

NAME

siis - SiliconImage Serial ATA Host Controller driver

SYNOPSIS

To compile this driver into the kernel, place the following lines in your kernel configuration file:

```
device pci  
device scbus  
device siis
```

Alternatively, to load the driver as a module at boot time, place the following line in loader.conf(5):

```
siis_load="YES"
```

The following tunables are settable from the loader(8):

hint.siis.X.msi

controls Message Signaled Interrupts (MSI) usage by the specified controller.

hint.siisch.X.pm_level

controls SATA interface Power Management for the specified channel, allowing some power to be saved at the cost of additional command latency. Possible values:

- 0 interface Power Management is disabled (default);
- 1 device is allowed to initiate PM state change, host is passive.

Note that interface Power Management is not compatible with device presence detection. A manual bus reset is needed on device hot-plug.

hint.siisch.X.sata_rev

setting to nonzero value limits maximum SATA revision (speed). Values 1, 2 and 3 are respectively 1.5, 3 and 6Gbps.

DESCRIPTION

This driver provides the CAM(4) subsystem with native access to the SATA ports of controller. Each SATA port is represented to CAM as a separate bus with 16 targets. Most of the bus-management details are handled by the SATA-specific transport of CAM. Connected ATA disks are handled by the ATA protocol disk peripheral driver *ada*(4). ATAPI devices are handled by the SCSI protocol peripheral drivers *cd*(4), *da*(4), *sa*(4), etc.

Driver features include support for Serial ATA and ATAPI devices, Port Multipliers (including FIS-based switching), hardware command queues (31 command per port), Native Command Queuing, SATA interface Power Management, device hot-plug and Message Signaled Interrupts.

The activity LEDs of the adapters supported by the **siis** driver can be controlled via the **led(4)** API for localization or status reporting purposes.

HARDWARE

The **siis** driver supports the following controller chips:

- ⌚ SiI3124 (PCI-X 133MHz/64bit, 4 ports)
- ⌚ SiI3131 (PCIe 1.0 x1, 1 port)
- ⌚ SiI3132 (PCIe 1.0 x1, 2 ports)
- ⌚ SiI3531 (PCIe 1.0 x1, 1 port)

FILES

*/dev/led/siisch** identification LED device nodes

SEE ALSO

ada(4), **ata(4)**, **cam(4)**, **cd(4)**, **da(4)**, **led(4)**, **sa(4)**

HISTORY

The **siis** driver first appeared in FreeBSD 8.0.

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