

# The IBM 2314

The IBM 2314 is a storage facility that quadrupled IBM's storage capacity from its last machine the 2311. The 2314 now holds 29 MB per swindle as opposed to 7.25 MB per swindle. This facility introduced the use of ceramic flying heads as well as ceramic flying cores to increase the recording frequency and the areal density. This storage facility was highly favored because of its price being 4 times lower per megabyte of storage. The major effect of this invention was that it showed people that technology was improving and at a fast rate. The jumps made from IBM's previous machine to this one were extraordinary. The data rate for this machine doubled to 310,000 bytes per second. The 2314 was a very important turn in history for IBM.

Introducing the use of ferrite core heads set new standards for all technology during that time. Showing that they were able to create a facility with such great modifications as opposed to what was around at that time let other companies know that they had to step there game up.

IBM kept advancing the 2314 creating different models yearly. They made this the primary disk storage on the system/360. A significant addition to the 2314 was the use of 8 on-line drives with an extra 9th one if needed. This raised storage data to 240 MB available to host and this was a great deal of storage at that time. Being able to hold that much, people would have to surpass this large amount of storage if they wanted their machine to be better and that is what leads to technological advancement. The impact of this facility created a great jump in the quality of technology.

The IBM 2314 was announced in April, 1965 which was one year after IBM's System/360. Being used as the main disk storage for the System/360, the 2314 worked with the operating system OS/360. The 2311 originally worked with the system/360 as it was made during the same year, then they made the 2314 to solve all of their storage problems with the 2311. They then made different smaller versions for different prices and less storage; The models A1, A2, B1 and B2. In the 1960s, technology was already improving at a significant rate with programming languages and creating the internet. The IBM 2314 was another invention to spark the technological market and increase technological quality.

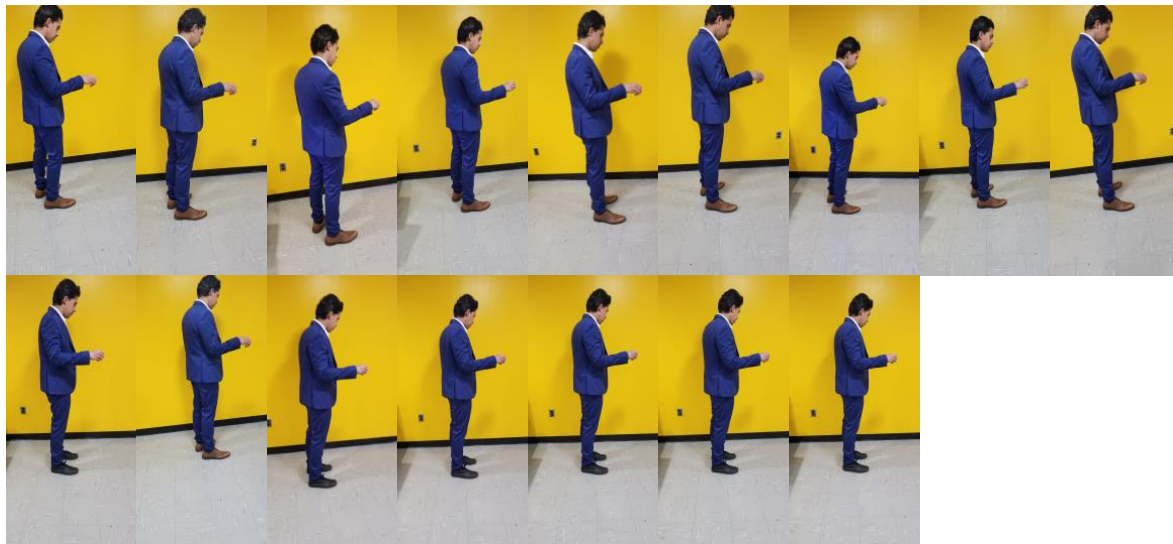
With the introduction of different models of the IBM 2314, the models individually also had their own features. One example is the B1 Model. The B1 model used the 2319 B1 and B2 units to create a subsystem of respectively three, six, or nine drives. The B1 had a "customer" engineering panel which allowed easy access of controlling in-line diagnostics. The B1 also allowed for the creation of singly data records and "data record identifier lengths that was in each track under programmer control." (*IBM Archives*). The B1 was also special in these sense that is excluded processor intervention when searching for records. It allowed the user to look for stored indexes, data records and directories without the processor affecting it. In addition to the B1, the B Series in general really revolutionized the 2314. It was more so the model for businesses. The B series "provided large capacity, low-cost direct access storage for use with System/370 and System/360 Models 30 through 195, except for Model 44." (*IBM Archives*). The 2314 B Series consisted of the 2314 B1 model of storage and combinations of the 2319 B1 and B2. Each combination used the 2316 disk packs to provide either 87, 172, or 233 million bytes of online data storage at one location. The 2314/2319 combination could be attached to a System/360 or System/370 through a selector channel. As you can see the innovation of the IBM 2314,

specifically the B models was significant for its time providing users with newfound features and improvements.

Starting the reenactment, we took multiple images of Ali and tried to emulate the model in the image as close as possible. Using the best image, we uploaded it to Photoshop and erase the traces of the background to grab Ali out.

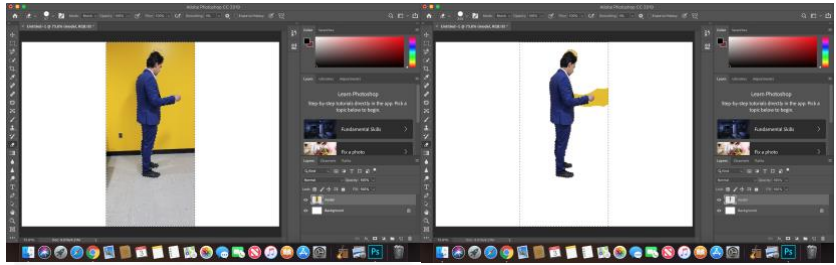
### **The Modeling Process:**

We did not have the materials, like the disk, or the IBM machine in order to reenact the original image in a natural way. We used a clear background so we can easily crop out Ali's body to paste it on Photoshop. We went through multiple shots, (not all shots shown below) since we had to imagine how Ali should pose while holding an imaginary disk.



### **The Photoshopping Process:**

It was difficult to remove the original model from the picture in front of the IBM machine. We couldn't just put Ali in front of the model because he was still visible. We had to erase his body, and replace the empty spacing with the other disk drives. By selecting a disk drive with the quick selection tool we were able to paste it in the empty space to fix the erased area. A problem that occurred was the disk in the model's hand. We had to figure out a way to get it into Ali's hand. Using the same method of copying and pasting, the quick selection tool was used to select the disk to place it in Ali's hands. The empty spacing left behind after moving the disk was fixed by same method. Next was trying to imitate the hair of the model. Using the eyedropper tool, we got the color of Ali's skin, and then used a brush tool to shape up the sides and back of Ali's hair. We used the eyedropper tool again to get the color of the background, and used the brush tool to shape up the top of Ali's hair. Next, was imitating the suit. Ali's suit is originally lighter than the model's dark suit, so we fixed the coloring. By using the quick selection tool, we changed the coloring and shading of the suit alone that way, so the effects wouldn't affect the entire photo. After darkening it, the suit was placed back into position. Finally, for final touches, we changed the contrast of the photo with altered lighting, and created the Black and White effect.



Original:



Reenactment:



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“IBM 2314 Direct Access Storage Facility.” *IBM Archives: IBM 2314 Direct Access Storage Facility*, [www-03.ibm.com/ibm/history/exhibits/storage/storage\\_2314.html](http://www-03.ibm.com/ibm/history/exhibits/storage/storage_2314.html).

“WikiVisually.com.” *WikiVisually*,

[wikivisually.com/wiki/History\\_of\\_IBM\\_magnetic\\_disk\\_drives#IBM\\_2314](http://wikivisually.com/wiki/History_of_IBM_magnetic_disk_drives#IBM_2314).

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