

**NAME**

**pchtherm** - Intel PCH thermal subsystem

**SYNOPSIS**

**device pci**  
**device pchtherm**

**DESCRIPTION**

The **pchtherm** driver provides access to sensor data and configuration installed in Intel PCH chipset. **pchtherm** configuration register.

The access to **pchtherm** data is made via the `sysctl(8)` interface:

```
dev.pchtherm.0.ctt: 115.0C
dev.pchtherm.0.temperature: 28.5C
dev.pchtherm.0.t2temp: 91.0C
dev.pchtherm.0.t1temp: 86.0C
dev.pchtherm.0.t0temp: 81.0C
dev.pchtherm.0.tahv: 83.0C
dev.pchtherm.0.talv: 30.0C
dev.pchtherm.0.pmtime: 32
dev.pchtherm.0.pmtemp: 50.0C
dev.pchtherm.0.%parent: pci0
dev.pchtherm.0.%pnpinfo: vendor=0x8086 device=0x9d31 subvendor=0x17aa subdevice=0x2256 class=0x118000
dev.pchtherm.0.%location: slot=20 function=2 dbsf=pci0:0:20:2
dev.pchtherm.0.%driver: pchtherm
dev.pchtherm.0.%desc: Skylake PCH Thermal Subsystem
dev.pchtherm.%parent:
```

*dev.pchtherm.%d.temperature* Is the read-only value of the current temperature read by the sensor.

*dev.pchtherm.%d.ctt* When the system reaches this temperature, it will shut down. This will not appear when this feature is disabled and locked down.

*dev.pchtherm.%d.t0temp* When temperature is under this value, system will be in T0 state.

*dev.pchtherm.%d.t1temp* When temperature is over *t0temp* and under this value, system will be in T1 state.

*dev.pchtherm.%d.t2temp* When temperature is over *t1temp* and under this value, system will be

in T2 state. Over this value, system will be in T3 state.

*dev.pchtherm.%d.talv*

Lower alert value. This will not appear when sensor enable bit is locked down and the value is zero(which will show -50.0C).

*dev.pchtherm.%d.tahv*

High alert value. This will not appear when sensor enable bit is locked down and the value is zero(which will show -50.0C).

*dev.pchtherm.%d.pmtemp*

Sensor Power management temperature. Under this temperature, sensor will idle during *pmtime* second.

*dev.pchtherm.%d.pmtime*

Sensor idle duration when low temperature.

*dev.pchtherm.%d.pch\_hot\_level*

When temperature is higher than this value, PCHHOT# pin will assert. This value is not appear when this feature is disabled and locked down.

Please check the PCH datasheets for more details.

## CAVEATS

All values are read-only. And it do not support event interrupt for now.

## SEE ALSO

sysctl(8)

## HISTORY

The **pchtherm** driver first appeared in FreeBSD 13.0.

## AUTHORS

The **pchtherm** driver and this manual page were written by Takanori Watanabe <takawata@FreeBSD.org>.