

Assembly Guide

1.1 Desktop Assembly

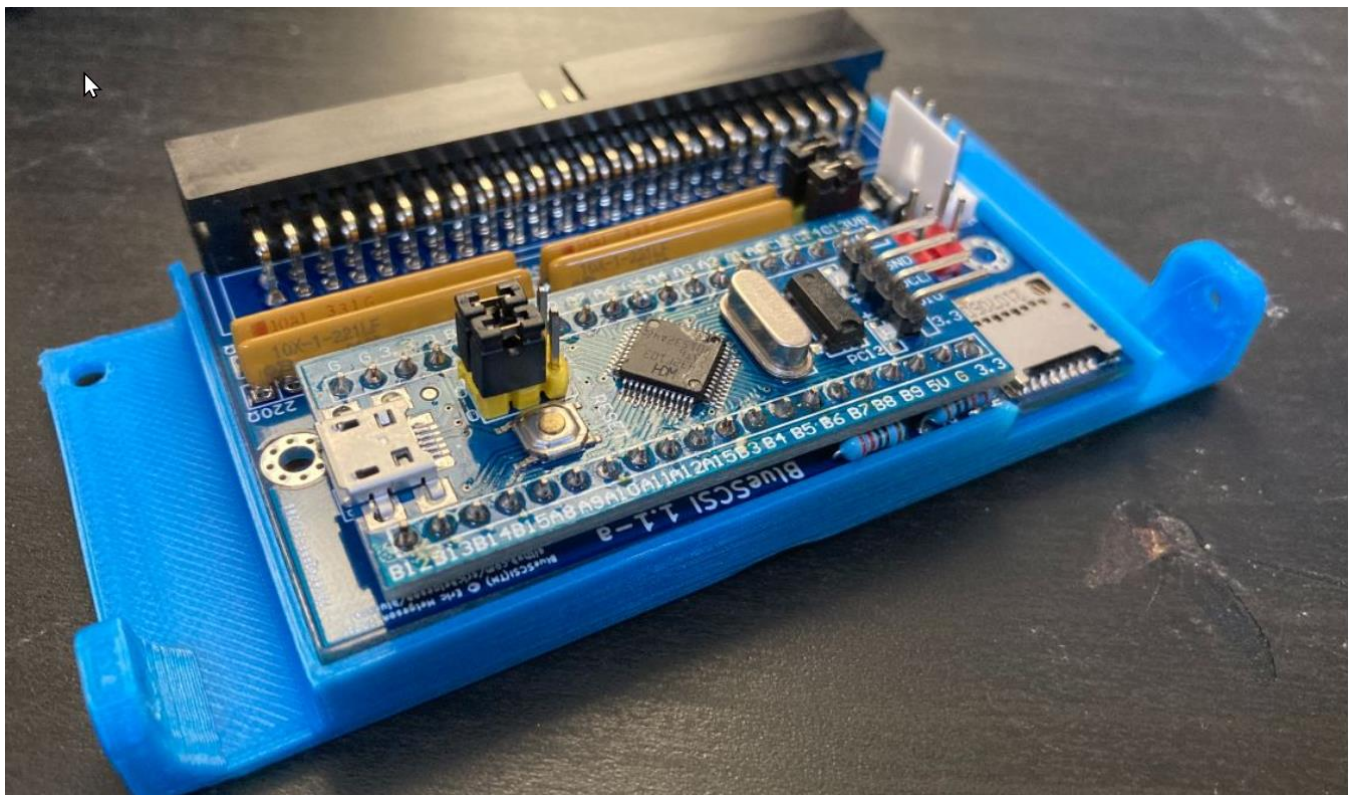
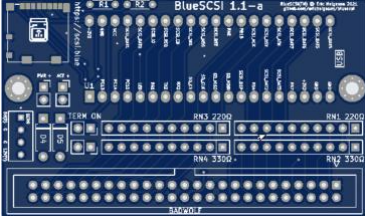













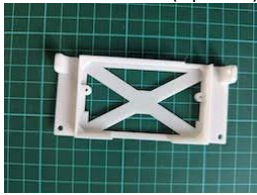


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Parts List

Your BlueSCSI Kit includes the following parts:

<p>BlueSCSI 1.1 Desktop Printed Circuit Board</p> 	<p>330 Ohm Resistor Network (x2) 4610X-101-331LF</p> 	<p>220 Ohm Resistor Network (x2) 4610X-101-221LF</p> 	<p>Schottky Diodes (x2) 1N5818-T</p> 	<p>Micro SD Card Socket (1) Surface Mount</p> 
<p>50-Pin Male SCSI Header w/ key 30350-6002HB</p> 	<p>4 Position BERG Connector 171825-4</p> 	<p>4-Pin Header Connector Cut for Termination Jumpers</p> 	<p>Mini Jumpers (x2)</p> 	<p>Pre-Programmed ARM STM32 Development Board w/ headers STM32F103C8T6</p> 
<p>330 Ohm ¼ Watt resistors (Optional) (x2)</p> 	<p>1 Power LED (optional)</p> 	<p>1 Activity LED (optional)</p> 	<p>PCB bracket Mounting screws (x2) (Optional)</p> 	<p>3D Printed Bracket (Optional)</p> 

Minimum Tools and supplies you will need

<p>Good quality Soldering Iron</p> 	<p>Flux (Paste or liquid)</p> 	<p>Solder</p> 	<p>Masking Tape</p> 	<p>Diagonal Wire Cutters</p> 
<p>Needle Nose</p> 	<p>Solder Wick</p> 	<p>Multi Meter</p> 		

Before You Begin

These instructions assume a basic knowledge of soldering and electronics. All parts are through-hole except for an 8-pin micro-SD card connector that requires to be surface mounted soldered.

For those interested in a review of soldering basics and safety tips, two good tutorials can be found at the links below:

<https://youtu.be/lpkkfK937mU>

<https://learn.sparkfun.com/tutorials/how-to-solder-through-hole-soldering>

For those of you who are new to soldering surface mount devices, there are a few good tutorials available here:

Drag Solder Technique:

https://www.youtube.com/watch?v=Z_KL4fWOMug

Here is a video if you have a hot air rework station:

<https://www.youtube.com/watch?v=vzoMEBmCNQQ>

Basic Electronics

This kit is simple to assemble and there is a GitHub repository that has extensive information available. It is located [here](#). There is also a Retro SCSI Discord channel available [here](#) that also has a wealth of information and to get support if something is not working as expected.

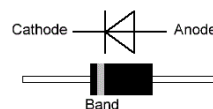
Remove all parts from the kit and separate them for easy accessibility. NOTE: The resistors and LED jumpers will only be in the kit if you purchased the “LED Option”.

Installation Steps

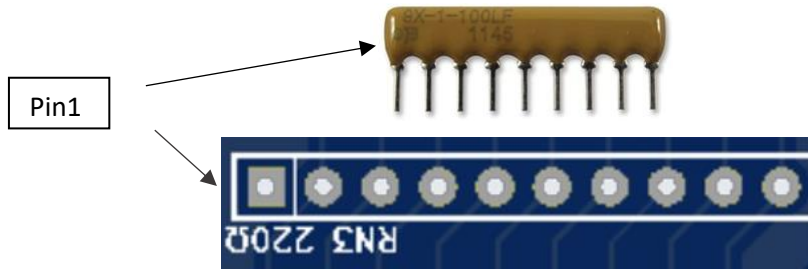
STEP 1 – For best results, use a Magic Rub eraser or IPA to clean all pads on the bottom and top of the board. This will ensure that the pads will more easily accept the soldering. Just rub the eraser lightly on the pads.

STEP 2 – Begin by placing the board on a solid surface and solder the surface mounted micro-SD connector on the board. The [Drag Solder Technique](#) is the easiest method unless you own a hot-air rework station. Once it is soldered on the board, check the connections using a magnifying glass and multimeter. Once the STM32 (BluePill) is soldered on the board. This will be difficult to touch up and fix. Also, test fit a micro-SD card now and make sure you don’t have solder “blobs” on the sides or obstructing the socket. If you do, use solder wick to remove any excess solder.

STEP 3 - Solder the two Schottky diodes onto the board. Ensure that they are as flush as possible with the board and trim the legs after soldering with your diagonal cutters flush with the board. NOTE: Diodes have polarity (cathode and anode). Make sure you solder the diodes with the polarity correct. Please see diagram below.



STEP 4 – Solder the resistor networks in place making sure to note the correct placement and orientation. Use clay or masking tape to hold them straight and in place for soldering. See diagram below.



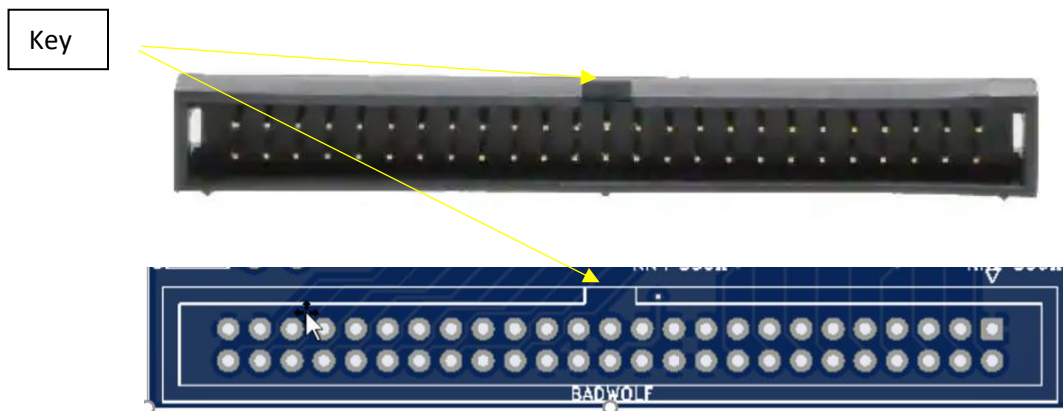
STEP 5 - Using your needle nose pliers, carefully split off “2-pin headers” from the 4 pin header. You will use these as the termination jumpers. Solder the termination jumper headers in place and put the jumpers in place. Again, you can use masking tape or blu tack to hold them in place while you solder them.



STEP 6 - Solder the BERG connector in place. This is only needed if your Macintosh does not supply enough power via the SCSI bus to power the BlueSCSI. It is recommended that you solder it on the board. Additionally, you may need to purchase a Molex to berg adapter. Note the position and orientation of this connector on the finished picture.



STEP 7 - Solder the IDC 50 Pin connector on the board. Please note the orientation and position of the connector on the silk screen on the board. It is keyed on one side and the board has a picture of the key on it. Make sure they align up. See diagram below.

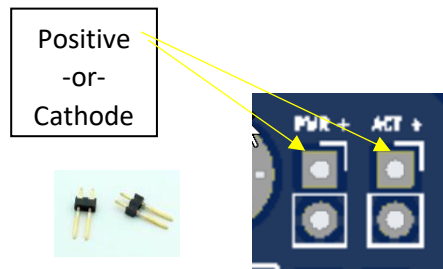


STEP 8 (Optional – purchase yourself) – If you are planning on using your own LEDs for the activity and power, please make sure you use a proper value resistor. Failure to do so will cause the LED to fail. A calculator can be found [here](#) that will guide you to ensure you use a resistor with the proper value.

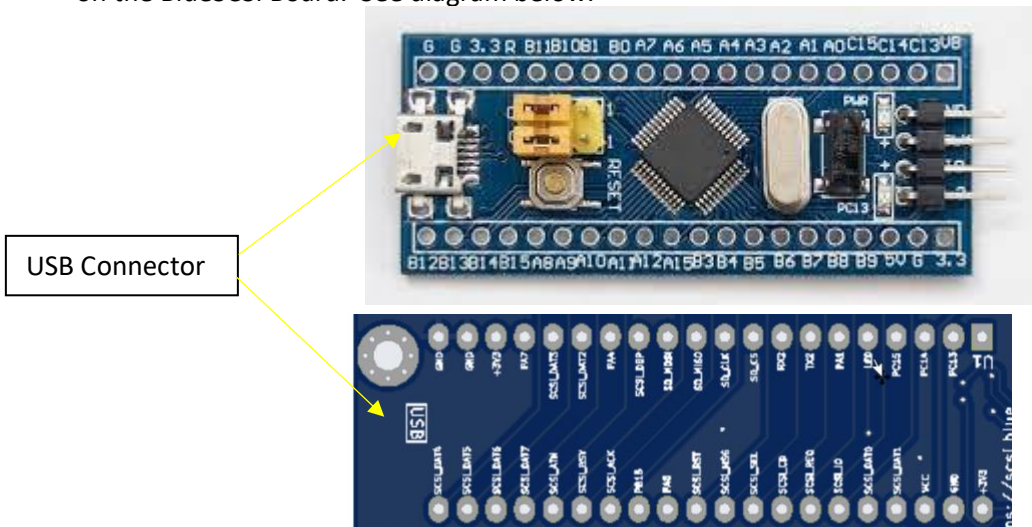
If you buy your own components, solder the two 330 Ohm resistors in place. Resistors do not have polarity so they can be soldered in either direction. Resistors may be a tight fit so you may need to bend the legs under them if needed. Mount them as flush as you can to the board. TIP: Although they can be soldered in either direction. It looks better if they are both positioned the same direction. If you need to add these to an existing assembled board you can solder them on to the back of the board.



STEP 9 (Optional – purchase yourself) - Solder two “2-pin” headers on the board for the power and activity LED jumpers. Note the positive side has the square pad on the board. The red (positive) wire will need to go on this pin. Again, you can use masking tape or blu tack to hold them in place while soldering. Please be careful not to burn your fingers if you are holding them. Also putting plastic jumpers on these headers may damage the board when powered on.



STEP 10 - Solder the BluePill in place on the BlueSCSI board. Please make sure the USB port on the BluePill is positioned and oriented in the proper direction. De-soldering the BluePill is very difficult, and you will most likely ruin the BlueSCSI board doing so. If you would like the BluePill to be removeable, considering soldering sockets on the BlueSCSI Board. See diagram below.

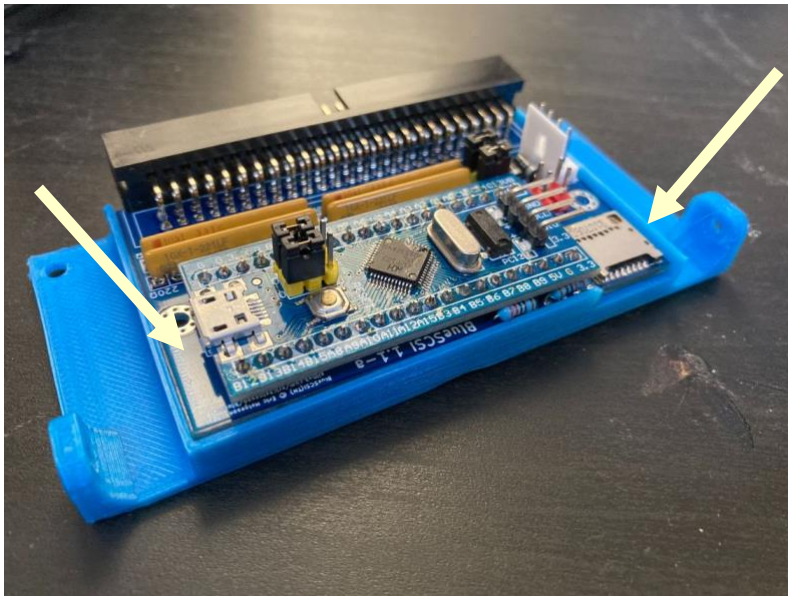


An optional pair of Sockets for the BluePill can be ordered from your favourite electronics store such as Mouser or Digi-Key. **This is not included in the kit.**



Figure 1 – OPTIONAL 20 Pin Socket 2.54mm spacing (Not included)

STEP 11 (optional if you have a 3D printed case)- Install the BlueSCSI in the 3D printed case using two small screws.



STEP 12 - [Configure](#) it and enjoy!!! Don't forget to check out the GitHub and Discord sites for more information!

