## NAME

**gpioled** - GPIO LED generic device driver

## SYNOPSIS

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

**device gpio**
**device gpioled**

## DESCRIPTION

The **gpioled** driver provides glue to attach a led(4) compatible device to a GPIO pin. Each LED in the system has a *name* which is used to export a device as */dev/led/<name>*. The GPIO pin can then be controlled by writing to this device as described in led(4).

On a device.hints(5) based system, like MIPS, these values are configurable for **gpioled**:

*hint.gpioled.%d.at* The gpiobus you are attaching to. Normally assigned to gpiobus0.

*hint.gpioled.%d.name* Arbitrary name of device in */dev/led/* to create for led(4).

*hint.gpioled.%d.pins* Which pin on the GPIO interface to map to this instance. Please note that this mask should only ever have one bit set (any other bits - i.e., pins - will be ignored).

*hint.gpioled.%d.invert* If set to 1, the pin will be set to 0 to light the LED, and 1 to clear it.

*hint.gpioled.%d.state* The initial state of the LED when the driver takes control over it. If set to 1 or 0, the LED will be on or off correspondingly. If set to -1, the LED will be kept in its original state.

On a FDT(4) based system, like ARM, the DTS part for a **gpioled** device usually looks like:

```
gpio: gpio {

        gpio-controller;
        ...

        led0 {
                compatible = "gpioled";
                gpios = <&gpio 16 2 0>;                 /* GPIO pin 16. */
```

```
                name = "ok";
        };

        led1 {
                compatible = "gpioled";
                gpios = <&gpio 17 2 0>;                 /* GPIO pin 17. */
                name = "user-led1";
        };
};
```

Optionally, you can choose to combine all the LEDs under a single "gpio-leds" compatible node:

```
simplebus0 {

        ...

        leds {
                compatible = "gpio-leds";

                led0 {
                        gpios = <&gpio 16 2 0>;
                        name = "ok"
                };

                led1 {
                        gpios = <&gpio 17 2 0>;
                        name = "user-led1"
                };
        };
};
```

Both methods are equally supported and it is possible to have the LEDs defined with any sort of mix between the methods. The only restriction is that a GPIO pin cannot be mapped by two different (gpio)leds.

For more details about the *gpios* property, please consult */usr/src/sys/dts/bindings-gpio.txt*.

The property *name* is the arbitrary name of the device in */dev/led/* to create for led(4).

## SEE ALSO

fdt(4), gpio(4), gpioiic(4), led(4)

## HISTORY

The **gpioled** manual page first appeared in FreeBSD 10.1.

## AUTHORS

This manual page was written by Luiz Otavio O Souza.