

**NAME**

**owc** - Dallas Semiconductor 1-Wire Controller

**SYNOPSIS**

**device** **owc**

**DESCRIPTION**

The **owc** module implements Dallas Semiconductor 1-Wire signaling. It attaches the ow(4) driver 1-Wire bus protocol. The **owc** device implements the Link Layer of the 1-Wire bus protocol stack.

Bit banging a pin on a gpiobus(4) is the only supported controller. Both standard and overdrive transfer timings are implemented. Strong pull-up functionality needed to support parasitic mode is not implemented.

To enable 1-Wire for FDT systems requires modifying the DTS for your board to add something like:

```
/ {
    ...
    onewire {
        compatible = "w1-gpio";
        gpios = <&gpio 4 1>;
    };
    ...
};
```

The gpios property describes the GPIO pin the 1-Wire bus is connected to. For more details about the gpios property, please consult */usr/src/sys/dts/bindings-gpio.txt*.

On a device.hints(5) based system these values are required for the **owc**:

*hint.owc.%d.at*      The **gpiobus** you are attaching to.

*hint.owc.%d.pins*    This is a bitmask that defines a pin on the **gpiobus** that is to be used for the 1-Wire bus. For instance, to configure pin 10, use the bitmask of 0x400. Please note that this mask should have only one bit set (any other bits - i.e., pins - will be ignored).

**SEE ALSO**

gpiobus(4), ow(4), ow\_temp(4), owll(9), own(9)

**LEGAL**

1-Wire is a registered trademark of Maxim Integrated Products, Inc.

## **HISTORY**

The **owc** driver first appeared in FreeBSD 11.0.

## **AUTHORS**

The **owc** device driver and this manual page were written by Warner Losh.

## **CAVEATS**

The **gpio** driver implements timing by busy waiting, which can cause a high load on slower systems.

## **BUGS**

Overdrive mode has not actually been tested.