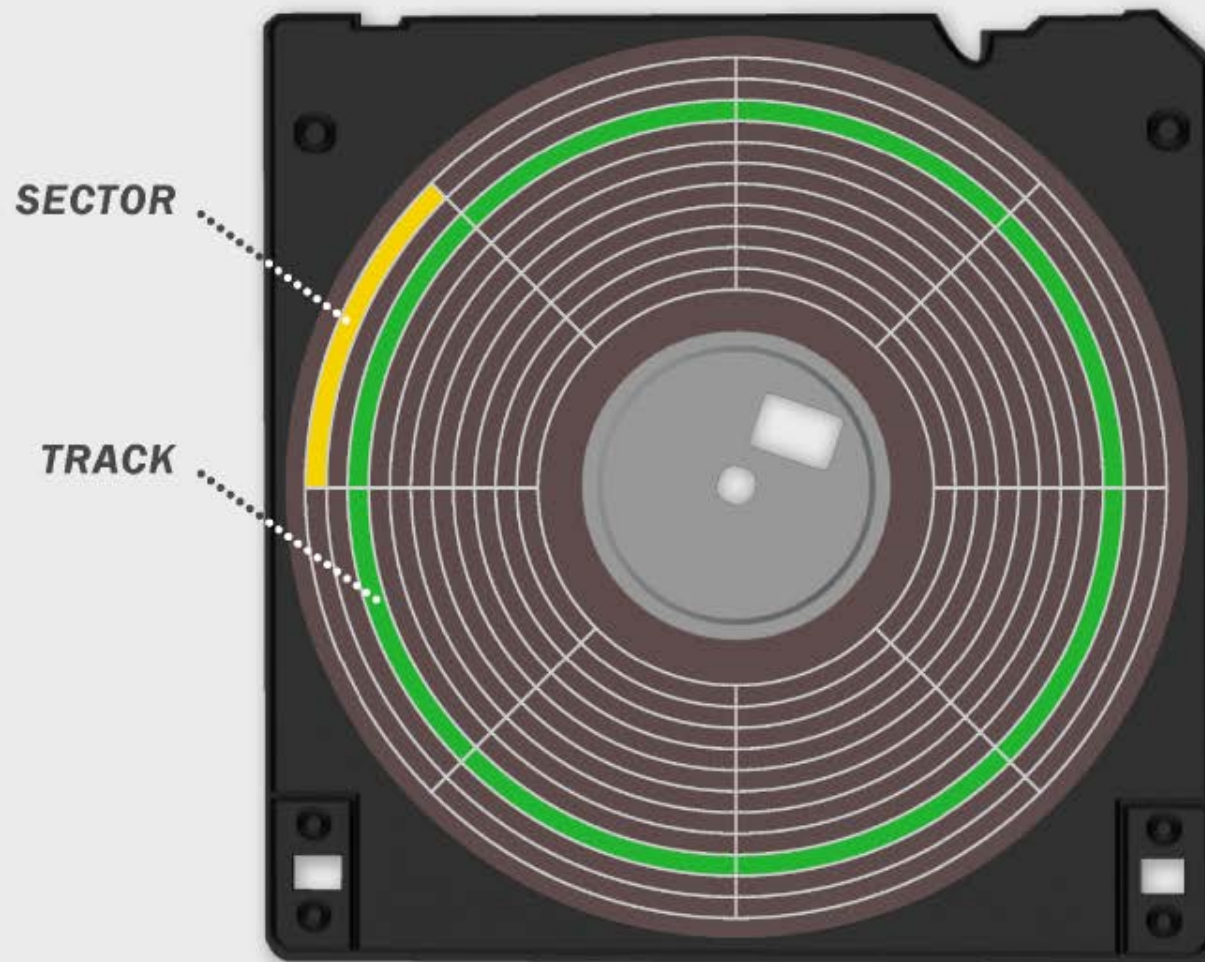
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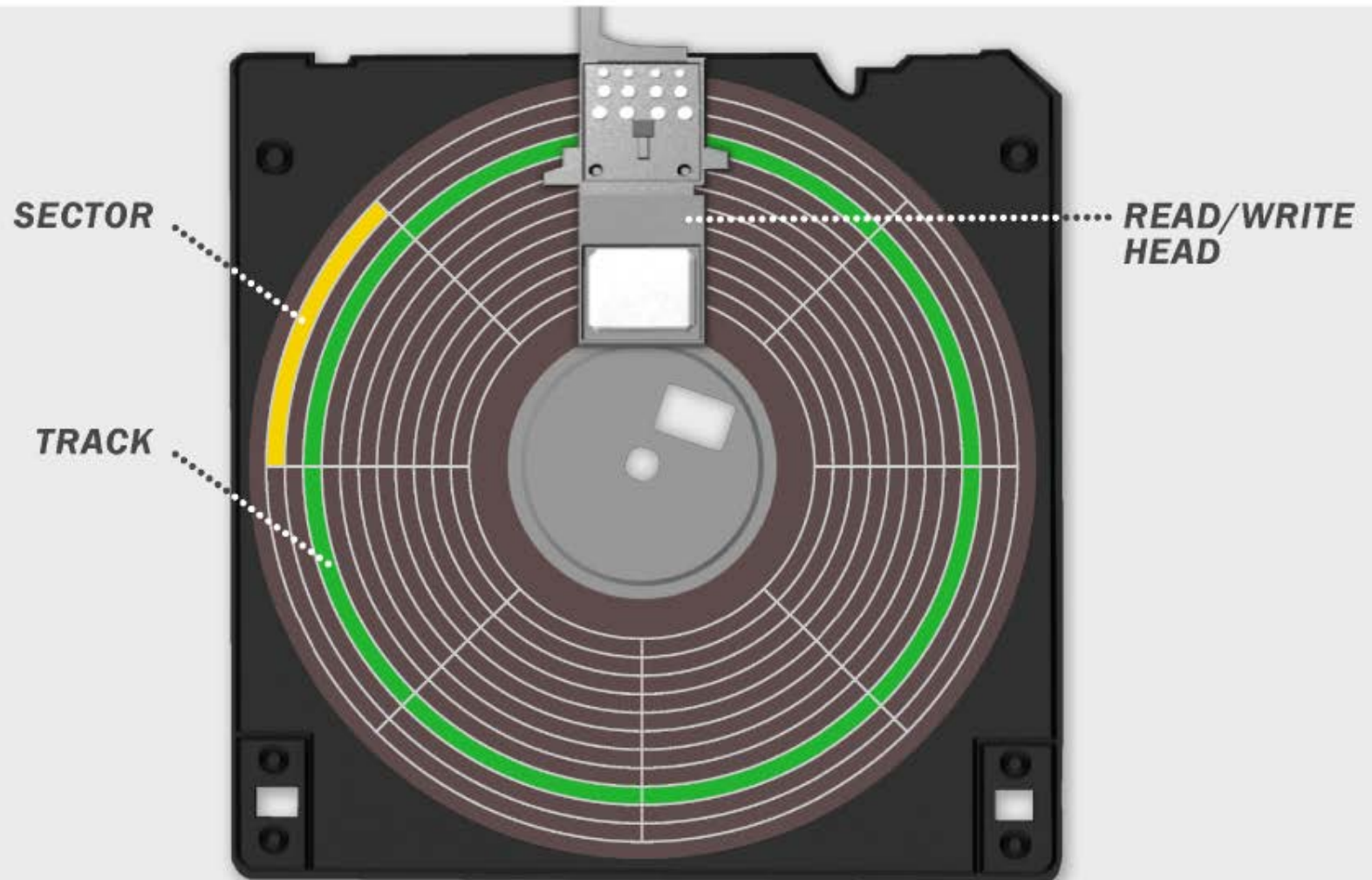
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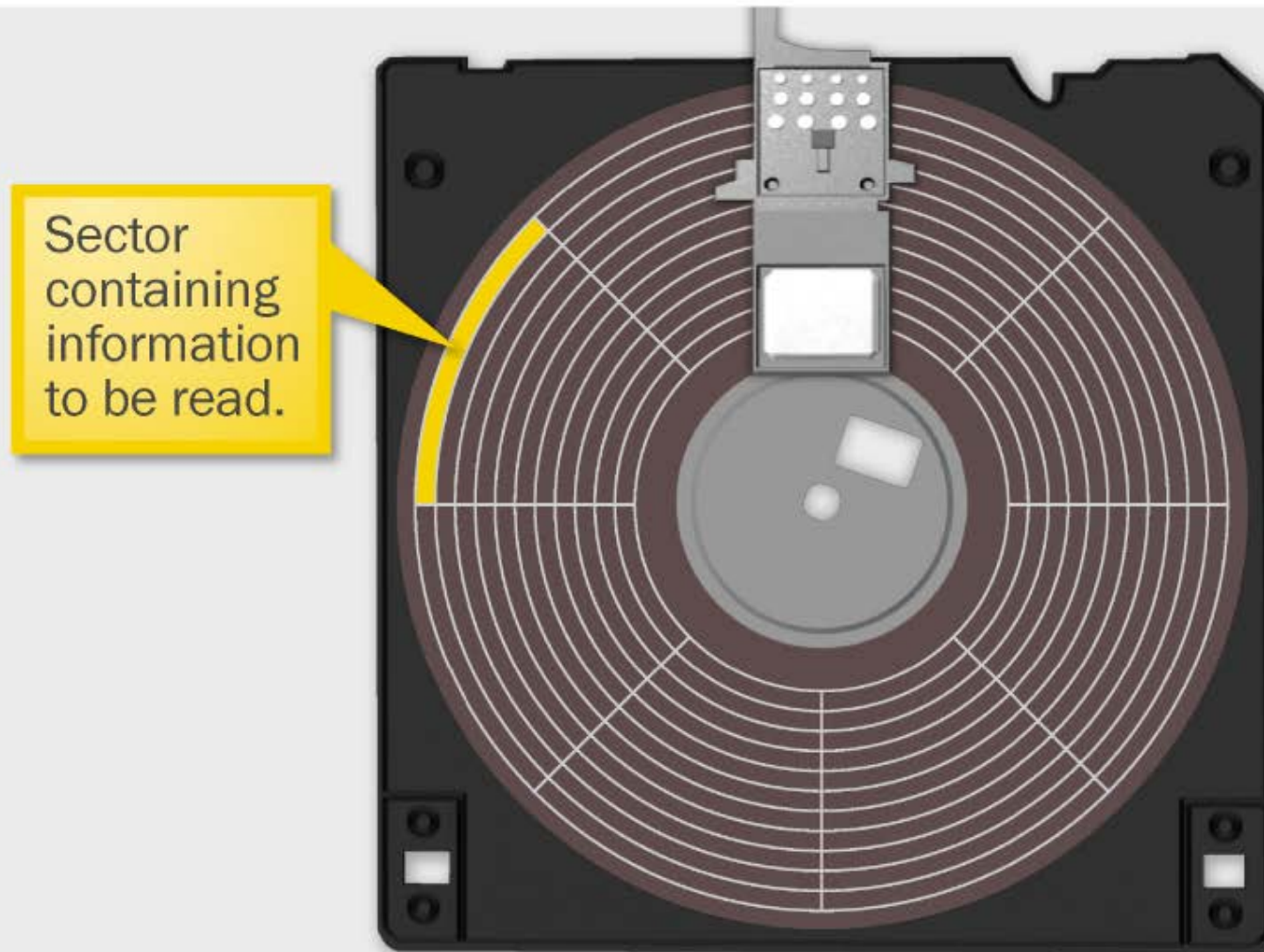
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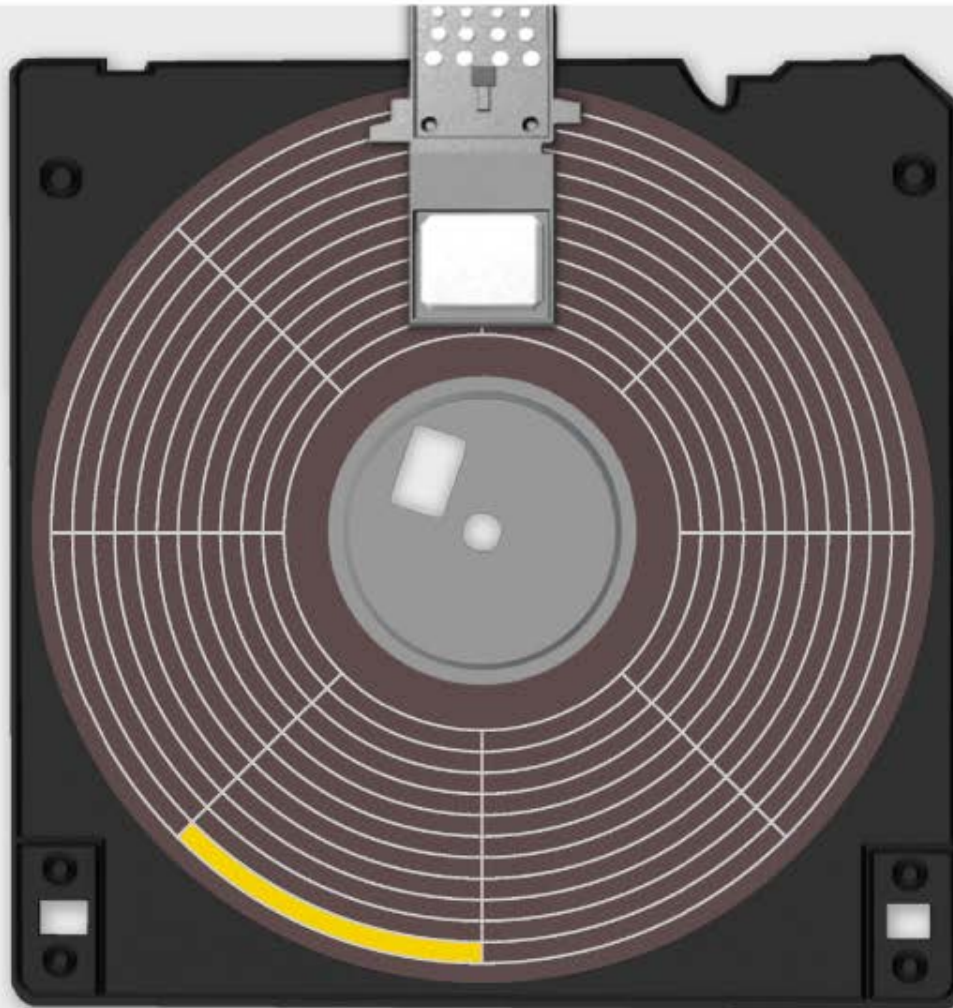
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ACCESS TIME

0.001

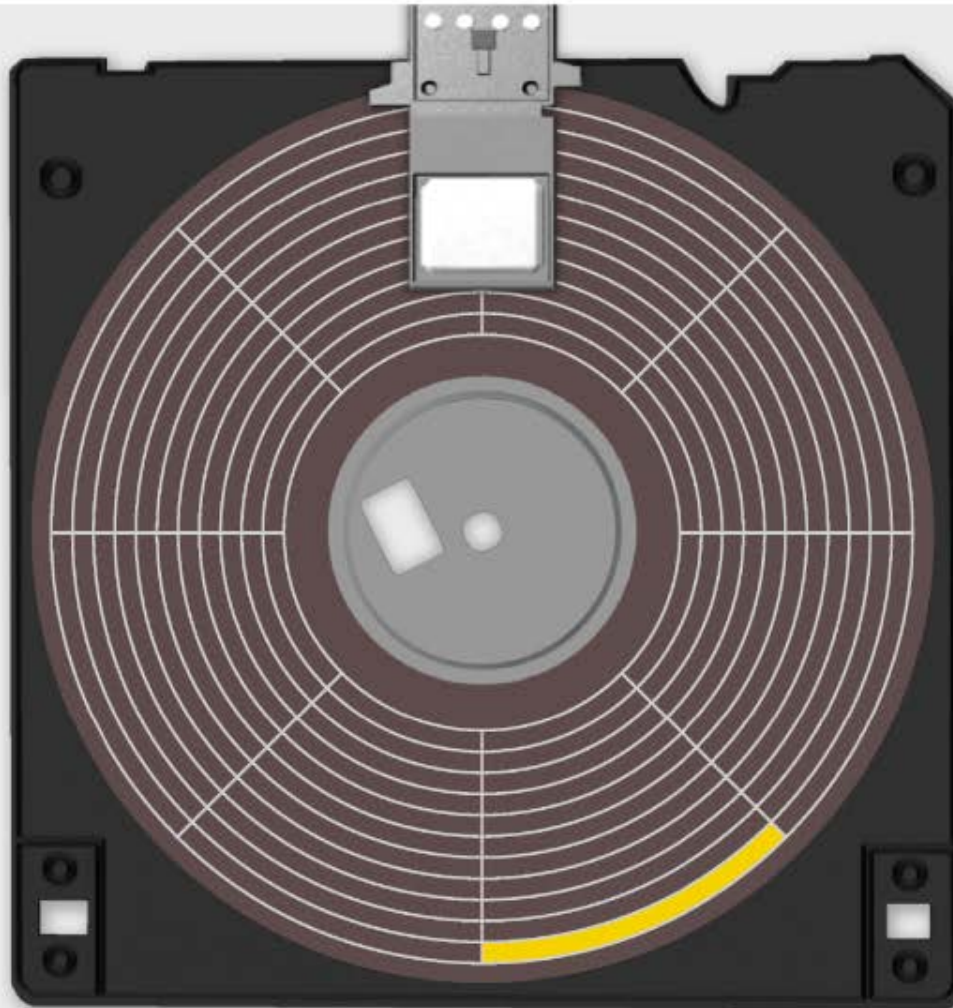
Comparison of a 3.5 Inch Floppy Disk and a USB Flash Drive



ACCESS TIME

0.002

Comparison of a 3.5 Inch Floppy Disk and a USB Flash Drive



ACCESS TIME

0.003

Comparison of a 3.5 Inch Floppy Disk and a USB Flash Drive



ACCESS TIME

0.004

Comparison of a 3.5 Inch Floppy Disk and a USB Flash Drive



ACCESS TIME

0.005

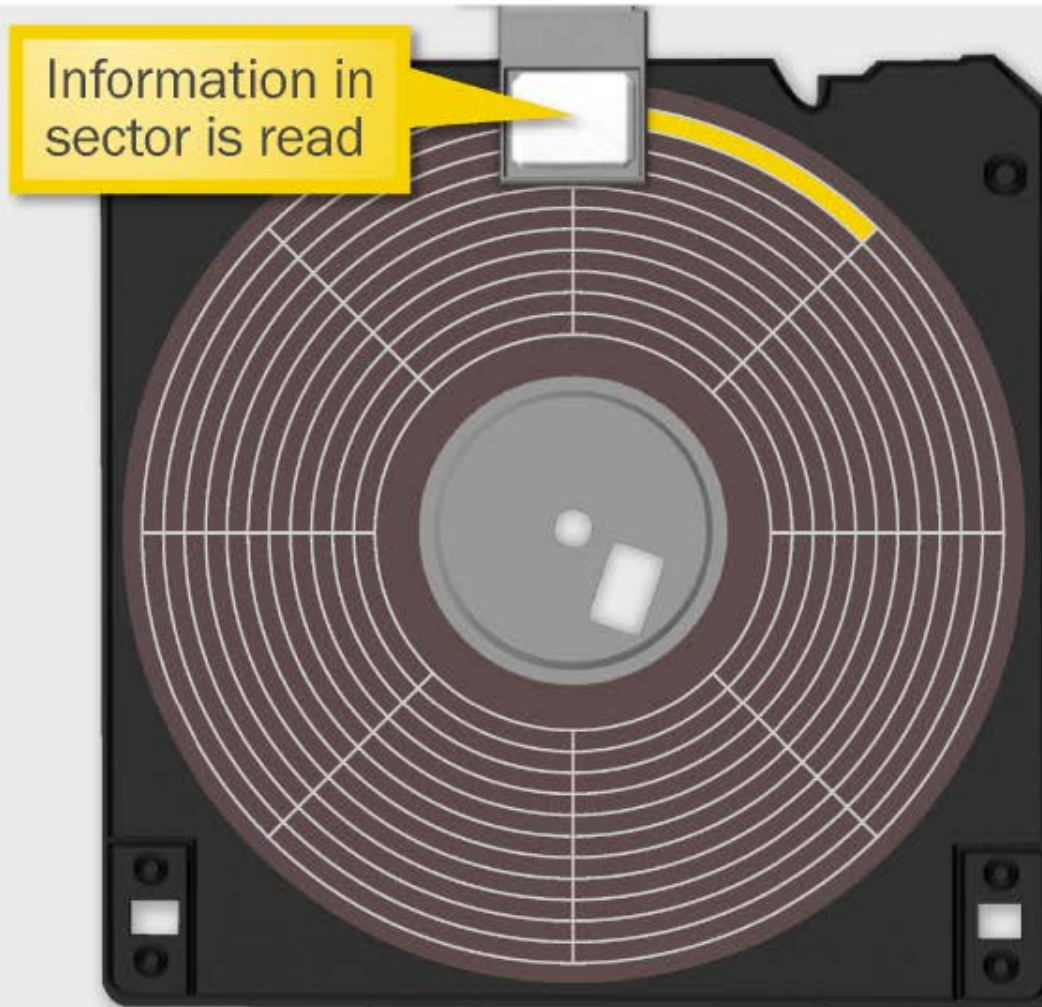
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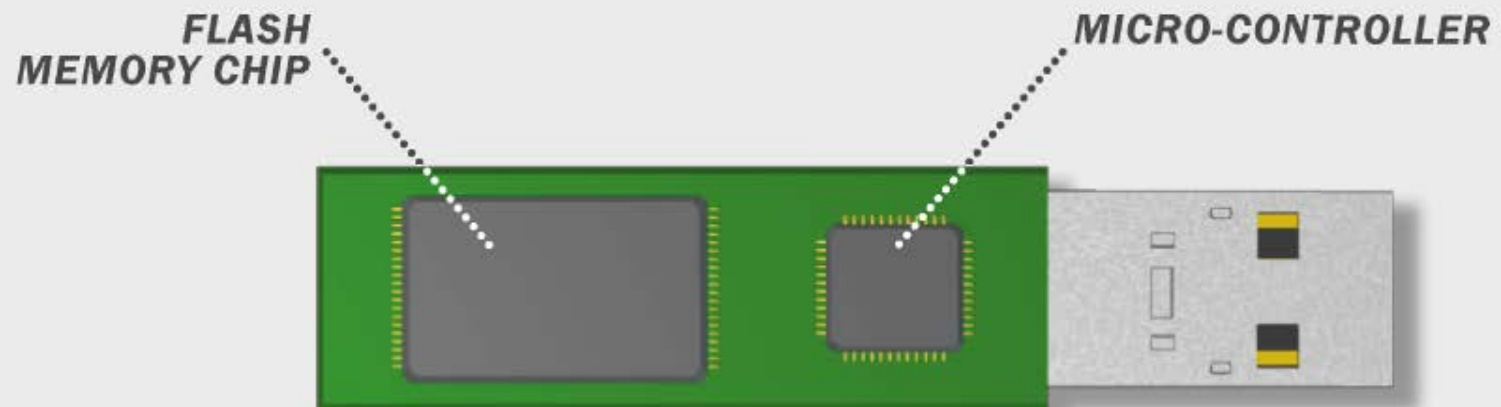
ACCESS TIME

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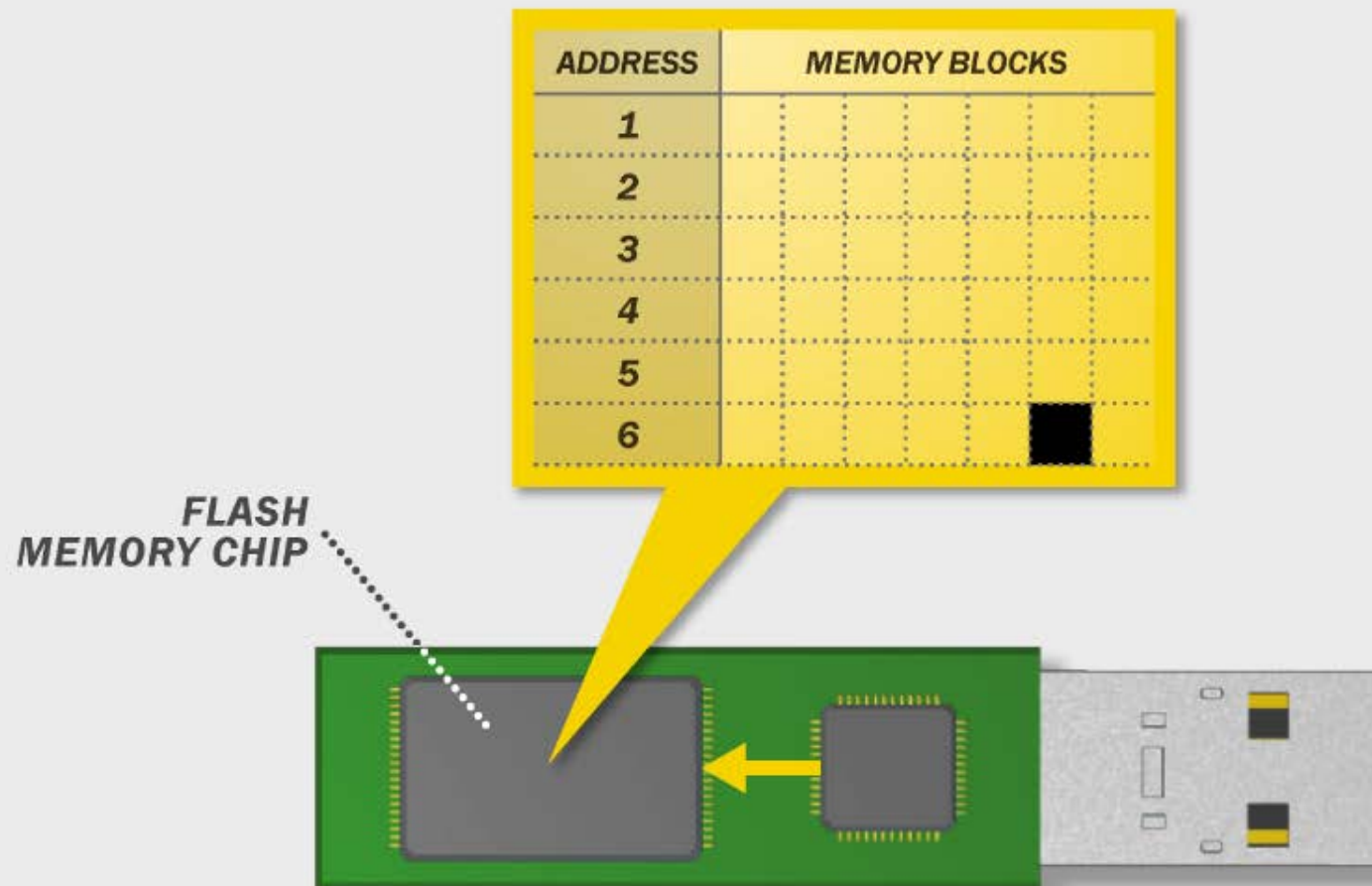
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The '672 Patent

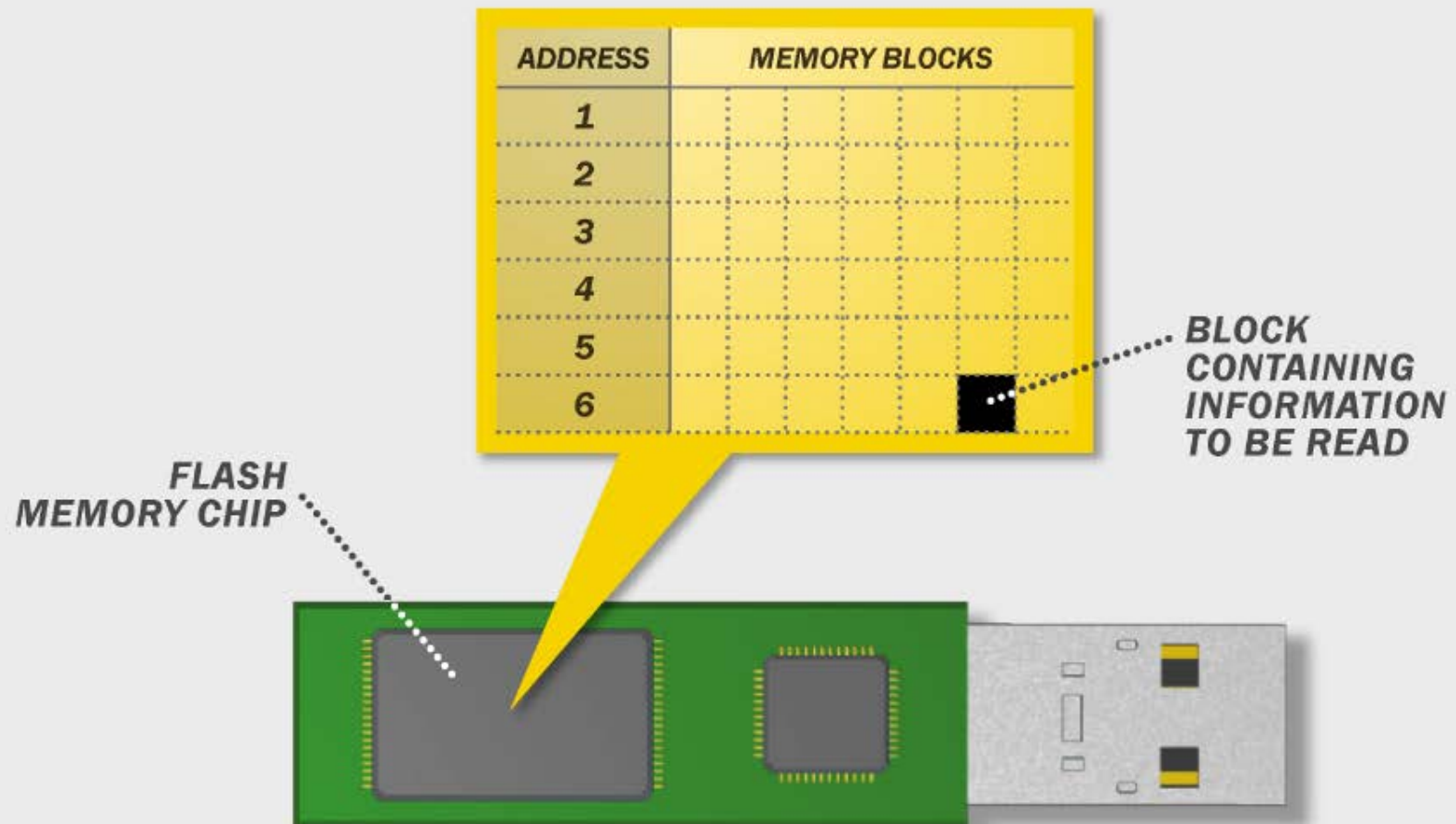
US 6,829,672 B1		11	12
		ABSTRACT	
Symbol	Meaning	Part Number	Supplier
11	flash memory	11	11
12	data processing system	12	12
13	data processing system	13	13
14	data processing system	14	14
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92	data processing system	92	92
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96	data processing system	96	96
97	data processing system	97	97
98	data processing system	98	98
99	data processing system	99	99
100	data processing system	100	100

1. An electronic flash memory external storage method

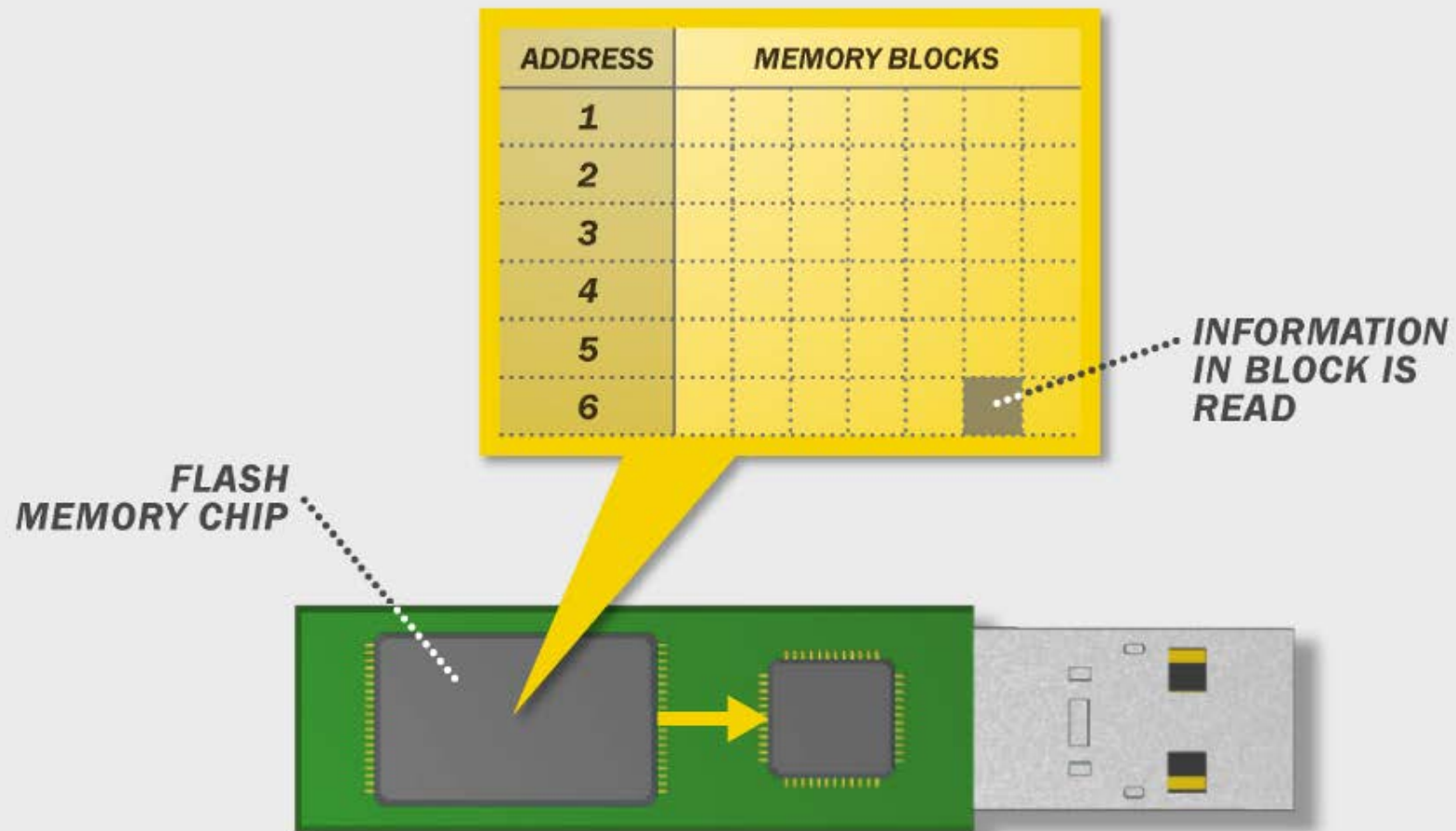
* * * *

wherein the data storage structure of the flash memory storage module is arranged on a block basis....

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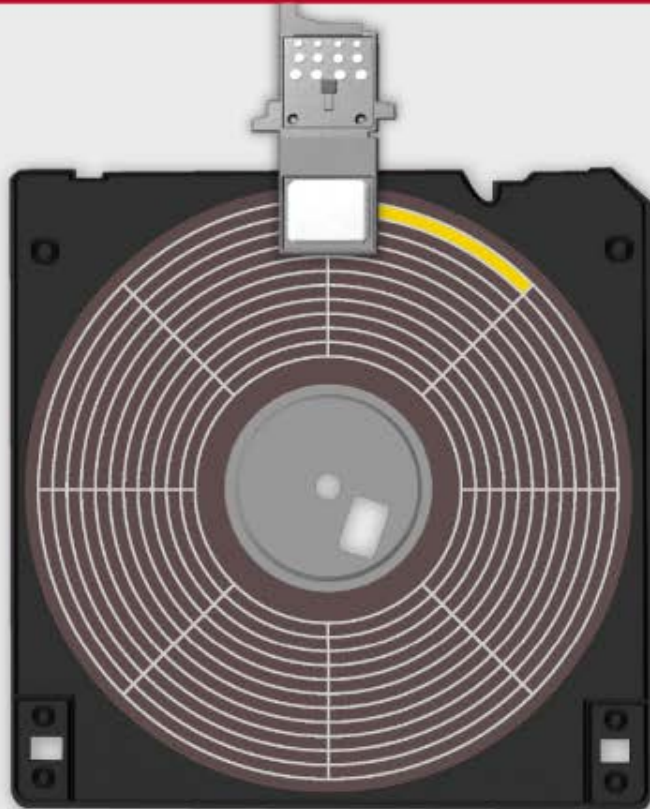


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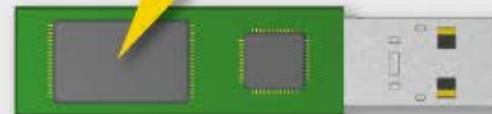


1.44 megabytes

CAPACITY

USB FLASH DRIVE

ADDRESS	MEMORY BLOCKS			
1				
2				
3				
4				
5				
6				



1 gigabyte

MOST POPULAR CAPACITY

Comparison of a 3.5 Inch Floppy Disk and a USB Flash Drive

3.5 INCH FLOPPY DISK

LONGER
access time

**Movement of
mechanical parts
is required**

1.44 megabytes

CAPACITY



USB FLASH DRIVE

SHORTER
access time

NO
**moving parts
required**

1 gigabyte

MOST POPULAR CAPACITY

