



Internal SSD Buying Guide Quick Reference Handout

This handout gives you the essentials for selecting the right Internal SSD for your system, balancing storage capacity, speed, form factor, and price to fit your needs.

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1. Understanding SSD basics

SSDs (Solid State Drives) offer faster performance compared to traditional hard drives (HDDs). Here's a quick overview of key concepts:

- **Storage capacity:** SSDs range from 250GB to 4TB. For everyday tasks, 500GB-1TB may be enough, while gamers and professionals often need 1TB or more.
- **Form factor:** SSDs come in various physical sizes and connection types, including 2.5-inch, M.2, and PCIe. Compatibility with your system is key.
- **Speed:** SSDs are significantly faster than HDDs, reducing boot times and making systems more responsive.
- **Endurance:** Measured in TBW (Terabytes Written), endurance indicates how much data can be written before the drive starts wearing out. Higher TBW is better for heavy use.

2. Types of SSDs

Understanding the difference between internal and external SSDs helps in selecting the right one for your needs.

- **Internal SSDs:** Installed inside your PC, internal SSDs offer faster speeds by connecting directly to the motherboard. They are ideal for improving your system's overall performance.



- **External SSDs:** Portable drives that connect via USB or Thunderbolt. They are perfect for expanding storage or transferring data between devices, though they are generally slower than internal SSDs.
- **PS5-compatible SSDs:** If you're upgrading PlayStation 5 storage, you'll need a PCIe Gen 4 NVMe SSD with read speeds of at least 5,500 MB/s for smooth gaming performance.

3. SSD speeds and interfaces

Different SSD types offer various speed levels based on their interface. Here's what to consider:

- **SATA SSDs:** These use the SATA interface with speeds up to 600MB/s. They are great for general use and upgrading older systems.
- **NVMe SSDs:** With speeds up to 3,500MB/s, NVMe SSDs use the PCIe interface and are ideal for gaming and video editing.
- **PCIe SSDs:** The fastest option, PCIe SSDs can reach speeds of up to 7,000MB/s, making them the best choice for high-performance tasks like 3D rendering or professional workloads.

4. Best SSDs for different uses

Different users require different types of SSDs. Here's a breakdown:

- **Gamers:** Opt for NVMe SSDs with at least 1TB of storage to handle large games and reduce load times.
- **Professionals:** If you work with large files, a PCIe SSD with 2TB or more is ideal for fast data access.
- **Casual users:** A SATA SSD with 500GB-1TB is enough for everyday tasks like browsing the web or storing documents.
- **Portable storage:** **External SSDs** are great for transferring large files between devices. They offer portability with solid speed for on-the-go use.

5. Choosing the right SSD

To ensure you're picking the best SSD for your needs, consider the following factors:

- **Storage capacity:** Choose 500GB-1TB for casual users, 1TB-2TB for gamers, and 2TB+ for professionals.



- **Form factor:** Check your system's compatibility with 2.5-inch, M.2, or PCIe SSDs.
- **Speed:** SATA SSDs are sufficient for everyday use, but if you need faster data transfer, go for NVMe or PCIe.
- **Price:** Match your budget to the required performance. SATA SSDs are affordable, while NVMe and PCIe models come at a premium for higher speeds.

6. Future-proofing your SSD purchase

Planning ahead can save you from costly upgrades later so here's what to keep in mind:

- **Upgrade-ready:** Choose a higher-capacity SSD to avoid running out of space as games and media files grow larger.
- **Endurance:** Look for higher TBW ratings if your system undergoes heavy use or large file transfers.
- **Warranties:** Longer warranties indicate better durability, so choose an SSD with a robust warranty.

Pro tip: Consider adding an external SSD for backup storage to complement your internal drive.