



# A FACE-OFF

## PINNACLE PALM POS™ - SSD VS. HDD BENEFITS AND ROI?

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For some time Pinnacle has been evaluating the benefits and ROI associated with a Solid State Drive (SSD) offering for Palm POS. Both SSDs and Hard Disk Drives (HDD) do the same job from a functional perspective. They boot your system, store your applications, and store your files; but, each type of storage has its own unique feature set. The question becomes what are the real differences and would having an SSD provide enough improvement over the tried and true HDD to justify the increased cost? Let's break it down:

**CAPACITY:** Today, Palm delivered on the Ultimate Technology Corporation (UTC) hardware platform comes standard with a 320GB HDD. In this area the HDD shines as the cost per GB is higher for the SSD. Pinnacle worked together with UTC to identify what capacity SSD would be needed to support the Pinnacle Palm POS software as the larger the SSD Drive the wider the price gap becomes. For the Palm POS system an 80GB SSD would give sufficient storage for the programs and

related files. If drive size is critical this would be an area where the HDD be the best option. 1 point HDD

**SPEED AND NOISE:** This is where SSDs shine. A HDD requires time to speed up to operating specs, and will continue to be slower than a SSD's. The SSD has no moving parts so you don't have any of the normal spinning noise that the HDD drive makes. A POS with an SSD boots faster, launches apps faster, has higher overall performance and does so with not one click or whirring noise. 1 point SSD

**FRAGMENTATION:** Because of their rotary-like recording surfaces, HDD surfaces work best with larger files that are written in contiguous blocks; this allows the drive head can start and end its read in one continuous motion. While read/write algorithms have improved and the effect of fragmentation is minimized, the fact of the matter is that HDDs will become more and more fragmented over time and will degrade performance. Since there's no physical read head, don't care where the data is stored making SSDs inherently faster. 1 point SSD

**POWER DRAW:** Because there are no moving parts in a SSD there is less power draw, averaging 2 – 3 watts of power consumed; the average HDD draws 6 – 7 watts. The SSD will use less energy and generate less heat, so will be less expensive to operate and will produce less negative impact to other POS terminal components. 1 point SSD

**DURABILITY:** I know we all have at least one laugh out loud crazy story of how a POS terminal was damaged. The simple fact is an SSD has no moving parts, so it is more likely to keep your data safe. Hard drives read/write heads are parked when the system is off, but in a C-Store environment that is not very often. Most of the time the system is on and they are flying over the drive platter at hundreds of miles an hour 24 hours a day. Again the more reliable equipment is the SSD. 1 point SSD

**PRICE:** No doubt SSDs are more expensive. The good news is that as they have become more prevalent so the cost has dropped and will continue to do so as demand continues to increase. UTC and Pinnacle have worked together to close this price gap to a point that would allow the increased performance and reliability to outweigh the increased cost. 1 Point HDD

After evaluating the HDD to the SSD option it is clear there are real benefits to the SSD drive, 6 points to 2 in favor of the SSD based on the criteria above, this is not to say that all criteria should be weighted equally.

Pat Barr Director of Hardware Product management at Ultimate Technology Corporation (UTC) stated "Although it does have a higher price tag than HDD, with better performance... including faster boot times, no noise or vibration, better durability, and reduced heat and power draws... SSD is definitely worth considering." Pinnacle will continue to offer both HDD and SSD options for UTC equipment running Palm POS. Of course we already have seen an increased interest in SSD equipped POS units and expect that trend to continue as SSD drives become more prevalent.

Pinnacle's recommendation is to consider the benefits of both options for your POS needs. There are clearly benefits to either choice. ©