hdparm

hdparm   .
        hdparm --direct -t -T /dev/sdX   .   .

  - --direct   O_DIRECT
  - -T   (--direct   )
  - -t   .
  - /dev/sdX SSD   HDD   .

```
# Samsung SSD 750 EVO 500GB (S36SNWAH582670L)
# hdparm  --direct -t -T /dev/sde

/dev/sde:
 Timing O_DIRECT cached reads:   984 MB in  2.00 seconds = 491.87 MB/sec
 Timing O_DIRECT disk reads: 1470 MB in  3.00 seconds = 489.76 MB/sec
```

dd

                                    dd   .
convert and copy a file   . dd
              .   .
              .

  - if= : /dev/zero   /dev/random
  - of= : test.file
  - bs= :   .   . k, M, G
              .
  - count= :   . bs=2M count=10   2MB*10 = 20MB
        .
  - oflag=dsync : dsync(I/O   ).

```
# dd if=/dev/zero of=test.file bs=64M count=16 oflag=dsync
16+0 records in
16+0 records out
1073741824 bytes (1.1 GB, 1.0 GiB) copied, 4.45435 s, 241 MB/s
```

  - [dd man pages](#)

  - https://linuxreviews.org/HOWTO_Test_Disk_I/O_Performance