

Arduino Forum

Using Arduino => Displays => Topic started by: Frantischek on Feb 19, 2014, 08:01 pm

Title: **Problem with SSD1306 LCD and U8glib**

Post by: **Frantischek** on **Feb 19, 2014, 08:01 pm**

Hi community!

I bought this tiny I2C lcd http://www.ebay.de/itm/181287662115?ssPageName=STRK:MEWNX:IT&_trksid=p3984.m1439.l2649
(http://www.ebay.de/itm/181287662115?ssPageName=STRK:MEWNX:IT&_trksid=p3984.m1439.l2649)
and I connected it like this:

VCC -> 5V

GND -> GND

SCL -> A5

SDA -> A4

I tried some examples from the current version of u8glib.h, but nothing worked.

I used this code:

Code: [\[Select\]](#)

```
#include "U8glib.h"

U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NONE);

void draw() {
    u8g.setFont(u8g_font_unifont);
    u8g.drawStr( 0, 20, "Hello World!");
}

void setup() {
}

void loop() {
    u8g.firstPage();
    do {
        draw();
    } while( u8g.nextPage() );
    delay(1000);
}
```

The sketch compiles, but the display stays black. :(
Any hints what I can do?

Thanks and regards,
F.

Edit: I think this is the wrong board. Sorry....

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **MAS3** on **Feb 19, 2014, 10:42 pm**

I reported this thread to a moderator, it ~~will probably be~~ has been put in the Display section.

Have a look at this thread (click) (<http://forum.arduino.cc/index.php?topic=159851.0>).
It is about this display, but on an other pcb.
At the end u8glib is discussed here, and u8glib has its own topic in this Display section.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Feb 19, 2014, 11:22 pm**

Did you apply pull up resistors for the display?
Which Arduino board do you use?

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Caltoa** on **Feb 20, 2014, 02:46 am**

Can you run the i2c_scanner ?
<http://playground.arduino.cc/Main/I2cScanner>
If it doesn't find an I2C adres, you have a display that can not pull the SDA low for an acknowledge. I don't know if the u8glib can do that. I have seen a library for that, perhaps I can try to find it if you want.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Frantischek** on **Feb 20, 2014, 07:41 am**

Hi,
thanks for the answers.

Quote from: olikraus on Feb 19, 2014, 11:22 pm

Did you apply pull up resistors for the display?

Which Arduino board do you use?

Oliver

No, there are no pull up resistors. Do I need one?

Quote from: Caltoa on Feb 20, 2014, 02:46 am

Can you run the i2c_scanner ?

<http://playground.arduino.cc/Main/I2cScanner>

If it doesn't find an I2C address, you have a display that can not pull the SDA low for an acknowledge. I don't know if the u8glib can do that. I have seen a library for that, perhaps I can try to find it if you want.

Thank you for this hint. The scanner finds no devices. :(

Quote from: MAS3 on Feb 19, 2014, 10:42 pm

I reported this thread to a moderator, it ~~will probably be~~ has been put in the Display section.

Have a look at this thread (click) (<http://forum.arduino.cc/index.php?topic=159851.0>).

It is about this display, but on an other pcb.

At the end u8glib is discussed here, and u8glib has its own topic in this Display section.

I'll have a closer look into that on this evening. Thank you.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Feb 20, 2014, 07:52 am**

Quote

No, there are no pull up resistors. Do I need one?

Yes, one 4.7K for SCL and another 4.7K for SDA. One end of the resistor to +5V (i assume that this is a 5V tolerant display module) and the other end of the resistor to the signal lines SCL and SDA.

Once these resistors are there,. the scanner should find a device at 0x3c.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **Frantischek** on **Feb 20, 2014, 08:19 am**

Quote from: olikraus on Feb 20, 2014, 07:52 am

Quote

No, there are no pull up resistors. Do I need one?

Once these resistors are there,. the scanner should find a device at 0x3c.

No. Resistors are there, but the scanner says "No devices found"

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **Caltoa** on **Feb 20, 2014, 08:53 am**

In that case, you might have a super cheap OLED, that can only read I2C and can not acknowledge it.
Does it say 'heltec.cn' on the backside ?

The rar file on this page contains code for it.

<http://www.wide.hk/products.php?product=I2C-0.96%22-OLED-display-module-%28-compatible-Arduino-%29>

That code doesn't do anything special, so perhaps the u8glib will work with it.

They say it is Adafruit compatible, perhaps you can use the Adafruit library or the u8glib with Adafruit mode.

For the u8glib, you have to ask in the u8glib thread if the display is supported.

I only started recently using u8glib with another super cheap OLED.

<http://forum.arduino.cc/index.php?topic=217290.0>

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **Frantischek** on **Feb 20, 2014, 05:55 pm**

Quote from: Caltoa on Feb 20, 2014, 08:53 am

In that case, you might have a super cheap OLED, that can only read I2C and can not acknowledge it.
Does it say 'heltec.cn' on the backside ?

Yes, it's one of those super cheap OLEDs with heltec.cn on the backside.

Quote from: Caltoa on Feb 20, 2014, 08:53 am

The rar file on this page contains code for it.

<http://www.wide.hk/products.php?product=I2C-0.96%22-OLED-display-module-%28-compatible-Arduino-%29>

That code doesn't do anything special, so perhaps the u8glib will work with it.

They say it is Adafruit compatible, perhaps you can use the Adafruit library or the u8glib with Adafruit mode.

For the u8glib, you have to ask in the u8glib thread if the display is supported.

I only started recently using u8glib with another super cheap OLED.
<http://forum.arduino.cc/index.php?topic=217290.0>

I tried the code from wide.hk, but nothing happens :-(

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Caltoa** on **Feb 20, 2014, 06:10 pm**

Perhaps something else is wrong with it. Perhaps it is broken. Sorry, but I don't know what else you could do.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Feb 20, 2014, 08:49 pm**

Maybe you can post a picture of your setup to verify your wiring.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Frantischek** on **Feb 21, 2014, 07:01 pm**

Hello,
here are 2 pictures. Not the best quality, but I think it should be enough...

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Caltoa** on **Feb 21, 2014, 07:15 pm**

Wiring seems okay.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Frantischek** on **Feb 21, 2014, 07:19 pm**

Yes.
Do you know what I can do, to test if it's broken? Using a multimeter or something?

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Feb 21, 2014, 09:39 pm**

hmm... i am also running out of ideas... In those cases i usually start to use my scope to observe activity on the signal and clock lines.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **Caltoa** on **Feb 22, 2014, 09:23 am**

My best advice at this point is to forget that display.

Buy a better display from a good company that sells electronics which work: <https://www.adafruit.com/products/326>

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **Frantischek** on **Feb 23, 2014, 10:12 am**

Hello,

I just wanted to tell you, that the module is working now.

I wrote to the chinese seller, and he sent me a link to a chinese website with a working library and code:

<http://www.14blog.com/archives/1358> (<http://www.14blog.com/archives/1358>)

Google-translate does hard work on this page ;)

BTW the module doesn't need any resistors, and it works on every digital pin.

Thanks for help!

Regards.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **Frantischek** on **Feb 23, 2014, 02:32 pm**

@ Oliver:

Can you please take a look at the library and check if the module works also with u8glib?

The provided library is really "buggy".

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Feb 23, 2014, 02:37 pm**

Thanks for the feedback. Main problem is, that i do not own this display. So i can not do any tests on it.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Frantischek** on **Feb 23, 2014, 02:38 pm**

Quote from: olikraus on Feb 23, 2014, 02:37 pm

Thanks for the feedback. Main problem is, that i do not own this display. So i can not do any tests on it.

Oliver

OK. Thanks anyway!

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Feb 23, 2014, 02:41 pm**

I have ordered the same display from this china seller. Usually it will take some weeks, but once it is here i will verify this.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Frantischek** on **Feb 23, 2014, 02:48 pm**

Quote from: olikraus on Feb 23, 2014, 02:41 pm

I have ordered the same display from this china seller. Usually it will take some weeks, but once it is here i will verify this.

Oliver

GREAT! :) Thank you! Danke dir! :-)

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Caltoa** on **Feb 23, 2014, 08:31 pm**

Interesting.

So they use I2C without acknowledge, because SDA can not pull the line low, as I suspected.

But they use a library with software I2C that can be used on any pin ?

I clicked the download link, but did not get a file.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Frantischek** on **Feb 23, 2014, 08:42 pm**

Quote from: Caltoa on Feb 23, 2014, 08:31 pm

Interesting.
So they use I2C without acknowledge, because SDA can not pull the line low, as I suspected.
But they use a library with software I2C that can be used on any pin ?
I clicked the download link, but did not get a file.

Yes, I2C can be used on any pin. I am too much a newbie for finding that interesting. :)
I uploaded the rar-file to my box-account: <https://app.box.com/s/5667p2057unut79gbd0n>
(<https://app.box.com/s/5667p2057unut79gbd0n>)

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Feb 23, 2014, 11:36 pm**

Still strange. The SSD1306 is a standard controller. According to the datasheet of the SSD1306, standard I2C should be fully supported. In fact U8glib has been reported to work fine with the Adafruit OLEDs (also based on SSD1306)

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Caltoa** on **Feb 24, 2014, 01:19 am**

Frantischek, thanks for the file !

olikraus, I read that SDA is split into two pins for reading and writing. The heltec display uses only the input pin. I have been reading about those heltec displays for my own heltec display (SPI without CS interface).

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Feb 24, 2014, 06:29 am**

In the source of the rar archive they do "software I2C without ACK". I will wait for the display and do some deeper analysis.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Mar 09, 2014, 10:14 am**

Hi

I have received the display. Indeed, it does not send the I2C ACK bit. I have updated U8glib (see attached prerelease). Now U8glib works with this nice little display.

(http://wiki.u8glib.googlecode.com/hg/otherpic/ssd1306_no_ack.jpg)

Oliver

Edit: U8glib constructor is (Arduino Uno only): `U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK)`

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **MAS3** on **Mar 09, 2014, 10:53 am**

If it doesn't send that acknowledge bit, does it send any thing at all ?

This seems to be the same display (it is available in white, blue and blue/yellow) as fitted on the Crius CO-16.

Are pins 19 and 20 of the flex cable from the display connected ?

If not it can't send anything back and that can be solved by connecting these pins with a drop of solder

(<http://forum.arduino.cc/index.php?topic=159851.60>), which is easy to do.

After that, the display will work as it's meant to be.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Mar 09, 2014, 11:33 am**

Hi MAS3

U8glib does not read anything from the display. In fact U8glib was designed not to read anything from a display. Reason is, that most SPI based displays disallow to read back anything (because of the missing MISO line). From this perspective, I would say, that this display works as expected, except, that it does not send the ACK signal. I personally think, this is because the level shifting from 5V to 3.3V for this OLED is only done in one direction (to reduce production cost for this display).

From what i have seen on the OLED, i would say, that all connections are soldered. Which signals are on line 19 and 20? What do you mean by "connected"? Should these lines be shortend?

As a conclusion, i would say the problem is solved now. It is not nice, that the ACK is not sent, but all my testing had been very successful with this display. Indeed there was never any wrong/missing pixel. It simply works very reliable with U8glib.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **MAS3** on **Mar 09, 2014, 12:45 pm**

I agree that this forms a solution and that one can use the display and U8glib as is from now on.
But i really like it when things like these can be solved, and with the example i have here, this can be solved.
You might very well be right that reducing production cost has lead to allowing just inbound data for this module.

The signals on these pins 19 and 20 are data in for pin 19 and data out for 20.
If you connect pins 19 and 20 by shorting them with some solder, you will have 2 direction I2C from the display.
This is an easy job because those pins are close enough to each other, but a magnifying glass might come in handy.
I can't tell whether the module will prohibit 2 way communication or not.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Mar 09, 2014, 03:30 pm**

Ok, i learned something new today. I did a review of section 8.1.5 of the datasheet of the SSD1306. It might be indeed a good technical solution to tie SDA_in and SDA_out together.
The main problem what i see here is this: How do we know that SDA_in and SDA_out are exactly at signals 19 and 20 of the display flex connector. This might be true for a specific OLED display, but unless we have a reliable specification of the OLED itself, there is a high risk of destroying the display. Reverse engineering of the PCB might help, but could also fail, for example if the SDA_out is not available at all on the flex connector.

Oliver

Edit:

@MAS3: Also read previous comments from you, guess i missed/missunderstund some of your remarks. Karma+.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **nightcrawler28** on **Mar 17, 2014, 09:41 am**

Quote from: olikraus on Mar 09, 2014, 10:14 am

Hi

I have received the display. Indeed, it does not send the I2C ACK bit. I have updated U8glib (see attached prerelease). Now U8glib works with this nice little display.

Oliver

Edit: U8glib constructor is (Arduino Uno only): `U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK)`

Thanks Oliver, I just received this nice display from ebay and I was searching a lot for a decent library. The original isn't so extended as your U8GLIB. really really good job with this! your pre-release 1.16 in this post workes perfect at my arduino uno. (but you have to power toggle the UNO after the upload.. else you get strange images)

(<http://i57.tinypic.com/wsk2nm.jpg>)

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **emmaanuel** on **Mar 17, 2014, 10:18 pm**

Thank you for this pre-release.
It work fine with the blue/yellow oled:

(<http://oi58.tinypic.com/2u8cn88.jpg>)

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Mar 17, 2014, 10:42 pm**

@emmaanuel
@nightcrawler28

Thanks for the feedback and the pictures.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **gnewtonaus** on **Apr 01, 2014, 02:15 pm**

Hi,
Many thanks Oliver for posting the updated U8glib library here.
I also bought one of these cheap OLED's from eBay (different seller) and the U8glib in this thread has worked first time for me.
Thanks again.

Greg in Oz

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Apr 01, 2014, 06:57 pm**

Good to read that it is usefull.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **FlyAndy** on **Apr 23, 2014, 01:48 pm**

I also purchased a cheap display from ebay:
<http://www.ebay.com.au/itm/310909052356>

I was able to get u8glib working using your most recent v1.16, with the new constructor (U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK))
However, the image on the display is very dim compared to the other code (IIC_without_ACK) attached earlier in this thread
I have tried adjusting the contrast register to 0x81, 0xff - but I see no change in the brightness of the display.

Comparing the initialization code in the two pieces of code, they are very similar - so I cant see why there is the difference in brightness.

Does anyone have any other suggestions?

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Apr 23, 2014, 08:22 pm**

If you say similar, what are the actual differences? Maybe you can put the init code of the other code here.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **elecopper** on **May 08, 2014, 09:21 am**

Great work getting these displays to work!
I just bought 2 and have had no problems with them, they're great for the price.

I am now trying to get both displays to work at the same time and display different things.
I'm a little confused as to how to address them and I'm not sure whether it's possible with this display since it sends no acknowledge.

On the back of the displays there is a jumper to select between two addresses 0x7A and 0x78. So I was going to swap one of these jumpers over, but then how do I get this to work with U8glib?

Sorry for my lack of knowledge, this is my first time using displays and U8glib.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **May 08, 2014, 10:00 pm**

SSD1306 I2C address:

In the utility folder you will find the file "u8g_com_arduino_ssd_i2c.c". In line 57 you will see:

Code: [\[Select\]](#)

```
#define I2C_SLA      (0x3c*2)
```

Change this to 0x03d*2 (or 0x07a). You could also change this macro a global variable:

Code: [\[Select\]](#)

```
uint8_t I2C_SLA = 0x3c*2;
```

Then add to your .ino file:

```
extern uint8_t I2C_SLA;
```

Now you can change between the displays by assigning the address to this global variable.

Code: [\[Select\]](#)

```
I2C_SLA = 0x078;    // first display  
I2C_SLA = 0x07a;    // second display
```

ok, not tested, but i think it should work.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **elecopper** on **May 09, 2014, 08:13 am**

Worked perfectly! They're running very nicely together now :)

Thanks very much Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **GunterO** on **May 09, 2014, 04:24 pm**

Thanks, works perfect! :)

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **neepie** on **May 13, 2014, 08:31 pm**

Hello there!

I've been trying to get this working <http://www.ebay.co.uk/itm/261433793901>.

Seems to be about the same display someone else is talking too? With the heltec.cn text.
So i think its the same display as on previous posts.

Luckily i read this and found the newer U8Glib with the "U8G_I2C_OPT_NO_ACK"

I tried it but still my screen has nothing on it. Im using 4.7k pullups.

All i can think of that this display has "address select" telling me its 0x78. How or where do i tell the library it? Im guessing the u8g_com_arduino_ssd_i2c.c file but how?

pic from behind:
(<http://randomi.fi/k/images/wp20140513192307yeye.jpg>)

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **May 14, 2014, 12:05 am**

Just for reference: The previous question has been discussed here <http://forum.arduino.cc/index.php?topic=239946.0>
(<http://forum.arduino.cc/index.php?topic=239946.0>)

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **saiko** on **Jun 23, 2014, 07:16 pm**

Hi Oliver,

firstly thanks for this cool library.

I at last got mine up and running. I used both the 1.15 and 1.16 versions and I see this strange issue. The hello world shows up in 2 colours. top half yellow and bottom blue. Attaching the pic.

Also would you advice where I can learn to change the color to blue and yellow?

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Jun 23, 2014, 10:32 pm**

You can not change the colors. This is a bi-color OLED. Actually a Monochrome OLED, but the top view rows have a different (fixed) color.

See for example here:

<http://www.ebay.com/itm/Two-Color-0-96-inch-LED-128-64-High-resolution-OLED-Display-Module-/221120509913>

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **pazu** on **Jun 24, 2014, 11:14 pm**

Quote from: eleccopper on May 09, 2014, 08:13 am

Worked perfectly! They're running very nicely together now :)

Thanks very much Oliver

Quote from: GunterO on May 09, 2014, 04:24 pm

Thanks, works perfect! :)

Hi guys, would you mind post some of your code (or sample) on how you were changing/referencing the address in your normal run time loop? I'm able to address and talk to multiple displays one at a time (ie, change variable then compile in my main .ino file), but not dynamically within the same compile.

Cheers,
Matt

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **eleccopper** on **Jun 25, 2014, 01:55 am**

I had trouble too and I think it came down to the order that I was addressing them within the program. Here's an example that works.

In the ug8_com_arduino_ssd_i2c.c

Code: [\[Select\]](#)

```
//#define I2C_SLA                (0x7A)
uint8_t I2C_SLA = 0x7A;
```

This will write to the screens at startup and then swap what is written on each after 5 seconds:

Code: [\[Select\]](#)

```
#include "U8glib.h"

U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK);
extern uint8_t I2C_SLA;

boolean redraw_display_one = false;
boolean redraw_display_two = false;

void setup()
{
  I2C_SLA = 0x078;
  u8g.firstPage();
  do
  {
    draw_message_one();
  }
  while(u8g.nextPage());

  delay(10);

  I2C_SLA = 0x07A;
  u8g.firstPage();
  do
  {
    draw_message_two();
  }
  while(u8g.nextPage());
}

void loop()
{
  if (redraw_display_one)
  {
    I2C_SLA = 0x078;

    u8g.firstPage();
    do
    {
      draw_message_two();
    }
    while(u8g.nextPage());

    redraw_display_one = false;
  }

  if (redraw_display_two)
  {
    I2C_SLA = 0x07A;
    u8g.firstPage();
    do
```



```
{
  draw_message_one();
}
while(u8g.nextPage());
redraw_display_two = false;
}

unsigned long time = millis();

if (time > 5000 && time < 5033)
{
  redraw_display_one = true;
  redraw_display_two = true;
}
}

void draw_message_one()
{
  u8g.setFont(u8g_font_fub20);
  u8g.drawStr(12, 28, "Hello");
  u8g.drawStr(12, 58, "World");
}

void draw_message_two()
{
  u8g.setFont(u8g_font_fub20);
  u8g.drawStr(12, 28, "Goodbye");
  u8g.drawStr(12, 58, "World");
}
```

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **pazu** on **Jun 25, 2014, 10:21 am**

Thank you thank you thank you!

Got it working, I had to change the third line to
U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NONE);

but other than that, worked a treat! Thanks!

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **nerobot** on **Jun 27, 2014, 01:56 pm**

Thanks for the great work done on this device.

I've managed to get it working well on the Arduino using the examples which is working well.

However, is it possible to get the same release version for AVR as I can't see a way to make it work with the current version.

Many thanks.

Steven

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Jun 27, 2014, 05:55 pm**

I have attached snapshots of the current repository for Arduino and AVR. Not tested, just development releases.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **nerobot** on **Jun 28, 2014, 05:39 pm**

Hi Oliver,

Just a quick reply to say thanks for uploading the pre-release version.

After a few tweaks of the main c file, I was able to get each of the examples working well.

I'm now in the process of incorporating the libraries into my own project and it seems to be going well (though I need to try and figure out how to use the library more).

Thanks again, and if you'd like any testing done on the device, feel free to let me know.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Jun 28, 2014, 06:03 pm**

I am glad to read, that the avr release works. For the final release, the avr version also undergoes some release testing.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **kurti** on **Jul 17, 2014, 01:13 pm**

Hi Oliver,

the pre-release worked 'out of the box'.

I only had to add the constructor
U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK);

and Bingo! there was the 'Hello World'.

Thanks for the great work.
Kurti

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Jul 17, 2014, 01:26 pm**

Thanks for the feedback. Meanwhile also release 1.16 is officially available for download.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **SavPaff** on **Jul 17, 2014, 07:04 pm**

Hi guys,

My name is Salvatore and I am from Germany. I first got a Adafruit 0.96" Monochrome OLED display and got it to work with the Adafruit OLED library over I2C. I found a 1.3" monochrome display on Ebay -> http://www.ebay.de/itm/261498239675?ssPageName=STRK:MEW NX:IT&_trksid=p3984.m1497.l2648 (http://www.ebay.de/itm/261498239675?ssPageName=STRK:MEW NX:IT&_trksid=p3984.m1497.l2648) and didn't get it to work at all at first.

Using the u8glib_arduino_v1.16 I finally did it (almost).
Thank you Oliver for this great library!

The problem is, that the printed image/information is moved 2 pixels to the left. Changing the first pixel in the "Hello World" example only shifts the text but leaves the last 2 columns set randomly. (See attached picture)

Does anyone know a way I can fix this issue?

This is my first post (by the way).

Sal

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Jul 17, 2014, 09:37 pm**

Hi Salvatore

Greetings from South Germany.

Your OLED does not contain the SSD1306 controller, but has the SH1106. In U8glib I added the SH1106 constructor with v1.16. This should fix your problem.

Recently, this has been asked more often here. I guess ebay sellers declare their OLEDs as SSD1306, but actually sell a display with SH1106 controller.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **SavPaff** on **Jul 20, 2014, 09:42 am**

That was it!

Thank you so much!!

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **unixbob** on **Aug 10, 2014, 11:28 pm**

Interestingly, I've got what looks to be exactly the same OLED screen but it works with the adafruit ssd1306 libraries.

I used the ssd1306_128x64_i2c example and had to change the line

Code: [\[Select\]](#)

```
display.begin(SSD1306_SWITCHCAPVCC, 0x3D);
```

to

Code: [\[Select\]](#)

```
display.begin(SSD1306_SWITCHCAPVCC, 0x3C);
```

Attached a picture of the board below and it running the demo if anyone is interested

(<http://i.imgur.com/MmhFtUQl.jpg>) (<http://imgur.com/MmhFtUQ>)

(<http://i.imgur.com/J7xsLBfl.jpg>) (<http://imgur.com/J7xsLBf>)

It also works with Oliver's patched U8glib library as well FWIW

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **hendrik6073** on **Aug 28, 2014, 10:53 pm**

hi,

Have the same display and a Raspberry Pi, hope i do not offense forum rules asking my question.
I'm new to these kind of displays and was wondering if someone could help me a bit on this.
has somebody expericence with the wiring of this display on a RasPi ?, Mine stays black also.
i use pin 2=vcc (5v), pin 3=SDA, pin 5=SCL, pin 6 = Ground

thanks

Richard

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **MAS3** on **Aug 28, 2014, 11:17 pm**

Hi and welcome.

If you're going to ask questions, do it the correct way.
There are at least 5 different displays mentioned in this thread, which one do you have too ?
If it's the last mentioned one, that doesn't seem to have 6 pins.
Are you referring to some pin numbers at the Raspberry board ?
It seems like you are, but don't have us guessing about what you might be telling us.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **hendrik6073** on **Aug 29, 2014, 10:09 am**

sorry for my incomplete post, thanks for youre response.

i am still bussy finding things out about this display, so sometimes i do not have enough knowledge
to make myself clear enough. Sorry fot that.

yes i have the display like this one.

(<http://i.imgur.com/MmhFtUQl.jpg>)

the pins i mentioned are the RasPi pins, connected to the display pin labels vcc, sda, etc.

Did find out yesterday that there are projects to get U8glib working on a Raspberry, have to look further into that.

Tips are welcome !

thanks

Richard

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **farvardin** on **Dec 01, 2014, 11:39 pm**

Hello,

@Oliver:

just to tell I got a cheap \$4 128x64 amoled display (the characteristics: Driver IC: SSD1306. Size: 2.7cm x 2.8cm. 1 X 0.96" I2C IIC SPI Serial 128X64 OLED LCD LED Display Module For Arduino), and it works very well with your wonderful u8glib on my Arduino Uno! Thank you very much for all of this!

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **lardconcepts** on **Dec 18, 2014, 11:52 am**

Just wading in with my own experiences here; I bought two displays at the same time, so:

Good display (<http://www.ebay.co.uk/itm/191279261331>): currently £3.29
Very clear and bright, lasted 3 days solid so far running 24x7 as a test.

Bad display (<http://www.ebay.co.uk/itm/151427817056>): currently £3.59
Lasted about 45 seconds before display faded permanently into oblivion.

Also, mis-described: It's yellow and blue, not yellow (although the seller refunded, he still hasn't updated the description)

As for setting it up, took me 20 minutes including watching this (<http://youtu.be/VEZGn0zYHiE?t=7m25s>):

The key was simply changing the address to 0x3C.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **akis_t** on **Dec 19, 2014, 07:48 pm**

I got exactly the same from the same vendor and used the adafruit libraries and it works just fine, once you set the address to 0x3C that is. I used the I2Cscanner to make sure it is working.

You do not need pullup resistors.

The problem IUs that to display 1.5 lines of text (write and display), approx 30 characters, it takes over 50 ms - 16MHz Atmega386p.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **akis_t** on **Dec 19, 2014, 08:16 pm**

Just to qualify this:

If you use the adafruit libraries : Adafruit_SSD1306-master.zip and Adafruit-GFX-Library-master.zip, then it takes 50ms to write around 30 characters to the screen.

If you use the u8glib (u8glib_arduino_v1.16.zip) it takes 120 ms to write one line of text.

The problem must be in the I2C communication speed at a guess.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **DMond** on **Jan 30, 2015, 01:37 am**

hi, i was just wondering regarding the U8glib library posted in this thread. does anyone know how to adjust the resolution? i dont have a picture right now, but the whole screen is shifted left. on the far right, there is a white line where the pixels are not active. is there a way i can adjust these settings?

thanks!

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Jan 30, 2015, 07:34 pm**

Hi

This problem often occurs if someone thinks the OLED has a SSD1306 controller, but actually the OLED has a SH1106 controller. Try to use the u8glib constructor for the SH1106. Will the shift occur also with this constructor?

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **Dannyboy001** on **Feb 01, 2015, 12:03 am**

Hey, guys. I tried to download some of the suggested code, but when I opened the file, the sketch was blank. I have the Yellow at top/ blue at bottom OLED, and was wondering if you could post your code, so that I can get this thing working.

Thanks!
Danny

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **exco** on **Feb 15, 2015, 11:29 pm**

I also got this el cheapo display from aliexpress and finally have it working after 2 hours ;-)

example is here (https://github.com/excogitation/microcontroller_stuff/tree/master/128x96_oled/oledtest_u8glib)

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **flanker152** on **Feb 17, 2015, 11:34 pm**

after much frustration with this screen this thread has made me realize that the library was not compatible with the mega i was using. just picked up an uno rev3 and had it working flawlessly within minutes.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **EUMega** on **Apr 06, 2015, 11:40 pm**

As I've had some issues I wanted to share my experience in this thread as it has helped me initially.

I have one of those red OLED 0.96" with I2C and the label 'Keyes OLED Automation' from ebay.
(top yellow - bottom blue pixel)

I've found the I2C supports ACK (without modification) and pin 14 on the flexcable is RESET which I've soldered a wire to.

It works reasonably well with the U8glib (with the following constructor - in C):

```
u8g_InitI2C(&u8g, &u8g_dev_ssd1306_128x64_i2c, U8G_I2C_OPT_FAST);
```

The main issue I have at the moment is that if the circuit is off for some time it seems as if the display memory has some 'garbage' which it then displays and which doesn't get cleared with the FirstPage call. (turning the circuit off and on doesn't change a thing)

In fact it would still show that on power on if the AVR is not in its socket IIRC.

Pulling (the display) RESET low with an AVR pin doesn't change this 'noise'. A quick solution is to pull RESET to GND directly (and manually) and restarting the AVR.

I don't know if anyone has seen something like this and found a solution for it.

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **lalitvijay** on **Apr 12, 2015, 04:06 pm**

Hello,

I am using CRIUS OLED Co-16 v1.0 display with arduino mini pro 328p.

Tried using u8glib but nothings happens on display.

Tried using :

```
U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NONE);
```

```
U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK);
```

Very much confused with all the available solutions out there. Display works good with http://www.wide.hk/download/i2c_OLED.rar

Title: **Re: Problem with SSD1306 LCD and U8glib**
Post by: **olikraus** on **Apr 12, 2015, 04:28 pm**

hmmm... if you just exchange the library, then it should work with U8glib.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **lalitvijay** on **Apr 12, 2015, 04:42 pm**

can you please elaborate on this.

I tried using all the functions ow working library with u8glib but nothing worked out.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **lalitvijay** on **Apr 12, 2015, 04:45 pm**

Tried to mix the u8glib example code with working code.
Nothing happend!

Looking for some elaborated view

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **MAS3** on **Apr 12, 2015, 05:10 pm**

There's a quite large thread about this display.
I posted some solutions which still work today: here (click !) (<http://forum.arduino.cc/index.php?topic=159851.msg1199800#msg1199800>) and here (<http://forum.arduino.cc/index.php?topic=159851.msg1502206#msg1502206>).

Did you see that thread and test the solutions in there ?

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **lalitvijay** on **Apr 13, 2015, 07:07 pm**

Used pull up circuit with SDA and SCL by connecting 4.7k resistor across each with Vcc and voila it worked with u8glib (
U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK); // Display which does not send ACK).

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **RoterFux** on **Jun 18, 2015, 09:33 pm**

Hi!

I've got a very strange problem!

I've just manage to run my SSD1306 with an Arduino Nano v3 and the U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK) setting, but the displayed content is mirrored from right to left. (Image if requested)

I am almost a noob, so please don't judge too hard, but what could be the problem?

greetings from austria

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Jun 19, 2015, 12:58 am**

Nice finding. Please post a picture. Where did you buy the OLED?

Can you also post a picture after changing line 96 in u8g_dev_ssd1306_128x64.c from

Code: [\[Select\]](#)

```
0x0c8, /* c0: scan dir normal, c8: reverse */
```

to

Code: [\[Select\]](#)

```
0x0c0, /* c0: scan dir normal, c8: reverse */
```

?

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **RoterFux** on **Jun 19, 2015, 01:27 am**

thx for the quick reply

I noticed that it might be some loose contact or something, because it's also flickering very often and the content get messed up too. but I double checked all contacts ...changed the wiring, the mirroring happens less often but now... See the pic... so I'm not sure whats happening.

Also if I try to display the simplest animation on the display (text updates) nothing happens, or all get messed up again.

I bought it at amazon: <http://tinyurl.com/qgun3j9> (<http://tinyurl.com/qgun3j9>) but the german shop (<http://tinyurl.com/pmrpw6l>) (<http://tinyurl.com/pmrpw6l>) but its basically the same hardware.... I guess.

This pic shows the "Hello World" text and in theory it should move to the right for one pixel ever second but than...
(<http://oi60.tinypic.com/25hfigg.jpg>)

I've changed the code but with no effect.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Jun 19, 2015, 06:58 am**

Hi

What exactly has been printed on the OLED? Is it the unmodified HelloWorld example?
What to do mean be loose contact? Will the display be correct sometimes?

What is your exact constructor? Did you modify the correct source?

Grüße,
Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **RoterFux** on **Jun 19, 2015, 07:35 am**

It is the Hello World example but with Hello in Line 1 and World in Line 2.
I have removed all animation stuff.

It displays the correct output after a reset for about 1 seconds. Then it changes to e.g. this or mirrors parts of the text or flips it upside down... Everything you can imagine.

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **RoterFux** on **Jun 19, 2015, 10:06 am**

Sorry for the double-post but here is a Video (<https://www.dropbox.com/s/r75lc96g1awfs0p/video.mp4>) of the unmodified example code and it's output

maybe I'm too much of a noob for it... I don't know

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Jun 19, 2015, 08:51 pm**

Hi

You should add pullup resistors (Any value between 1K and 10K is possible) to both of the data lines (this is required for proper I2C/TWI operation).

If the display accepts 3V to 5V power supply it may be worth to try to change the power supply.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **RoterFux** on **Jun 20, 2015, 11:49 am**

Thx. I'll try it and tell u. Thx

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **RoterFux** on **Jun 22, 2015, 10:00 am**

It works with the pull up resistor for most of the times. It just returns to the messed up display with the GraphicsTest Example. And there especially from the triangles scene on...

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **elecopper** on **Sep 11, 2015, 04:19 am**

Hey guys,

I thought I'd give this a go with the Arduino Due and I'm happy to confirm that v1.17 and v1.18 work well.

With this display: http://www.ebay.de/itm/181287662115?ssPageName=STRK:MEW NX:IT&_trksid=p3984.m1439.l2649

Though I am having trouble running two displays at once.

Everything runs great when I first upload the sketch, the screens can be addressed fine and work 100%. But when I unplug and plug it in again, only one screen fires up.

The only way to get both screens to work again at that point is to upload again or press the reset button. Then they work fine again.

Here's some code.

Code: [\[Select\]](#)

```
#include <Wire.h>

#include "U8glib.h"
U8GLIB_SSD1306_128X64 u8g(U8G_I2C_OPT_NO_ACK);
```

```

extern uint8_t I2C_SLA;

int m = 0;
int n = 10;

void setup()
{

}

void loop()
{
    draw_display_one();
    draw_display_two();

    delay(1000);

    m++;
    n++;
}

void draw_display_one()
{
    I2C_SLA = 0x07A;

    u8g.firstPage();
    do
    {
        u8g.setFont(u8g_font_osr26);
        u8g.setPrintPos(23, 57);
        u8g.print(m);
    }
    while (u8g.nextPage());
}

void draw_display_two()
{
    I2C_SLA = 0x078;

    u8g.firstPage();
    do
    {
        u8g.setFont(u8g_font_osr26);
        u8g.setPrintPos(23, 57);
        u8g.print(n);
    }
    while (u8g.nextPage());
}

```

The order I call `draw_display_one()` and `draw_display_two()` determines which screen will work and won't work when I disconnect and reconnect power.

Any thoughts?

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **olikraus** on **Sep 11, 2015, 09:20 am**

Hi

I think it is better to have two different u8g objects:

Code: [\[Select\]](#)

```
U8GLIB_SSD1306_128X64 u8g1(U8G_I2C_OPT_NO_ACK);  
U8GLIB_SSD1306_128X64 u8g2(U8G_I2C_OPT_NO_ACK);
```

Also do something like this during setup():

Code: [\[Select\]](#)

```
I2C_SLA = 0x078;  
u8g1.begin();  
I2C_SLA = 0x07A;  
u8g1.begin();
```

Note, that you still need to assign the I2C address.

Oliver

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **dwightthinker** on **Sep 12, 2015, 04:10 am**

It looks like you have a SH1106 display and not a SSD1306.

Each page has 4 extra bits of RAM that are not displayed so a continuous write mode will hide 4 bits per page.

Dwight

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **elecopper** on **Sep 12, 2015, 10:12 am**

Multiple objects worked like a charm! Now they both power up without a reset.

Thanks so much Oliver!

Title: **Re: Problem with SSD1306 LCD and U8glib**

Post by: **bluewave8** on **Nov 10, 2015, 04:58 pm**

Hello and thank you for a fantastic library!

I am trying to determine if I am experiencing a hardware or a software problem.

I have one of the 128x64 OLED SSD1306 displays shown here:

http://www.amazon.com/gp/product/B00O2LLT30/ref=pd_lpo_sbs_dp_ss_1?pf_rd_p=1944687542&pf_rd_s=lpo-top-stripe-1&pf_rd_t=201&pf_rd_i=B00O2KDQBE&pf_rd_m=ATVPDKIKX0DER&pf_rd_r=1MT9TDD0E0RMCMDBCEQP

This is one of the displays that has yellow pixels at the top and blue pixels for the rest of the display.

The issue that I am having is that for the top half of the display, every other line is missing (the odd lines--they are blank).

The bottom half of the display is fine. I have tried the adafruit SSD1306 library with the same results, and all of the 128x64 I2C SSD1306 display options in U8glib with the same results.

Any ideas?