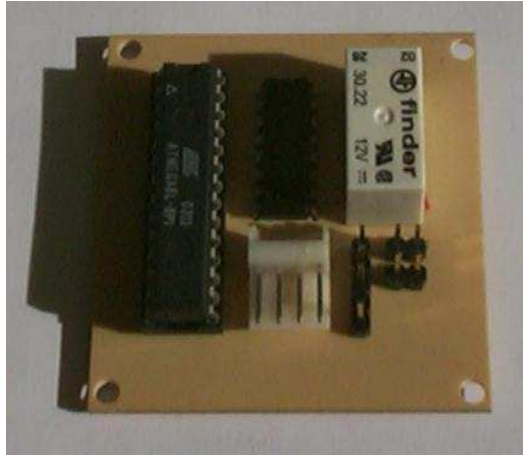


Usage Guide

SMBus Watchdog Timer B-WD01



\$Rev: 921 \$

\$Date: 2004-01-04 06:21:45 +0100 (Sun, 04 Jan 2004) \$

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1 Installing

The B-WD01 needs 12V through the power supply connector using the usual PC style pinout.

Additionally you need to connect the SMBus connector to your system board. The pinout is the following:

1	SMBCLK
2	not existent
3	Ground
4	SMBDATA
5	+ Voltage

The delivered cable is an 1:1 type.

Check carefully the pinout of your system board before connecting. Some system boards may have an additional pin which you can ignore. You can connect the B-WD01 to a system using 5V IO voltage as well as systems using 3V or 3.3V. Additionally the B-WD01 has 2 reset connectors with 2 pins each. The connectors are identical and intended to hold the reset line to your system board as well as to your case switch. Put the case switch on one and use the delivered 2 wire cable to connect the other with your system board reset connector.

The B-WD01 uses the address 41 on the SMBus. Some system boards may already use this address for onboard or other additional components. We can deliver boards with different addresses in that case.

2 Using the FreeBSD client

Unpacking and installing the source distribution:

```
# tar -xvzf watchdog-FreeBSD.tar.gz
# cd watchdog
# make
# make install
```

The commands below assume that your bus is named `/dev/smb0` and the device has the standard address 41 (0x29).

First you should test the communication with the B-WD01 by issuing the `get_rev` command.

```
# watchdog /dev/smb0 41 get_rev
```

You should get the revision printed on the screen.

Then you could activate the watchdog timer.

```
# watchdog /dev/smb0 41 set_timer 300
```

```
# watchdog /dev/smb0 41 activate
```

This sets the watchdog timer to 300 seconds and activates the timer. A timer value of 0 will disable the timer. The 300 seconds are counted down to zero. The timer should be reset regularly by the flush command before the counter reached zero.

```
# watchdog /dev/smb0 41 flush
```

Now the timer is set back to 300 seconds.

You can check the current counter value regularly with the status command.

```
# watchdog /dev/smb0 41 status
```

A stopped counter will always return the value 0.

In case you are worried that your system may hang during boot before reactivating the watchdog again you can setup the reboot timer. The following command will set the reboot timer to 30 minutes.

```
# watchdog /dev/smb0 41 set_reboot_timer 1800
```

If the watchdog resets the system and the timer is not reactivated in the reboot time a new reset will happen. Be carefull to set this value not to low to give the system enough time for reboot.

3 SMBus commands

Everything is done by using the SMBus standard access technology.

⇒ <http://www.smbus.org>

The following commands are declared:

Command	Type	Argument	Result
WD_SET_TIMER (0x21)	writew	time in seconds	-
WD_SET_REBOOT_TIMER (0x22)	writew	time in seconds	-
WD_FLUSH (0x23)	writew	ignored	-
WD_ACTIVATE (0x24)	writew	ignored	-
WD_STATUS (0x25)	readw	-	counter in seconds
WD_GET_REV (0x26)	readw	-	revision

The commands are identic to the commands used by the FreeBSD client software.

WD_GET_REV returns the major revision in the high byte and the minor revision in the low byte coded as binary decimal.

4 Technical Specification

SMBus rate	0kbit/s - 400kbit/s
SMBus address	41 (0x29)
Operating Voltage	3.0V - 5V CPU 12V relais
Timerrange	1s - 30,000s
Resetpulse	1s

Technical specifications may change at any time.

5 Contact

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