Using SCSIBench

Use the Adaptec **SCSIBench** utility to measure how fast your host adapter transfers data from the SCSI devices in your computer system. **SCSIBench** does this by <u>reading blocks of data</u> from your SCSI disk drives and other data storage devices and measuring the speed of the data transfer. SCSI hard drives, SCSI removable hard drives, SCSI magneto optical (MO) drives, and SCSI CD-ROM drives can be included in the benchmark test.

Follow these steps to use **SCSIBench**:

1. Select one or more SCSI devices from the list by clicking on them.

2. Select a <u>Transfer Size</u> and a <u>Transfer Type</u>.

3. Click the **Start** button.

Each selected device appears as a colored bar in the bar graph at the top of the **SCSIBench** window. The length of each bar and the number to the right of it show the data transfer rate in Kilobytes (KB) per second. The scale of the graph changes as needed to best show the range of data transfer rates for your devices. The bars remain visible when you stop the test.

The "Total Throughput" number below the graph is the total data transfer speed (in Kilobytes) for *all* selected devices.

You can add or delete SCSI devices while **SCSIBench** is running by clicking on their names. You can also change the Transfer Size and Transfer Type while **SCSIBench** is running.

If you minimize **SCSIBench** the icon continues to display the total throughput number while you do other tasks in Windows.

Related Topics:

<u>SCSIBench Tips</u>
<u>Questions and Answers</u>

Transfer Size

This is the size of the data blocks, in Kilobytes, that **SCSIBench** transfers to test the data throughput rate. You can select any size from 2 KB to 512 KB. You can change the transfer size while **SCSIBench** is running.

Transfer Type

You can select three kinds of data transfer:

Random I/O - transfer data blocks from random locations on the disk.

Sequential I/O - transfer data blocks from sequential locations on the disk.

Same Sector I/O - transfer the first data block from the disk to the data cache; from then on, read data from the cache. The speed of this transfer type depends on the size of the computer's data cache.

SCSIBench Tips

You can increase your host adapter's data transfer speed by enabling these features:

- Synchronous data transfer
- Fast SCSI
- Disconnect

Not all models of Adaptec host adapters support these features. See your host adapter documentation for more information.

Data transfer speed is faster if your host adapter supports bus mastering. Not all models of Adaptec host adapters support bus mastering.

Questions and Answers

Question: Why doesn't my SCSI tape drive appear in the list of supported devices?

Answer: **SCSIBench** does not support SCSI tape drives.   It supports only SCSI hard drives, SCSI removable hard drives, SCSI magneto optical (MO) drives, and SCSI CD-ROM drives.

Question: Why does **SCSIBench** fail when I select my CD-ROM drive?

Answer: You probably have an audio CD in the drive.   SCSIBench will only work with data CDs.

Question: Why does my computer slow down when **SCSIBench** is running?

Answer: Your SCSI host adapter probably does not support bus mastering. This means that the computer's microprocessor has to manage the data transfer and therefore has less resources for running programs, etc. **SCSIBench** operates somewhat differently on non-bus master computers in order to minimize the use of system resources.

Question: My disk drive's throughput slowly decreases the longer I run a Sequential I/O benchmark and then jumps back up again.   Is this normal?

Answer: Yes.   Most disk drives have different sustainable transfer rates depending on whether they are reading from inner or outer tracks.

Question: My disk drive has a data transfer rate of 4000 Kilobytes per second when I select 64 KB sequential reads.   Why does this rate drop significantly when I add my CD-ROM drive to the list of devices being benchmarked?

Answer: Many CD-ROM drives do not support synchronous data transfers, and some do not support SCSI disconnect.   This has the effect that the disk drive doesn't have as many opportunities to communicate with the SCSI host adapter because the host adapter is busy communicating with the CD-ROM drive.

Question: Does **SCSIBench** support my Wide SCSI peripheral?

Answer: Yes.

Question: How do I get **SCSIBench** to work under Windows NT?

Answer: **SCSIBench** is not supported under Windows NT.

Glossary of Terms

Bus mastering

A high-performance method of data transfer in which the host adapter's onboard processor manages the transfer of data directly to and from the computer's memory. The computer's microprocessor is not involved in the data transfer. This leaves the microprocessor free to run other programs or do other tasks.

Disconnect

The disconnect feature allows a SCSI device to temporarily disconnect from the SCSI bus while, for example, it is preparing to send a block of data. This allows other SCSI devices to use the bus during the disconnect time, instead of "tying up" the bus until the first device completes its task.

Fast SCSI

A SCSI data transmission standard that allows a transfer rate of up to 10,000 Kilobytes (10 Megabytes) per second on the SCSI bus. Fast Wide SCSI data transmission allows a transfer rate of up to 20,000 Kilobytes (20 Megabytes) per second.

Kilobyte

A measure of computer data storage. One kilobyte equals 1024 bytes. (A byte is the amount of storage needed to hold one character.)

Synchronous data transfer

A high-speed method of transferring data on the SCSI bus.

Wide SCSI

A SCSI feature that allows data to be transferred 16 bits or 32 bits at a time on the SCSI bus instead of 8 bits at a time. This feature allows much faster data transmission rates.

SCSIBench does not change or erase data during these data reads.