UTFT

Arduino and chipKit Universal TFT display library

Requirements
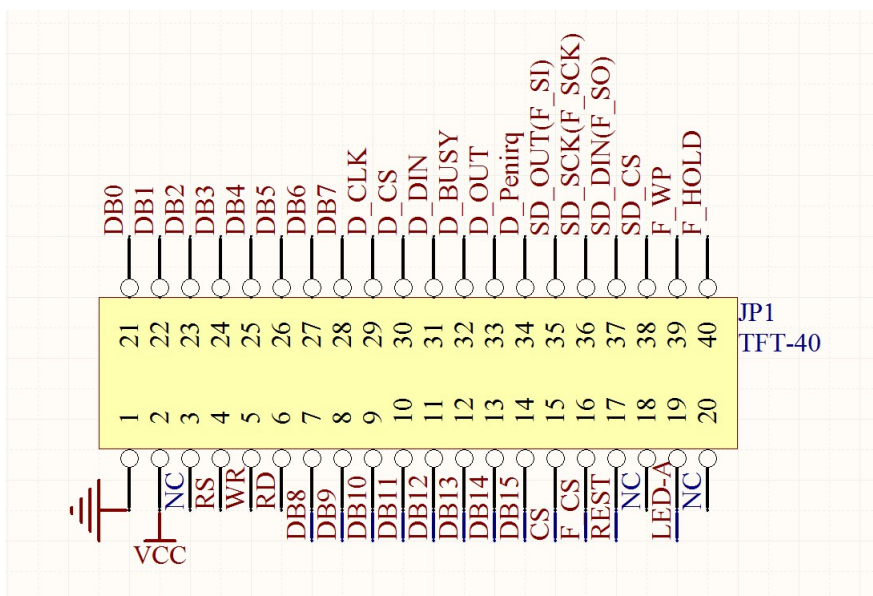
The library require the following connections for 8 bit and 16 bit[1] display modules (the serial display modules does not have any required pins):

Signal	TFT Module pin	Arduino		Bobuino	Teensy 3.x[2]	chipKit	
		2009/Uno/Leonardo	Mega/Due[3]			Uno32/uC32[4]	Max32[5]
DB0[6]	21	D8	D37	D8	D16	D3	D3
DB1[6]	22	D9	D36	D9	D17	D5	D5
DB2[6]	23	D10	D35	D10	D19	D6	D6
DB3[6]	24	D11	D34	D11	D18	D9	D9
DB4[6]	25	D12	D33	D12	D0	D10	D10
DB5[6]	26	D13	D32	D13	D1	D34	D39
DB6[6]	27	A0 (D14)	D31	A0 (D14)	D32	D36	D47
DB7[6]	28	A1 (D15)	D30	A1 (D15)	D25	D37	D77
DB8	7	D0	D22	D0	D2	D26	D37
DB9	8	D1	D23	D1	D14	D27	D36
DB10	9	D2	D24	D2	D7	D28	D35
DB11	10	D3	D25	D3	D8	D29	D34
DB12	11	D4	D26	D4	D6	D30	D33
DB13	12	D5	D27	D5	D20	D31	D32
DB14	13	D6	D28	D6	D21	D32	D31
DB15	14	D7	D29	D7	D5	D33	D30
RS	4	Any free pin					
WR	5	Any free pin					
RD	6	Must be pulled high (3.3v)					
CS	15	Any free pin					
REST	17	Any free pin					

Please note that these requirements are for the default shields. If you are using a shield that require a certain **#define** *to be activated the required pinout will change.*

Common TFT module pinout

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[1] 16 bit Latched has its own requirements. See the next page.

[2] The library has only been tested with Teensy 3.1

[3] Pin-out is slightly different when using the CTE TFT LCD/SD Shield for Arduino Due. Please see the "hardware/arm/HW_ARM_defines.h" file.

[4] To use a 16 bit display module with a chipKit Uno32/uC32 you **MUST** place the JP4 jumper in the PWM/RD4 position (jumper over the two pins closest to the USB connector)

[5] Pin-out is slightly different when using the AquaLEDSource shield. Please see the "hardware/pic32/HW_PIC32_defines.h" file.

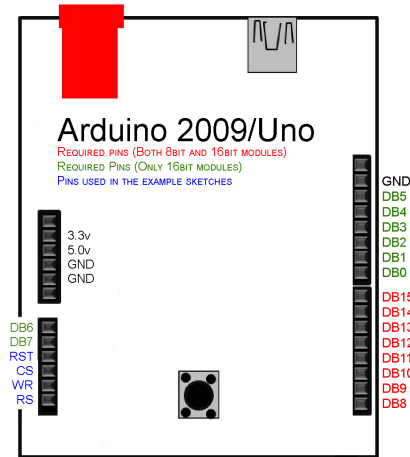[6] Connect DB0-DB7 to GND for 8bit display modules

The 16 bit latched display shield has its own requirements:

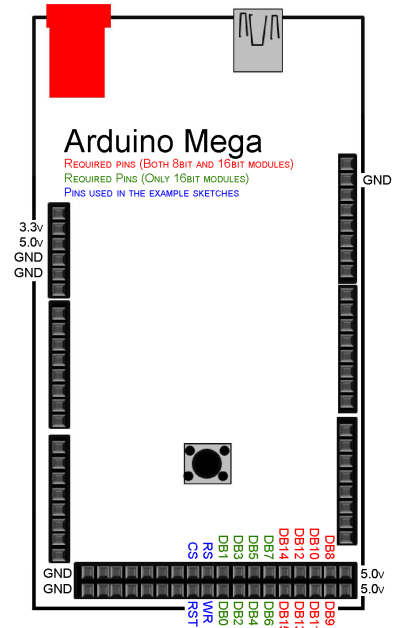| Signal	Shield pin	Arduino		Bobuino	Teensy 3.1	chipKit
		2009/Uno/Leonardo/Mega	Due			All types
DB0	D0	D0	Unsupported	D0	Unsupported	Unsupported
DB1	D1	D1	Unsupported	D1	Unsupported	Unsupported
DB2	D2	D2	Unsupported	D2	Unsupported	Unsupported
DB3	D3	D3	Unsupported	D3	Unsupported	Unsupported
DB4	D4	D4	Unsupported	D4	Unsupported	Unsupported
DB5	D5	D5	Unsupported	D5	Unsupported	Unsupported
DB6	D6	D6	Unsupported	D6	Unsupported	Unsupported
DB7	D7	D7	Unsupported	D7	Unsupported	Unsupported
CS	A0	Any free pin	Unsupported	Any free pin	Unsupported	Unsupported
RS	A1	Any free pin	Unsupported	Any free pin	Unsupported	Unsupported
WR	A2	Any free pin	Unsupported	Any free pin	Unsupported	Unsupported
RST	A3	Any free pin	Unsupported	Any free pin	Unsupported	Unsupported
ALE	A5	Any free pin	Unsupported	Any free pin	Unsupported	Unsupported

Since some serial display modules use non-standard names for the signals I have included a quick table to show some of the most common names used:

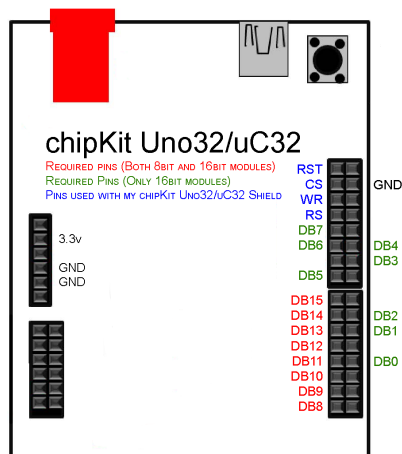| UTFT	SPI	Other names
SDA	MOSI	SDI
SCL	SCLK	SCK, CLK, CLOCK
CS	SS	CE
RST	*Not a SPI signal*	RESET
RS	*Not a SPI signal*	D/C, A0
Not used by UTFT	MISO	SDO

Arduino pin-mapping:

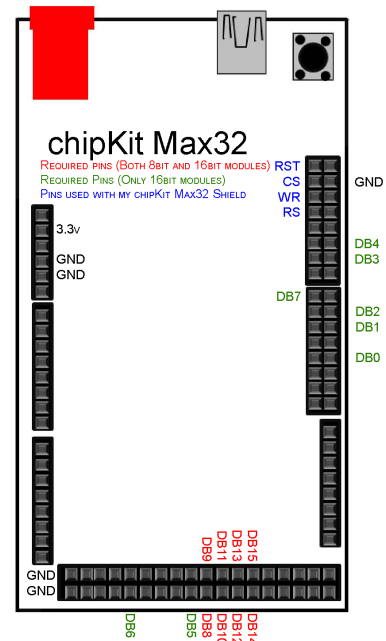Valid for Arduino 2009/Uno/Leonardo and Bobuino

Valid for Arduino Mega/Due[1]

chipKit pin-mapping:

Valid for chipKit Uno32/uC32

Valid for chipKit Max32[2]

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[1] Pin-out is slightly different when using the "CTE TFT LCD/SD Shield for Arduino Due" or the "ElecHouse TFT LCD/SD Shield for Arduino Due".

[2] Pin-out is slightly different when using the "AquaLEDSource shield".