

Kernel driver asb100

Supported Chips:

- Asus ASB100 and ASB100-A "Bach"

Prefix: 'asb100'

Addresses scanned: I2C 0x2d

Datasheet: none released

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Description

This driver implements support for the Asus ASB100 and ASB100-A "Bach". These are custom ASICs available only on Asus mainboards. Asus refuses to supply a datasheet for these chips. Thanks go to many people who helped investigate their hardware, including:

Vitaly V. Bursov Alexander van Kaam (author of MBM for Windows) Bertrik Sikken

The ASB100 implements seven voltage sensors, three fan rotation speed sensors, four temperature sensors, VID lines and alarms. In addition to these, the ASB100-A also implements a single PWM controller for fans 2 and 3 (i.e. one setting controls both.) If you have a plain ASB100, the PWM controller will simply not work (or maybe it will for you... it doesn't for me).

Temperatures are measured and reported in degrees Celsius.

Fan speeds are reported in RPM (rotations per minute). An alarm is triggered if the rotation speed has dropped below a programmable limit.

Voltage sensors (also known as IN sensors) report values in volts.

The VID lines encode the core voltage value: the voltage level your processor should work with. This is hardcoded by the mainboard and/or processor itself. It is a value in volts.

Alarms: (TODO question marks indicate may or may not work)

- 0x0001 => in0 (?)
- 0x0002 => in1 (?)
- 0x0004 => in2
- 0x0008 => in3
- 0x0010 => temp1 [1]
- 0x0020 => temp2
- 0x0040 => fan1
- 0x0080 => fan2
- 0x0100 => in4
- 0x0200 => in5 (?) [2]
- 0x0400 => in6 (?) [2]
- 0x0800 => fan3
- 0x1000 => chassis switch
- 0x2000 => temp3

[1] This alarm will only trigger if the hysteresis value is 127C. I.e. it behaves the same as w83781d.

[2] (1,2) The min and max registers for these values appear to be read-only or otherwise stuck at 0x00.

TODO:

- Experiment with fan divisors > 8.
- Experiment with temp. sensor types.
- Are there really 13 voltage inputs? Probably not...
- Cleanups, no doubt...