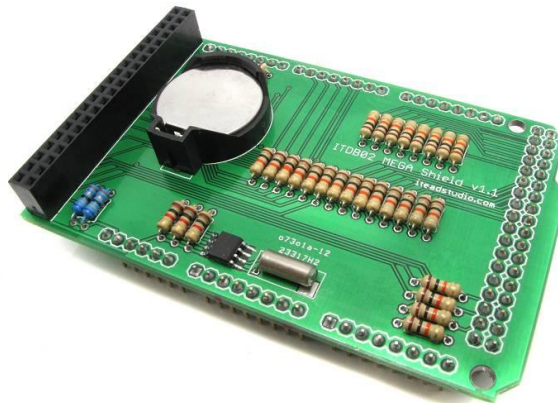


ITDB02 MEGA shield

The ITDB02 LCD module is work in 3.3V voltage level and it's not compatible with Arduino pins, so we make a shield for Arduino MEGA. Now user can directly plug the ITDB02 in the shield and stand on the Arduino MEGA board.



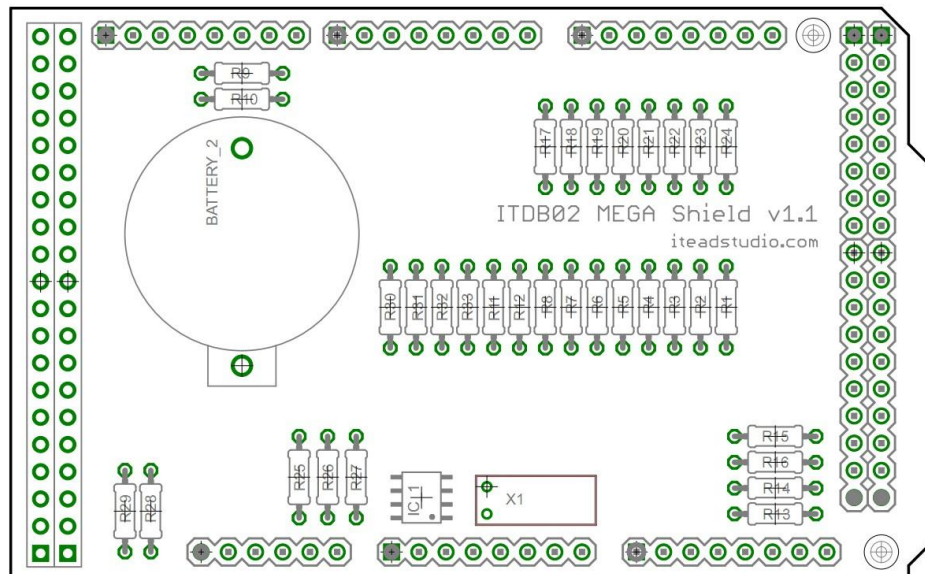
Overview

The ITDB02 MEGA shield V1.1 is on supports both 16 bit mode and 8 bit mode with ITDB02, you can use 2.4" or 3.2" with touch and SD card at the same time. There is a DS1307 on the board so this shield provides the RTC function.

Basic features

- Arduino MEGA compatible.
- RTC function expand
- Touch or SD card expand
- Arduino Library support

Hardware



Pin of Arduino	With ITDB02	
5V	VCC	
3V3	LED_A	RD
GND	GND	
D22(PA0)	DB8	-
D23(PA1)	DB9	-
D24(PA2)	DB10	-
D25(PA3)	DB11	-
D26(PA4)	DB12	-
D27(PA5)	DB13	-
D28(PA6)	DB14	-
D29(PA7)	DB15	-
D37(PC0)	DB0	-
D36(PC1)	DB1	-
D35(PC2)	DB2	-
D34(PC3)	DB3	-
D33(PC4)	DB4	-
D32(PC5)	DB5	-
D21(PC6)	DB6	-
D30(PC7)	DB7	-
D41(PG0)	RESET	-
D40(PG1)	CS	-
D39(PG2)	WR	-
D38(PD7)	RS	-

D50(PB3)	SD_OUT	-
D51(PB2)	SD_CLK	-
D52(PB1)	SD_IN	-
D53(PB0)	SD_CS	-
D6	D_CLK	-
D5	D_CS	-
D4	D_IN	-
D3	D_OUT	-
D2	D_IRQ	
D20	RTC_SDA	-
D21	RTC_SCL	-

Software



We will provide an Arduino library for you, you can download the latest library in the product page or in the Google code project page.

Library function intro:

`ITDB02(int D8, int D9, int D10, int D11, int D12, int D13, int D14, int D15, int RS, int WR, int CS, int RST)` Enumerating function, define a new class of ITDB02 and assign the pins for the object. Here you can define a LCD's pins out – then the library will work in 8 bit mode.

(For ITDB02 MEGA Shield v1.1, the setting is ITDB02 Lcd(37,36,35,34,33,32,31,30,22,23,24,25,26,27,28,29,38,39,40,41);)

`ITDB02(int D0, int D1, int D2, int D3, int D4, int D5, int D6, int D7, int D8, int D9, int D10, int D11, int D12, int D13, int D14, int D15, int RS, int WR, int CS, int RST)` Enumerating function, define a new class of ITDB02 and assign the pins for the object. Here you can define a LCD's pins out – then the library will work in 16 bit mode.

CleanLCD()

Clean the LCD , plan all the LCD with white color.

void Initial()

Used in setup() loop , for initial screen settings.

Pant(int sx, int sy, int ex, int ey, int col)

Fill a area with one color , using the sx , sy , ex , ey to set the color area , and the col is the color value.

SetColor(int FC,int BC)

Set the foreground color and background color . It's usually used before show char or string.

Dispshowchar(int x, int y, char val)

Show a char in the specified location.

Dispshowstr(int x,int y, char *st)

Show the string , x, y is the start position .

Drawdot(int x, int y)

Draw a 9 pixels dot in the LCD.

Touchpin(int tclk,int tcs,int tdin,int dout, int irq)

Assign pins for touch controller.Just can use when in 8 bit mode.

For ITDB02 MEGA Shield v1.1 the setting is lcd.Touchpin(6,5,4,3,2);

TouchInitial()

Start SPI.

TouchGetaddress()

Read the address from the touch controller register. The address will be put in the TP-X and TP-Y global variables.

TouchGetX()

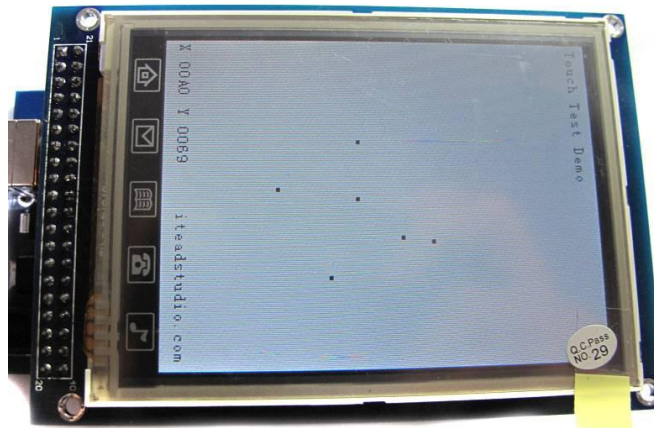
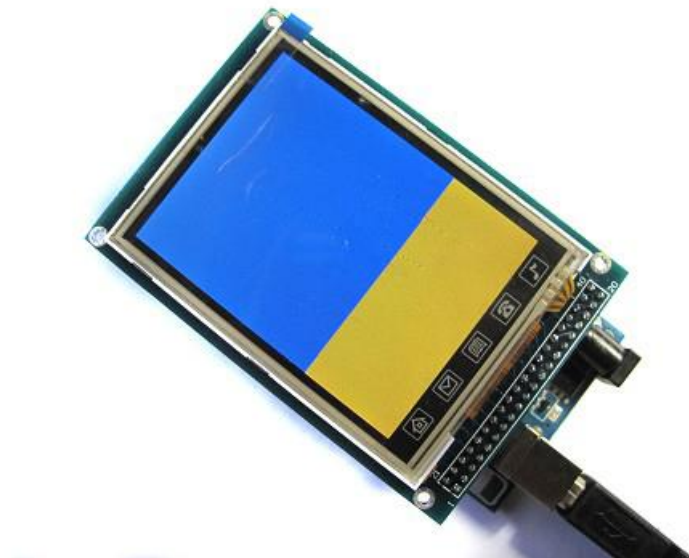
Change the TP-X to the coordinate in LCD.

TouchGetY()

Change the TP-Y to the coordinate in LCD.

TouchIRQ()

Determine whether there is touch interrupt.



There are 3 examples with the library, and they are compatible with ITDB02 shield V1.2, but you can modify the setting to make it compatible with ITDB02 MEGA Shield v1.1.

Links and References

- ITeard Studio Site: iteadstudio.com
- Google code project page: <http://code.google.com/p/itdb02>

Revision History

Rev.	Description	Release date
v1.0	Initial version	08/12/2010