

Erriez LCD Keypad Shield library for Arduino
1.1.0

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Chapter 1

Erriez LCD Keypad Shield library for Arduino

This is a LCD Keypad Shield library for Arduino which supports the following features:

- 2x16 LCD using `LiquidCrystal.h`.
- 5 pushbuttons connected to analog pin A0.
- Button debouncing.
- Backlight control (on/off).

Hardware

Any Arduino board, tested on Arduino UNO.

Pins

2x16 LCD pins	UNO/Leonardo/Mega2560
RS	8
EN	9
D0	4
D1	5
D2	6
D3	7
Backlight	10

Example

Arduion IDE | Examples | Erriez [LCDKeypadShield](#):

- [LCDKeypadShield](#)

Documentation

- [Online HTML](#)
- [Download PDF](#)

Usage

Initialization

```
{c++}  
#include <ErriezLCDKeypadShield.h>  
  
LCDKeypadShield shield;
```

Backlight control

Backlight on

```
{c++}  
shield.backlightOn();
```

Backlight off

```
{c++}  
shield.backlightOff();
```

Display control

All `LCDKeypadShield.h` functions can be used.

Clear display

```
{c++}  
shield.clear();
```

Set cursor

```
{c++}  
// First character first line  
shield.setCursor(0, 0);  
  
// First character second line  
shield.setCursor(0, 1);  
  
// Last character second line  
shield.setCursor(15, 1);
```

Print text

```
{c++}  
shield.print(F("Push the buttons"));
```

Button control

Get buttons

```
{c++}  
LCDButtons button = shield.getButtons();  
// Returned button enum:  
//   ButtonNone  
//   ButtonRight  
//   ButtonUp  
//   ButtonDown  
//   ButtonLeft  
//   ButtonSelect
```

Improve response

The resistors may be different for each board to read the analog key value. To improve response, experiment by updating the analogKey values in: `src\ErriezLCDKeypadShield.cpp`:

```
{c++}  
if (analogKey < 50) { /* <= Incread/decrease value 50 */  
    key = ButtonRight;  
} else if (analogKey < 200) { /* <= Incread/decrease value 200 */  
    key = ButtonUp;  
} else if (analogKey < 350) { /* <= Incread/decrease value 350 */  
    key = ButtonDown;  
} else if (analogKey < 500) { /* <= Incread/decrease value 500 */  
    key = ButtonLeft;  
} else if (analogKey < 750) { /* <= Incread/decrease value 750 */  
    key = ButtonSelect;  
} else {  
    key = ButtonNone;  
}
```

Library dependencies

- Arduino's build-in `LiquidCrystal` library.

Library installation

Please refer to the [Wiki](#) page.

Other Arduino Libraries and Sketches from Erriez

- [Erriez Libraries and Sketches](#)

Chapter 2

Hierarchical Index

2.1 Class Hierarchy

This inheritance list is sorted roughly, but not completely, alphabetically:

LiquidCrystal	
LCDKeypadShield	11

Chapter 3

Class Index

3.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

LCDKeypadShield	
LCD Keypad Shield class	11

Chapter 4

File Index

4.1 File List

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

src/ ErriezLCDKeypadShield.cpp	
LCD Keypad Shield library for Arduino	13
src/ ErriezLCDKeypadShield.h	
LCD Keypad Shield library for Arduino	14

Chapter 5

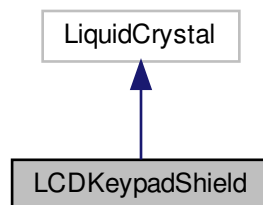
Class Documentation

5.1 LCDKeypadShield Class Reference

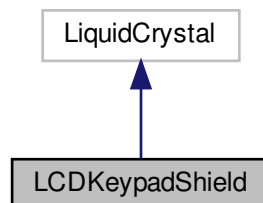
LCD Keypad Shield class.

```
#include <ErriezLCDKeypadShield.h>
```

Inheritance diagram for LCDKeypadShield:



Collaboration diagram for LCDKeypadShield:



Public Member Functions

- [LCDKeypadShield](#) ()
Constructor [LCDKeypadShield](#) class.
- [LCDButton](#) getButtons ()
Read buttons from one analog pin.
- void [backlightOn](#) ()
Turn backlight LED on.
- void [backlightOff](#) ()
Turn backlight LED off.

5.1.1 Detailed Description

LCD Keypad Shield class.

Definition at line 71 of file [ErriezLCDKeypadShield.h](#).

5.1.2 Constructor & Destructor Documentation

5.1.2.1 LCDKeypadShield()

```
LCDKeypadShield::LCDKeypadShield ( )
```

Constructor [LCDKeypadShield](#) class.

This initializes the built-in LiquidCrystal library in 4-bit mode:

- RS, EN, D0, D1, D2 and D3 pins

Definition at line 47 of file [ErriezLCDKeypadShield.cpp](#).

5.1.3 Member Function Documentation

5.1.3.1 getButtons()

```
LCDButton LCDKeypadShield::getButtons ( )
```

Read buttons from one analog pin.

Returns

LCDButton enum

Definition at line 66 of file [ErriezLCDKeypadShield.cpp](#).

The documentation for this class was generated from the following files:

- [src/ErriezLCDKeypadShield.h](#)
- [src/ErriezLCDKeypadShield.cpp](#)

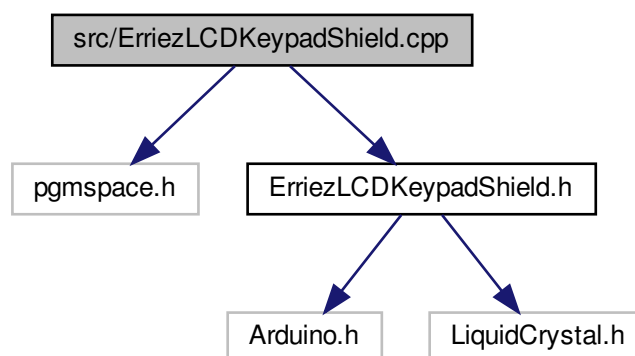
Chapter 6

File Documentation

6.1 src/ErriezLCDKeypadShield.cpp File Reference

LCD Keypad Shield library for Arduino.

```
#include <pgmspace.h>
#include "ErriezLCDKeypadShield.h"
Include dependency graph for ErriezLCDKeypadShield.cpp:
```



6.1.1 Detailed Description

LCD Keypad Shield library for Arduino.

Source: <https://github.com/Erriez/ErriezLCDKeypadShield> Documentation: <https://erriez.github.io/ErriezLCDKeypadShield>

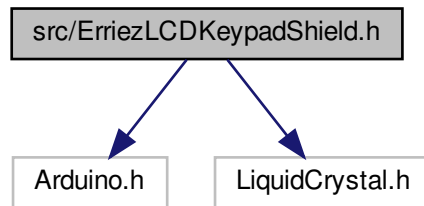
6.2 src/ErriezLCDKeypadShield.h File Reference

LCD Keypad Shield library for Arduino.

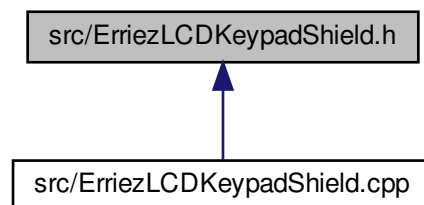
```
#include <Arduino.h>
```

```
#include <LiquidCrystal.h>
```

Include dependency graph for ErriezLCDKeypadShield.h:



This graph shows which files directly or indirectly include this file:



Classes

- class [LCDKeypadShield](#)
LCD Keypad Shield class.

Macros

- `#define` [LCD_PIN_RS](#) 8
LCD RS pin.
- `#define` [LCD_PIN_EN](#) 9
LCD EN pin.
- `#define` [LCD_PIN_D0](#) 4
LCD D0 pin.

- #define `LCD_PIN_D1` 5
LCD D1 pin.
- #define `LCD_PIN_D2` 6
LCD D2 pin.
- #define `LCD_PIN_D3` 7
LCD D3 pin.
- #define `LCD_BACK_LIGHT_PIN` 10
LCD backlight pin.

Enumerations

- enum `LCDButton` {
 ButtonNone = 0, **ButtonRight** = 1, **ButtonUp** = 2, **ButtonDown** = 3,
 ButtonLeft = 4, **ButtonSelect** = 5 }
LCD buttons.

6.2.1 Detailed Description

LCD Keypad Shield library for Arduino.

Source: <https://github.com/Erriez/ErriezLCDKeypadShield> Documentation: <https://erriez.github.io/ErriezLCDKeypadShield>

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