

**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), gpioid(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.