

MBR (Master Boot Record) and GPT (GUID Partition Table) are two different methods of organizing data on a hard drive or SSD, with GPT being the more modern standard. GPT supports larger volumes, handles more partitions, and offers better reliability than MBR.

MBR (Master Boot Record):

- **Legacy Standard:** MBR is the older partitioning scheme, used since the DOS era.
- **Disk Size Limit:** MBR is limited to 2 TB (2.19 TB) of usable disk space.
- **Partition Limit:** MBR can only support four primary partitions, requiring extended partitions for more than four.
- **Compatibility:** MBR is generally compatible with most operating systems.
- **Legacy BIOS:** MBR is typically used with Legacy BIOS systems.
- **No Error Detection:** MBR doesn't have built-in error detection mechanisms.

GPT (GUID Partition Table):

- **Modern Standard:** GPT is the newer, more advanced partitioning scheme.
- **No Disk Size Limit:** GPT supports larger volumes, including disks larger than 2 TB.
- **More Partitions:** GPT can support up to 128 partitions on Windows.
- **UEFI:** GPT is used with UEFI (Unified Extensible Firmware Interface) systems.
- **Error Detection:** GPT has built-in mechanisms for error detection and recovery.
- **Redundancy:** GPT includes a backup partition table for redundancy.

Key Differences:

| Feature | MBR | GPT |
|------------|---------------------------------|---------------------------------------|
| Disk Size | Limited to 2 TB | No size limit, supports large volumes |
| Partitions | Limited to 4 primary partitions | Supports up to 128 partitions |
| Boot Mode | Legacy BIOS | UEFI |

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| Reliability | Less reliable, no error detection | More reliable, error detection and recovery |
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