

mbed-lib

1.0

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Chapter 1

Module Index

1.1 Modules

Here is a list of all modules:

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Chapter 2

File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

mbed.h	17
mbed_can.h	??
mbed_gpio.h	??
mbed_led.h	??
mbed_musb.h	??
mbed_serial.h	??
mbed_timer.h	??

Chapter 3

Module Documentation

3.1 Initialization flags

Defines

- #define [INIT_LED](#) (1 << 1)
- #define [INIT_MUSB](#) (1 << 2)
- #define [INIT_SERIAL0](#) (1 << 3)
- #define [INIT_SERIAL1](#) (1 << 4)
- #define [INIT_SERIAL2](#) (1 << 5)
- #define [INIT_CAN0](#) (1 << 6)
- #define [INIT_CAN1](#) (1 << 7)
- #define [INIT_TIMER0](#) (1 << 8)
- #define [INIT_TIMER1](#) (1 << 9)
- #define [INIT_TIMER2](#) (1 << 10)
- #define [INIT_TIMER3](#) (1 << 11)
- #define [INIT_GPI](#) (1 << 12)
- #define [INIT_GPO](#) (1 << 13)

3.1.1 Detailed Description

These flags indicate which functionality should be initialized.

See also

[initSys\(\)](#)

3.1.2 Define Documentation

3.1.2.1 #define INIT_CAN0 (1 << 6)

CAN on DIP 9/10 (CAN1).

3.1.2.2 #define INIT_CAN1 (1 << 7)

CAN on DIP 29/30 (CAN2).

3.1.2.3 #define INIT_GPI (1 << 12)

Initialize general purpose input ports.

3.1.2.4 #define INIT_GPO (1 << 13)

Initialize general purpose output ports.

3.1.2.5 #define INIT_LED (1 << 1)

Initialize the four blue LEDs.

3.1.2.6 #define INIT_MUSB (1 << 2)

Serial on mini USB-B port (UART0).

3.1.2.7 #define INIT_SERIAL0 (1 << 3)

Serial on DIP 13/14 (UART1).

3.1.2.8 #define INIT_SERIAL1 (1 << 4)

Serial on DIP 27/28 (UART2).

3.1.2.9 #define INIT_SERIAL2 (1 << 5)

Serial on DIP 9/10 (UART3).

3.1.2.10 #define INIT_TIMER0 (1 << 8)

Initialize TIMER0.

3.1.2.11 #define INIT_TIMER1 (1 << 9)

Initialize TIMER1.

3.1.2.12 #define INIT_TIMER2 (1 << 10)

Initialize TIMER2.

3.1.2.13 #define INIT_TIMER3 (1 << 11)

Initialize TIMER3.

3.2 Status flags

Defines

- `#define MBED_SYS_INIT (1 << 0)`
- `#define MBED_LED_INIT (1 << 1)`
- `#define MBED_MUSB_INIT (1 << 2)`
- `#define MBED_SERIAL0_INIT (1 << 3)`
- `#define MBED_SERIAL1_INIT (1 << 4)`
- `#define MBED_SERIAL2_INIT (1 << 5)`
- `#define MBED_CAN0_INIT (1 << 6)`
- `#define MBED_CAN1_INIT (1 << 7)`
- `#define MBED_TIMER0_INIT (1 << 8)`
- `#define MBED_TIMER1_INIT (1 << 9)`
- `#define MBED_TIMER2_INIT (1 << 10)`
- `#define MBED_TIMER3_INIT (1 << 11)`
- `#define MBED_GPI_INIT (1 << 12)`
- `#define MBED_GPO_INIT (1 << 13)`

3.2.1 Detailed Description

These flags indicate which functionality has been successfully initialized.

3.2.2 Define Documentation

3.2.2.1 `#define MBED_CAN0_INIT (1 << 6)`

CAN1 initialized.

3.2.2.2 `#define MBED_CAN1_INIT (1 << 7)`

CAN2 initialized.

3.2.2.3 `#define MBED_GPI_INIT (1 << 12)`

General purpose inputs initialized.

3.2.2.4 `#define MBED_GPO_INIT (1 << 13)`

General purpose outputs initialized.

3.2.2.5 `#define MBED_LED_INIT (1 << 1)`

The four LEDs are initialized.

3.2.2.6 #define MBED_MUSB_INIT (1 << 2)

Serial communication functionality on the mini USB-B port initialized.

3.2.2.7 #define MBED_SERIAL0_INIT (1 << 3)

UART1 initialized.

3.2.2.8 #define MBED_SERIAL1_INIT (1 << 4)

UART2 initialized.

3.2.2.9 #define MBED_SERIAL2_INIT (1 << 5)

UART3 initialized.

3.2.2.10 #define MBED_SYS_INIT (1 << 0)

System initialization complete.

3.2.2.11 #define MBED_TIMER0_INIT (1 << 8)

TIMER0 initialized.

3.2.2.12 #define MBED_TIMER1_INIT (1 << 9)

TIMER1 initialized.

3.2.2.13 #define MBED_TIMER2_INIT (1 << 10)

TIMER2 initialized.

3.2.2.14 #define MBED_TIMER3_INIT (1 << 11)

TIMER3 initialized.

3.3 General purpose I/O pins

Defines

- `#define MBED_GPIOX (1 << 0)`
- `#define MBED_GPIO5 (1 << 1)`
- `#define MBED_GPIO6 (1 << 2)`
- `#define MBED_GPIO7 (1 << 3)`
- `#define MBED_GPIO8 (1 << 4)`
- `#define MBED_GPIO9 (1 << 5)`
- `#define MBED_GPIO10 (1 << 6)`
- `#define MBED_GPIO11 (1 << 7)`
- `#define MBED_GPIO12 (1 << 8)`
- `#define MBED_GPIO13 (1 << 9)`
- `#define MBED_GPIO14 (1 << 10)`
- `#define MBED_GPIO15 (1 << 11)`
- `#define MBED_GPIO16 (1 << 12)`
- `#define MBED_GPIO17 (1 << 13)`
- `#define MBED_GPIO18 (1 << 14)`
- `#define MBED_GPIO19 (1 << 15)`
- `#define MBED_GPIO20 (1 << 16)`
- `#define MBED_GPIO21 (1 << 17)`
- `#define MBED_GPIO22 (1 << 18)`
- `#define MBED_GPIO23 (1 << 19)`
- `#define MBED_GPIO24 (1 << 20)`
- `#define MBED_GPIO25 (1 << 21)`
- `#define MBED_GPIO26 (1 << 22)`
- `#define MBED_GPIO27 (1 << 23)`
- `#define MBED_GPIO28 (1 << 24)`
- `#define MBED_GPIO29 (1 << 25)`
- `#define MBED_GPIO30 (1 << 26)`

3.3.1 Detailed Description

Enumeration of general purpose I/O pins.

3.3.2 Define Documentation

3.3.2.1 `#define MBED_GPIO10 (1 << 6)`

DIP 10.

3.3.2.2 `#define MBED_GPIO11 (1 << 7)`

DIP 11.

3.3.2.3 `#define MBED_GPIO12 (1 << 8)`

DIP 12.

3.3.2.4 `#define MBED_GPIO13 (1 << 9)`

DIP 13.

3.3.2.5 `#define MBED_GPIO14 (1 << 10)`

DIP 14.

3.3.2.6 `#define MBED_GPIO15 (1 << 11)`

DIP 15.

3.3.2.7 `#define MBED_GPIO16 (1 << 12)`

DIP 16.

3.3.2.8 `#define MBED_GPIO17 (1 << 13)`

DIP 17.

3.3.2.9 `#define MBED_GPIO18 (1 << 14)`

DIP 18.

3.3.2.10 `#define MBED_GPIO19 (1 << 15)`

DIP 19.

3.3.2.11 `#define MBED_GPIO20 (1 << 16)`

DIP 20.

3.3.2.12 `#define MBED_GPIO21 (1 << 17)`

DIP 21.

3.3.2.13 `#define MBED_GPIO22 (1 << 18)`

DIP 22.

3.3.2.14 `#define MBED_GPIO23 (1 << 19)`

DIP 23.

3.3.2.15 `#define MBED_GPIO24 (1 << 20)`

DIP 24.

3.3.2.16 `#define MBED_GPIO25 (1 << 21)`

DIP 25.

3.3.2.17 `#define MBED_GPIO26 (1 << 22)`

DIP 26.

3.3.2.18 `#define MBED_GPIO27 (1 << 23)`

DIP 27.

3.3.2.19 `#define MBED_GPIO28 (1 << 24)`

DIP 28.

3.3.2.20 `#define MBED_GPIO29 (1 << 25)`

DIP 29.

3.3.2.21 `#define MBED_GPIO30 (1 << 26)`

DIP 30.

3.3.2.22 `#define MBED_GPIO5 (1 << 1)`

DIP 5.

3.3.2.23 `#define MBED_GPIO6 (1 << 2)`

DIP 6.

3.3.2.24 `#define MBED_GPIO7 (1 << 3)`

DIP 7.

3.3.2.25 `#define MBED_GPIO8 (1 << 4)`

DIP 8.

3.3.2.26 `#define MBED_GPIO9 (1 << 5)`

DIP 9.

3.3.2.27 `#define MBED_GPIOX (1 << 0)`

Not configured.

3.4 Port configuration

Defines

- `#define MBED_GPIO_P0` (MBED_GPIO5 | MBED_GPIO6 | MBED_GPIO7 | MBED_GPIO8 | MBED_GPIO9 | MBED_GPIO10 | MBED_GPIO11 | MBED_GPIO12 | MBED_GPIO13 | MBED_GPIO14 | MBED_GPIO15 | MBED_GPIO16 | MBED_GPIO17 | MBED_GPIO18 | MBED_GPIO27 | MBED_GPIO28 | MBED_GPIO29 | MBED_GPIO30)
- `#define MBED_GPIO_P1` (MBED_GPIO19 | MBED_GPIO20)
- `#define MBED_GPIO_P2` (MBED_GPIO21 | MBED_GPIO22 | MBED_GPIO23 | MBED_GPIO24 | MBED_GPIO25 | MBED_GPIO26)

3.4.1 Detailed Description

Configuration of GPIO pins on the different ports.

3.4.2 Define Documentation

3.4.2.1 `#define MBED_GPIO_P0` (MBED_GPIO5 | MBED_GPIO6 | MBED_GPIO7 | MBED_GPIO8 | MBED_GPIO9 | MBED_GPIO10 | MBED_GPIO11 | MBED_GPIO12 | MBED_GPIO13 | MBED_GPIO14 | MBED_GPIO15 | MBED_GPIO16 | MBED_GPIO17 | MBED_GPIO18 | MBED_GPIO27 | MBED_GPIO28 | MBED_GPIO29 | MBED_GPIO30)

GPIO on port 0.

3.4.2.2 `#define MBED_GPIO_P1` (MBED_GPIO19 | MBED_GPIO20)

GPIO on port 1.

3.4.2.3 `#define MBED_GPIO_P2` (MBED_GPIO21 | MBED_GPIO22 | MBED_GPIO23 | MBED_GPIO24 | MBED_GPIO25 | MBED_GPIO26)

GPIO on port 2.

3.5 Device IDs

Defines

- `#define MBED_SERIAL0 0`
- `#define MBED_SERIAL1 1`
- `#define MBED_SERIAL2 2`
- `#define MBED_CAN0 0`
- `#define MBED_CAN1 1`
- `#define MBED_TIMER0 0`
- `#define MBED_TIMER1 1`
- `#define MBED_TIMER2 2`
- `#define MBED_TIMER3 3`

3.5.1 Detailed Description

ID enumeration of various devices.

3.5.2 Define Documentation

3.5.2.1 `#define MBED_CAN0 0`

CAN1 on DIP 9/10.

3.5.2.2 `#define MBED_CAN1 1`

CAN2 on DIP 29/30.

3.5.2.3 `#define MBED_SERIAL0 0`

UART1 on DIP 13/14.

3.5.2.4 `#define MBED_SERIAL1 1`

UART2 on DIP 27/28.

3.5.2.5 `#define MBED_SERIAL2 2`

UART3 on DIP 9/10.

3.5.2.6 `#define MBED_TIMER0 0`

TIMER0.

3.5.2.7 `#define MBED_TIMER1 1`

TIMER1.

3.5.2.8 `#define MBED_TIMER2 2`

TIMER2.

3.5.2.9 `#define MBED_TIMER3 3`

TIMER3.

Chapter 4

File Documentation

4.1 mbed.h File Reference

```
#include "LPC17xx.h" #include "mbed_can.h" #include "mbed-  
_gpio.h" #include "mbed_led.h" #include "mbed_musb.h" ×  
#include "mbed_serial.h" #include "mbed_timer.h"
```

Defines

- #define MBED_H
- #define INIT_LED (1 << 1)
- #define INIT_MUSB (1 << 2)
- #define INIT_SERIAL0 (1 << 3)
- #define INIT_SERIAL1 (1 << 4)
- #define INIT_SERIAL2 (1 << 5)
- #define INIT_CAN0 (1 << 6)
- #define INIT_CAN1 (1 << 7)
- #define INIT_TIMER0 (1 << 8)
- #define INIT_TIMER1 (1 << 9)
- #define INIT_TIMER2 (1 << 10)
- #define INIT_TIMER3 (1 << 11)
- #define INIT_GPI (1 << 12)
- #define INIT_GPO (1 << 13)
- #define MBED_SYS_INIT (1 << 0)
- #define MBED_LED_INIT (1 << 1)
- #define MBED_MUSB_INIT (1 << 2)
- #define MBED_SERIAL0_INIT (1 << 3)
- #define MBED_SERIAL1_INIT (1 << 4)
- #define MBED_SERIAL2_INIT (1 << 5)
- #define MBED_CAN0_INIT (1 << 6)
- #define MBED_CAN1_INIT (1 << 7)

- #define MBED_TIMER0_INIT (1 << 8)
- #define MBED_TIMER1_INIT (1 << 9)
- #define MBED_TIMER2_INIT (1 << 10)
- #define MBED_TIMER3_INIT (1 << 11)
- #define MBED_GPI_INIT (1 << 12)
- #define MBED_GPO_INIT (1 << 13)
- #define MBED_GPIOX (1 << 0)
- #define MBED_GPIO5 (1 << 1)
- #define MBED_GPIO6 (1 << 2)
- #define MBED_GPIO7 (1 << 3)
- #define MBED_GPIO8 (1 << 4)
- #define MBED_GPIO9 (1 << 5)
- #define MBED_GPIO10 (1 << 6)
- #define MBED_GPIO11 (1 << 7)
- #define MBED_GPIO12 (1 << 8)
- #define MBED_GPIO13 (1 << 9)
- #define MBED_GPIO14 (1 << 10)
- #define MBED_GPIO15 (1 << 11)
- #define MBED_GPIO16 (1 << 12)
- #define MBED_GPIO17 (1 << 13)
- #define MBED_GPIO18 (1 << 14)
- #define MBED_GPIO19 (1 << 15)
- #define MBED_GPIO20 (1 << 16)
- #define MBED_GPIO21 (1 << 17)
- #define MBED_GPIO22 (1 << 18)
- #define MBED_GPIO23 (1 << 19)
- #define MBED_GPIO24 (1 << 20)
- #define MBED_GPIO25 (1 << 21)
- #define MBED_GPIO26 (1 << 22)
- #define MBED_GPIO27 (1 << 23)
- #define MBED_GPIO28 (1 << 24)
- #define MBED_GPIO29 (1 << 25)
- #define MBED_GPIO30 (1 << 26)
- #define MBED_GPIO_P0 (MBED_GPIO5 | MBED_GPIO6 | MBED_GPIO7 | MBED_GPIO8 | MBED_GPIO9 | MBED_GPIO10 | MBED_GPIO11 | MBED_GPIO12 | MBED_GPIO13 | MBED_GPIO14 | MBED_GPIO15 | MBED_GPIO16 | MBED_GPIO17 | MBED_GPIO18 | MBED_GPIO27 | MBED_GPIO28 | MBED_GPIO29 | MBED_GPIO30)
- #define MBED_GPIO_P1 (MBED_GPIO19 | MBED_GPIO20)
- #define MBED_GPIO_P2 (MBED_GPIO21 | MBED_GPIO22 | MBED_GPIO23 | MBED_GPIO24 | MBED_GPIO25 | MBED_GPIO26)
- #define MBED_SERIAL0 0
- #define MBED_SERIAL1 1
- #define MBED_SERIAL2 2
- #define MBED_CAN0 0
- #define MBED_CAN1 1
- #define MBED_TIMER0 0

- #define [MBED_TIMER1](#) 1
- #define [MBED_TIMER2](#) 2
- #define [MBED_TIMER3](#) 3

Functions

- void [initSys](#) (uint32_t)
System initialization function.

Variables

- uint32_t [mbedStatus](#)

4.1.1 Detailed Description

In this file are all necessary defines for the mbed platform. Also, all all header files are included here for convience, so that including this header file is sufficient.

4.1.2 Define Documentation

4.1.2.1 #define MBED_H

Header guard.

4.1.3 Function Documentation

4.1.3.1 void initSys (uint32_t flags)

System initialization function.

This function initializes the LPC1768 clock registers and any other functionality that is required.

See also

[Initalization flags](#)

4.1.4 Variable Documentation

4.1.4.1 uint32_t mbedStatus

Global status register.