

Autodesk Eagle

Software Instructions

| Software used | | | Autodesk Eagle |
|---------------|---------|------|----------------|
| Version # | | | 1 |
| Created by | Logan F | Date | 04/02/21 |
| Reviewed by | James T | Date | 04/02/21 |

Software Instructions: Autodesk Eagle

Acknowledgments

We would like to acknowledge the following references used to compile these instructions for students:

https://www.youtube.com/watch?v=v979MUCKVoo

https://www.youtube.com/watch?v=bDwTjWpU584

https://www.youtube.com/watch?v=SgT2aUhJQHA&t=2821s

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

COMMONWEALTH OF AUSTRALIA

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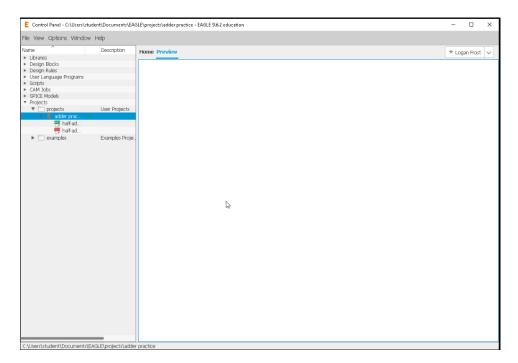
- 1. Intro
- 2. Creating a Schematic
- 3. Creating the PCB
- 4. SPICE Simulation

Software Instructions for Autodesk Eagle

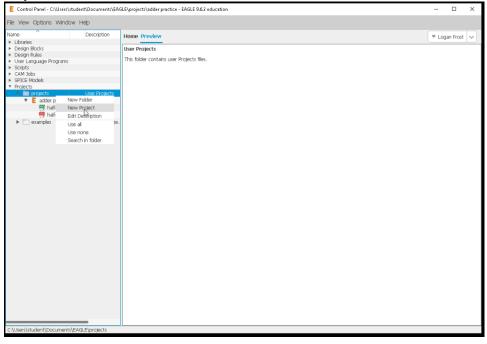
1. Intro:

Starting your project

When you open your new project, you will be presented with the following screen.

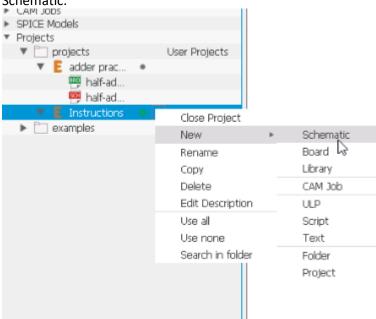


To create a new project, drop down the projects tab, right click on the new projects folder, and select New Project.

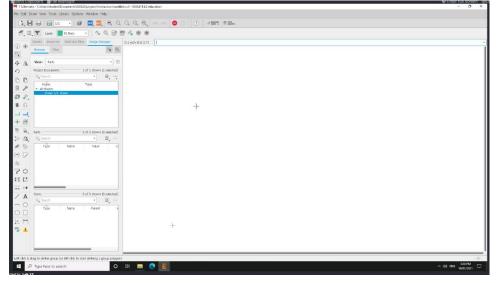




To begin working on your new project, right click on the project you just created and select new -> Schematic.



Once you have created a new schematic, you will be presented with this blank workspace.



The Help menu is very useful in this software. Following the general or documentation help menus, you can find out about any commands or functionality you need.

| 彈 1 Schem | atic - C:\Us | ers\student\D | ocuments\EAGLE\ | projects\Ins | tructions\untitled.sch - EA | GLE 9.6.2 educ | ation |
|-------------|--------------|---------------|------------------|--------------|---------------------------------|----------------|--------------------------|
| File Edit (| Draw Vie | w Tools Lib | orary Options | Window | Help | | |
| B, E | | | • | SCR UL | ? General | | a 🗢 🕒 💿 |
| | _ | | | | ? Context F1 | •* | _ |
| 🛃 # | ŧ , ⊤ | Layer: | 91 Nets * | - A | Documentation | -3@5 | |
| | Sheets | Inspector | Selection Filter | Design I | Schematic Editor About EAGLE | .6 3.5) | Click or press Ctrl+L ke |
| (i) (i) | Browse | r Filter | | | ₽ @ | | |
| с., | | | | | | | |
| + ⊿⊾ | View: | Parts | | | • ? | | |

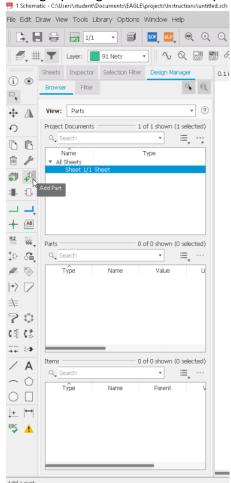
Here is a preview of the option and tabs you have available to you in the help menu.

| ? 2 EAGLE Help - EAGLE 9.6.2 educati | on — 🗌 | > |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| ile Edit View Window | | |
| $\blacklozenge \Rightarrow \boxplus \boxdot$ | | |
| 3 Find: | Command Line Options | |
| 'opic | You can call up EAGLE with command line parameters. Use the following format: | |
| General Help | | |
| Configuring EAGLE | eagle [options [filename [layer]]] | |
| Command Line Options | Under Windows EAGLE is also available as a console application (see below). | |
| Quick Introduction | Under Withows Exact is also available as a console application (see below). | |
| Control Panel | Orthogo | |
| Keyboard and Mouse | Options | |
| Editor Windows | -Axxx Assembly variant -Cxxx execute the over Command | |
| Editor Panels | -DXXX execute the given command -DXXX praw bolerance (0, 1 = 10%) | |
| Editor Commands | - Example to the contract (0.1 = 0.0 k) | |
| Generating Output | -Fxxx Flash tolerance (0.1 = 10%) | |
| Group Default ON | -N- no command line prompts | |
| Autorouter | -0+ Optimize pen movement | |
| Design Checks | -Pxxx plotter Pen (layer=pen) | |
| Cross-references | -RXXX drill Rack file -SXXX Scriptfile | |
| User Language | -SXXX SATISTIE -UXXX User settings file | |
| Writing a ULP | - WAXX aperture Wheel file | |
| Executing a ULP | -X- ekecute CAM Processor | |
| ▼ Syntax | -c+ positive Coordinates | |
| Whitespace | -dxxx Device (-d? for list) | |
| Comments | Emulate apertures | |
| Directives | -f+ Fil pads -bxxx page Height (inch) | |
| Keywards | -nxxx page megnic (incr) | |
| Identifiers | -xxx Output fierame | |
| Constants | -para Pendiameter (mm) | |
| Punctuators | -g- Quick plot | |
| Data Types | -r- Rotate output 90 degrees | |
| Object Types | -sxxx Scale factor | |
| Definitions | -u- output Upside down | |
| Operators | -vxxx poet velocity -wxxx poet width (inch) | |
| Expressions | | |
| Statements | -yxxx offset ((nch) | |
| Builtins | | |
| ▶ Dialogs | where xxx means that further data, e.g. a file name or a decimal number needs to be appended to the option character (without space or separated by a space), as in | |
| Supported HTML tags | -Waywheel.whl | |
| Automatic Backup | - anywheel whi - W nywheel whi | |
| File Locking | - Aperture enulation on | |
| Forward&Back Annotation | -et dto. | |
| EAGLE Editions - License | -e- Aperture emulation off | |
| | For flag options, a '-' means that the option is off by default, while '+' means it is on by default. | |
| | Flag options (e.ge) can be used without repeating the '-' character: | |
| | | _ |

2. Creating a Schematic:

Placing Components

To begin placing the electrical components for your scematic, select the Add Part button in the toolbar.



In the parts menu, your search term will be searched for exact matches in either the name or the description of the parts. To get around this, you can use wildcards to broaden your search. Using a "?" acts as a wildcard and will search for results with any character in that position. In this example, the search will return results for any 4-character name starting with "LED" eg. "LED1", "LED5", "LED3"

| ► C0 | on-amp-n | nto 🔳 | Eagle PCD | AMP Connecto | -0 / - / | |
|--------|----------|--------|-----------|---------------------------------|----------------------|---------|
| ► C0 | on-amp-o | 🖻 | Eagle Pcb | AMP Connecto | | |
| ► cc | on-amp-t | e 💼 | Eagle Pcb | AMINTE Conne | | |
| | | ✓ Pads | Smds | Description | Hide Unpopular Parts | Preview |
| earch | h 🖸 | LED? | | | | * |
| ttribu | utes 🛚 | | | | | * |

Using an "*" acts as a wildcard as well, representing any number of characters. The search in this example will return any string starting with "LED" eg, "LED", "LED1", "LED55", "LED12345678987654321"

| con-amp-q con-amp-ti | | Eagle Pcb Eagle Pcb | AMP Connecto AMP TE Conne | | |
|---------------------------------------------------|------|------------------------|---------------------------------|------------------------|---------|
| | Pads | Smds | Description | 🗌 Hide Unpopular Parts | Preview |
| Search 🛛 🗵 | LED* | | Ĩ | | * |
| Attributes 🗵 | | | | | • |
| | | | | | |

Once you have found the part you are looing for, click the name to select it. On the right of the window is a preview of the parts and their description. With the part selected, click the OK button to begin placing it. Click anywhere on the scematic to place the parts. You can place as many as you'd like without needing to reselect the part.

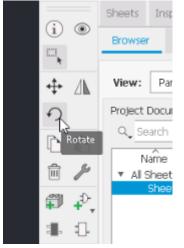
| lame ^ | | Managed Folde | r Description | Popularity | | |
|------------------|----------|---------------|------------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| ₹ 40xx | | Eagle Pcb | CMOS Logic De | | | |
| ▶ 4019 | _ | Logio i co | Quad AND-OR | | | Z>VALUE |
| ▼ 4073 | | | Triple 3-input | | | ZP VALUE |
| 407 | | | | | | |
| 407. | | | DIL14 | | | |
| ▼ 4081 | | | Quad 2-input | | P - Svalue - Svalue | 10mm |
| 408 | -40 | | S014 | | P | |
| 408. | | | | | $P = \frac{1}{2} $ | |
| ▶ 4082 | | 13 | Dual 4-input AND | | 6 Janue 10 Janue | |
| # 45xx | | Eagle Pcb | CMOS Logic De | | VALUE VALUE | m |
| ▶ 4506 | _ | Logio i co | Dual expandabl | | | |
| ▶ 4519 | | | 4-bit AND/OR | | | |
| 74ac-logic | | Eagle Pcb | TTL Logic Devi | | | |
| ▶ 74AC11. | | Logio i co | Quadruple 2-in | | | |
| ▶ 74AC11. | | | Triple 3-input | | 4081 (Version 6) | |
| ▶ 74AC11. | | | Dual 4-input AND | | | |
| 74ttl-din | | Eagle Pcb | TTL Devices wi | | Quad 2-input AND | |
| 7408N | 10 | Logio PCD | Ouad 2-input | | | |
| 7400N | <i>A</i> | | Ouad 2-input | | Footprint: SO14 (Version 1) | |
| 7403N | 10 | | Triple 3-input | | Small Outline package 150 mil | |
| 7421N | # | | Dual 4-input A | | Small outline package 150 mil | |
| 7451N | | | AND-OR-INVER | | 3D Package: SO14 (Version 2) | |
| 7474N | 10 | | Dual D type po | | | |
| 7476N | 10 | | Dual J-K FLIP F | | Small Outline package 150 mil | |
| 7478N | 10 | | Dual J-K FLIP F | | | |
| 74109N | | | Dual J-K positiv | | | |
| 74109N | | | Dual J-K negati | | | |
| 74112N | | | 10-line to 4-lin | | Attribute Value | |
| 7414/N | | | 10-line to 4-lin | | POPULARITY 4 | |
| 74148N 74240N | | | Octal BUFFER a | | POPULARITY 4 | |
| 74240N | | | Octal BUFFER a | | | |
| | | | Octal BUFFER a | | | |
| 74244N 74390N | | | Dual 4-bit deca | | | |
| 74390N 74393N | | | Dual 4-bit deca | | | |
| 74393N 74540N | | | Octal BUFFER a | | | |
| | | | | | | |
| - | Pads | 🗹 Smds 🔍 | Description | 🗌 Hide Unpopular Parts 🛛 🗹 Preview | | |
| earch 🛛 🛛 | AND | | | * | | |
| ttributes 🛛 | | | | * | | |
| | | | | | L | |
| | | | | | | |

Once you have finished placing your first component, you can press the ESC key on your keyboard to open up the parts menu again to choose the next part you'll place.

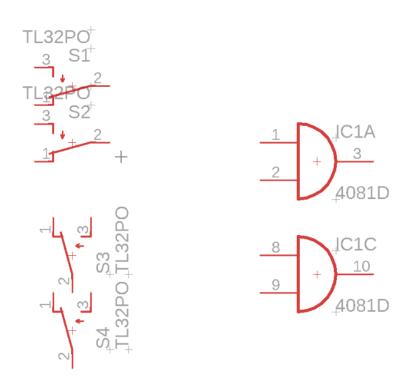


| lame ^ | Managed Folder | Description | Popularity | | |
|---------------------------|----------------|----------------|----------------------|---------|---------------------------------------------------------------|
| ELMA-0 | Hanagoa Foldor | Rotary Switche | | | |
| ELMA-0 | | Rotary Switche | | | >NAME |
| ELMA-0 | | Rotary Switche | | | |
| ITT-RT | | ROTARY SWIT. | | | |
| ITT-RT | | ROTARY SWIT | | | |
| ITT-RT | | ROTARY SWIT. | | | |
| LPV-1 | | TOGGLE SWIT | | | |
| M251 | | SLIDING SWIT | | | |
| M9040P | | TOGGLE SWIT | | | |
| M9040P2 | | TOGGLE SWIT | | | |
| MARO6 | | DIL SWITCH | | | VALUE |
| MS243 | | TOGGLE SWIT | | | |
| RDT1034 | | PUSH SWITCH | | | 1 5mm - 1 |
| REKN | | PUSH SWITCH | | | U.an ' |
| SKHMP | | 6.2 X 6.5mm T | | | TL32PO (Version 2) |
| SKH | | SKHMPXE010 | | | |
| SKH | | SKHMPXE010 | | | TINY SWITCH ON - MOM |
| SKH | | SKHMPXE010 | | | Source: http://www2.produktinfo.conrad.com/datenblaetter/ |
| SRRM1 | | 12-position Ge | | | 700000-724999/705152-da-01-de-Subminiaturschalter TL 36YO.pdf |
| SRRM2 | | 12-position Ge | | | /obbod//24999//05152-da-01-da-5dbininatdischarter_nc_5010.pdr |
| SRRM2 | | 12-position Ge | | | Footprint: TL3XPO (Version 1) |
| SRRM2 | | 12-position Ge | | | |
| SRRM3 | | 12-position Ge | | | TINY SWITCH |
| SRRM4 | | 12-position Ge | | | Source: http://www2.produktinfo.conrad.com/datenblaetter/ |
| SSRM1 | | 12-position Ge | | | 700000-724999/705152-da-01-de-Subminiaturschalter TL 36YO.pdf |
| TL32PO | | TINY SWITCH | | | |
| TL32WO | | TINY SWITCH | | | |
| TL32YO | | TINY SWITCH | | | Attribute Value |
| TL36PO | | TINY SWITCH | | | POPULARITY 2 |
| TL36WO | | TINY SWITCH | | - | |
| TL36YO | | TINY SWITCH | | | |
| TL37PO | | TINY SWITCH | | | |
| TL37WO | | TINY SWITCH | | | |
| TL37YO | | TINY SWITCH | | 2 | |
| TL38PO | | TINY SWITCH | | 15 | |
| | Pads 🗹 Smds 🗹 | Description | Hide Unpopular Parts | Preview | v |
| arch 🖸 | | | | * | |
| tributes 🔀 | | | | * | |

When placed, the parts will all be the same orientation. You can rotate the parts using the rotate tool in the toolbar.



Click the central cross of the part you want to rotate. This will rotate the part by 90° in a directiopn. Repeat this until the parts are rotated to your liking.



Another part you can add is a supply part. This includes power and ground components. These supply components can be placed any number of times in the schematic and will be treated as though they are linked.

| stm32xx | | Eagle Pcb | | |
|---------|---|-----------|----------------|------------------|
| supply1 | - | Eagle Pcb | Supply Symbols | |
| | | | SUPPLY SYMBOL | |
| +5V | | | SUPPLY SYMBOL | |
| +12V | 3 | | SUPPLY SYMBOL | |
| +15V | - | | SUPPLY SYMBOL | |
| +18V | | | SUPPLY SYMBOL | |
| +24V | | | SUPPLY SYMBOL | |
| -5V | | | SUPPLY SYMBOL | |
| -12V | | | SUPPLY SYMBOL | |
| -15V | | | SUPPLY SYMBOL | +3V3 (Version 1) |
| -18V | | | SUPPLY SYMBOL | |
| -24V | | | SUPPLY SYMBOL | SUPPLY SYMBOL |

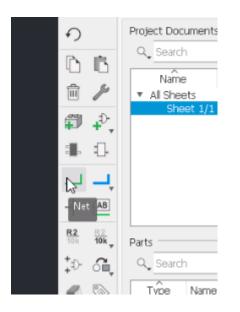
These can be found under the Supply1 tab in the full components menu.

| 244 | | | | | SUPPLY SYMBOL |
|---------------|-----------|----------------|----------------------|---------|--------------------------------|
| -24V | | SUPPLY SYMBOL | | | OUT FET STITUDE |
| OV | | SUPPLY SYMBOL | | | |
| AGND | | SUPPLY SYMBOL | | | |
| GND | | SUPPLY SYMBOL | | | |
| GNDA | | SUPPLY SYMBOL | | | |
| GNDI 😞 | | SUPPLY SYMBOL | | | |
| GNDINT | | SUPPLY SYMBOL | | | |
| GNDIO | | SUPPLY SYMBOL | | | |
| PE | | SUPPLY SYMBOL | | | |
| TH | | Thermal | | | |
| V+ | | SUPPLY SYMBOL | | | |
| V- | | SUPPLY SYMBOL | | | Attribute Value |
| VCC | | SUPPLY SYMBOL | | | |
| VCC/2 | | SUPPLY SYMBOL | | | |
| VCCINT | | SUPPLY SYMBOL | | | |
| VCCIO | | SUPPLY SYMBOL | | | |
| VDD | | SUPPLY SYMBOL | | | |
| VSS | | SUPPLY SYMBOL | | | |
| 🕨 supply2 🛛 🛱 | Eagle Pcb | Supply Symbols | | | |
| Pads | Srnds | Description | Hide Unpopular Parts | Preview | |
| earch 🛛 | | | | * | |
| | | | | | |
| ttributes 🛛 | | | | * | |
| | | | | | |
| | | | | | OK Open Library Manager Cancel |
| | | | | | OK Open Library Manager Carice |

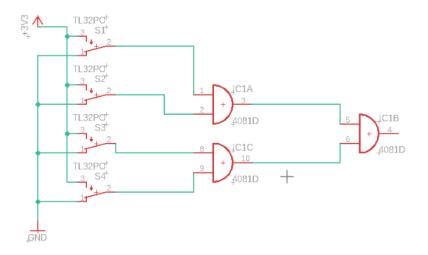
Connecting Your Parts

Using the Net tool in the toolbar, you can begin connecting your parts.

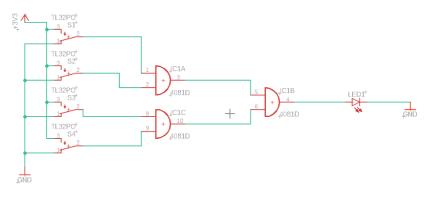




Click the node on your components you want to start connecting from and then click on another node to complete the connection. You can also begin drawwing a net anywhere but you will need to end to net on a node.



You can place source and ground components anywhere and as many times as you like. All ground connection will be connected when brought into the PCB builder.



3. Creating the PCB:

Once you have your circuit prepared, click the "Generate/switch to board" to transfer the circit to a PCB.

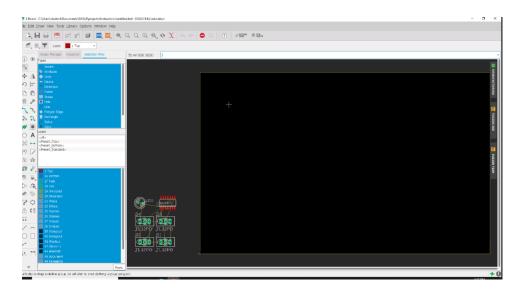
| _ r seneme | see c. (osers (seaderic)) | ocumento (c-tore g | projects (instructions (and a | Caser Ender Stere cau | cation |
|---------------------------|---------------------------|--------------------|-------------------------------|-----------------------|------------------------------------------|
| File Edit D | Draw View Tools Lib | prary Options \ | Window Help | | |
| B, E | 1/1 | • | ب 🔍 💭 🚛 | | ← ≈ 😑 💿 |
| Ø ,# | La Generate, | /switch to board | | U º+ 🌸 🕸 | |
| | Sheets Inspector | Selection Filter | Design Manager | 0.1 inch (7.3 2.2) | s <mark>tript</mark> |
| (i) (i) | Browser Filter | | ₽ @ | | |
| ♣⊿⊾ | View: Parts | | • ? | | |
| Ð | Project Documents | 10 | of 1 shown (1 selected) | ▲ | TL32PO ⁺ |
| D B | Q_ Search | | | ++ | 3 S1 ⁺ |
| ê 🎤 | Name ▼ All Sheets | Т | ype | | 1 |
| ₽ + ⁰ , | Sheet 1/1 Sl | heet | | | TL32PO ⁺ 3 S2 ⁺ |
| | | | | | |

When you do this the first time in your preject, you will be asked if you want to create from schematic. Click yes.

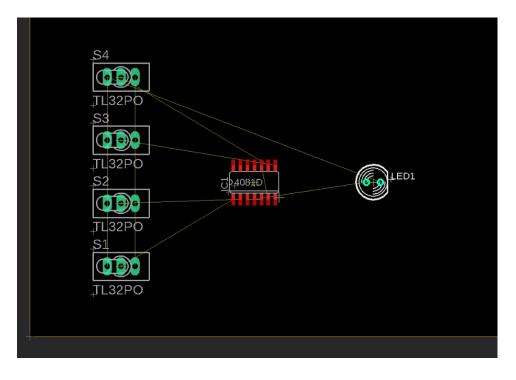
| ¢ | 🥮 Warn | | × | E 9.6.2 education |
|----|--------|---------------------------------------------------------------------------------------------------|---|-------------------|
| Í. | - warn | ng | ^ | |
| F | | The board C:\Users\student\Documents\EAGLE\projects\Instructions \untitled.brd does not exist. | | • • |
| | | Create from schematic? | | |
| | | Yes No | | 8 8 0.5 2.8) a |
| | i) (1) | Browser Filter | | 0.3 2.8) |

You will be presented with a screen of one colour, and a rectangle of a darker colour. The darker rectangle is the PCB.

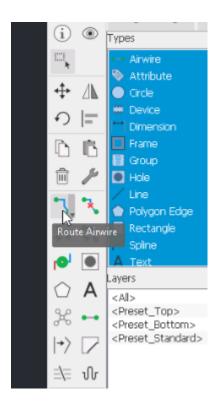




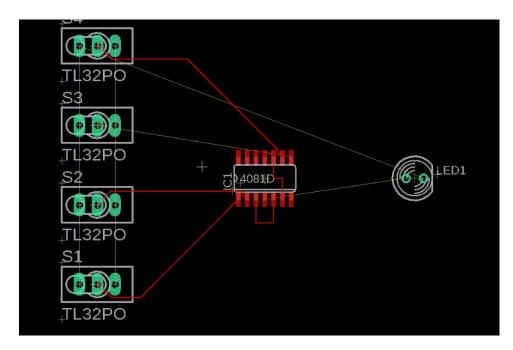
You can move the components from the left into the board. Adjust their positions to how you'd see them on the PCB. Try to avoid the lines crossing too much. The connections can be made later to ensure nothing gets tangled.



To begin connecting the components on the PCB, select "Route Airwire".

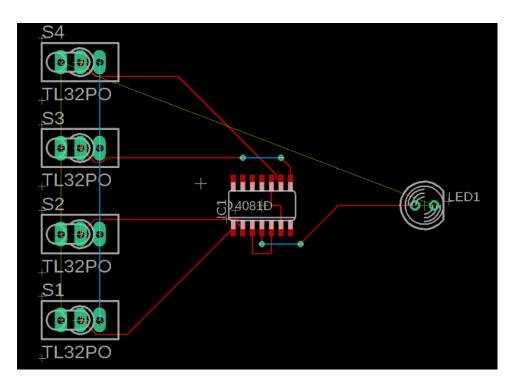


Click the node you want to start drawing from and draw towards the correct connection. The lighter lines will update as you draw to show where the connection should reach. There are two options in the upper toolbar for drawing these traces. One pushes asside aleady placed traces, and the other lets the trace you are drawing walk around the other components.

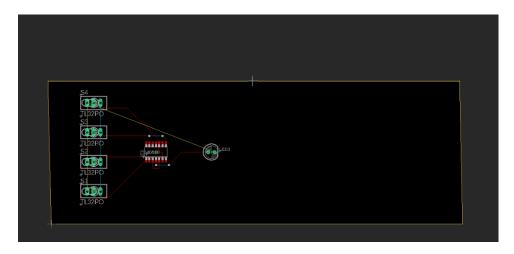


When drawing the traces, you can press the spacebar to switch the trace to the opposite side. This is useful for letting lines cross over eachother.

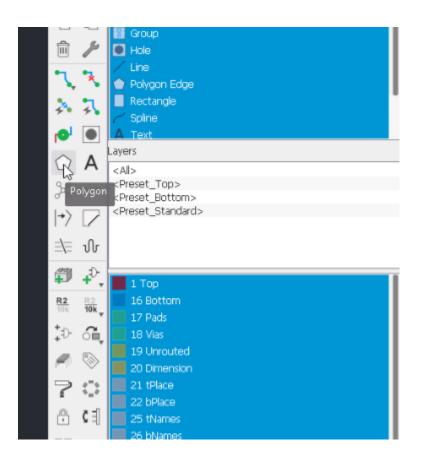




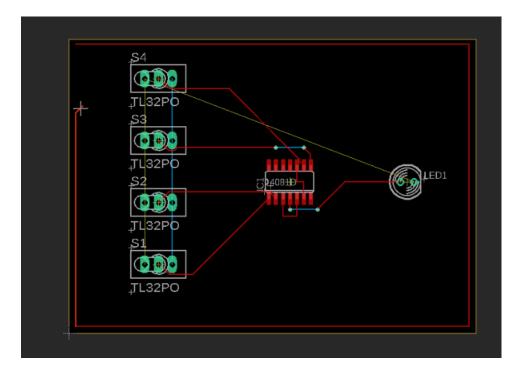
You can click and drag the outlines of the PCB board to adjust the size of the PCB itself.



Another connection that needs to be made is with the power source. Select the polygon tool.

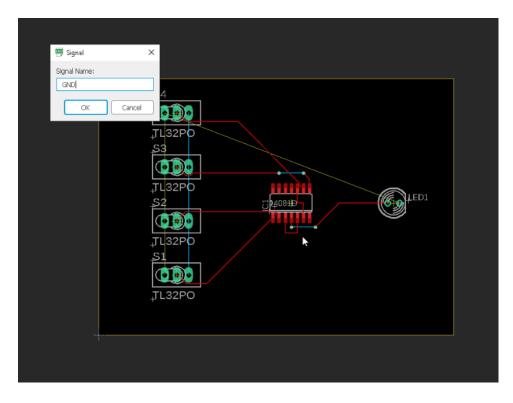


Draw an outline using the tool which covers all of the necessary components.

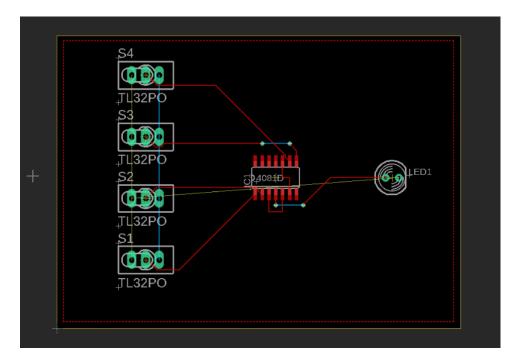


Once the drawing is complete, select either the ground or power connections to set the polygon to.

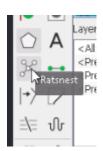




Here is what the complete polygon looks like.



Click the ratsnest tool to complete the polygon. This will fill the polygon with contacts connecting all of the nodes of the connection type you chose earlier. This fill will stay separate from the other traces on that layer.



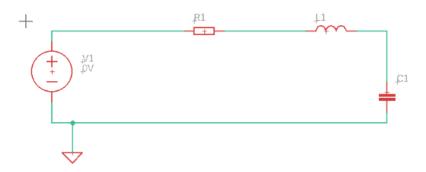


4. SPICE Simulation:

| A | | | | |
|---------------------------------|--------------|-----------------|------------------------------------|---------------------------------|
| Name | Manageo | | Popularity | |
| national-se | | | | |
| ngspice-digi | | | | |
| ngspice-sim | 🖨 🛛 Eagle Pc | | | |
| AMMET | | AMMETER. | | |
| BJT_NPN | | Bipolar NPN Tr | | |
| BJT_PNP | | Bipolar PNP Tra | | |
| C | | CAPACITOR | | |
| CCCS | | Linear Current | | |
| CCVS | | Linear Current | | |
| CURRENT | | Independent C | | |
| DIODE | | Diode | | |
| FET_N | | N-Type MOS Fi | | |
| FET_P | | P-Type MOS Fi | | |
| FN_ABS | | Voltage contro | | |
| FN_ACOS | | Voltage contro | | ngspice-simulation (Version 18) |
| FN_ASIN | | Voltage contro | | |
| FN_ATAN | | Voltage contro | | SPICE compatible library parts |
| FN_COS | | Voltage contro | | |
| FN_EXP | | Voltage contro | | |
| FN_LN | | Voltage contro | | |
| FN_LOG | | Voltage contro | | |
| FN_SIN | | Voltage contro | | |
| FN_TAN | | Voltage contro | | |
| GND | | Simulation gro | | |
| L | | INDUCTOR | | |
| LED | | Diode | | |
| NONLIN | | Nonlinear depe | | |
| OPAMP | | Operational am | | Attribute Value |
| R | | RESISTOR | | |
| TRANS | | Coupled induct | | |
| VCCS | | Linear Voltage | | |
| VCVS | | Linear Voltage | | |
| VOLTAGE | | Independent | | |
| V_SWI | | Voltage contro | | |
| on-semicon | Eagle Pd | b ON Semicondu | | |
| | Pads 🛛 Smd | | 🗌 Hide Unpopular Parts 🛛 🗹 Preview | |
| | | o goodpan | | |
| Search 😰 | | | • | |
| Attributes 🖾 | | | * | |
| | | | | |
| | | | | |
| | | | | OK Open Library Manager Cancel |

In the add components menu, open the drop down labled "spicesim" to access simulation parts.

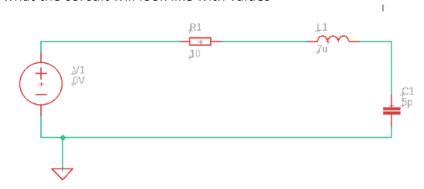
Using the components in that menu, build the circuit you'd like to simulate.



Using the Value tool, assign all of the components their values. Do not use the value tool on the voltage source.

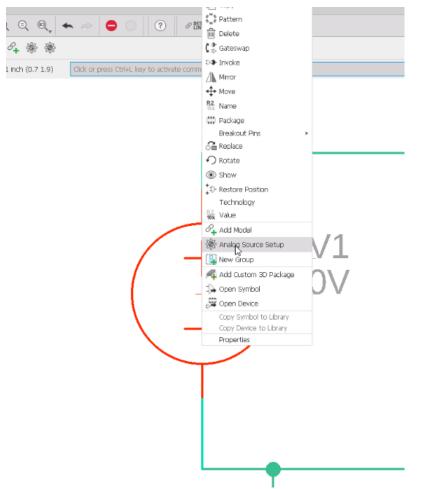
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Here is what the corcuit will look like with values

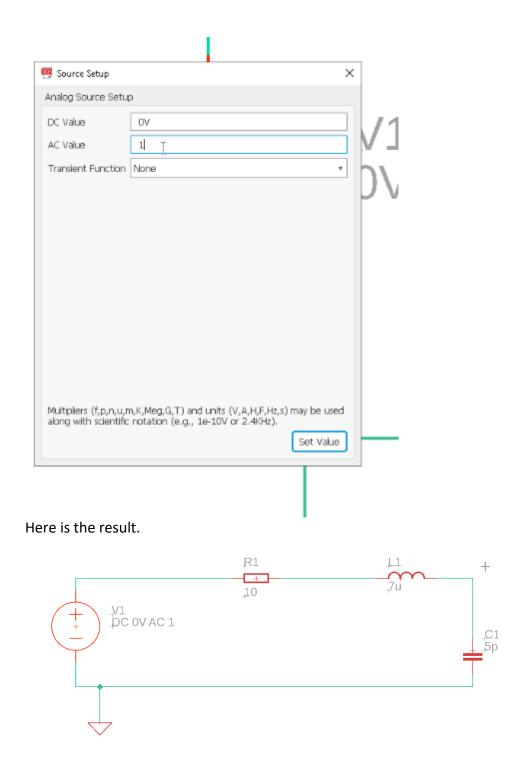


To assign a value to the voltage source, right click the voltage source and select Analog Source Setup.





Input your values and click "Set Value". In this case there is no DC value because we are doing an AC sweep simulation.

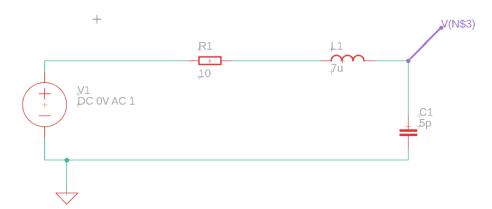


To gain data in the simulation, you will need to add probes. In the toolbar, select Voltage Probe.



| Options Window Help | |
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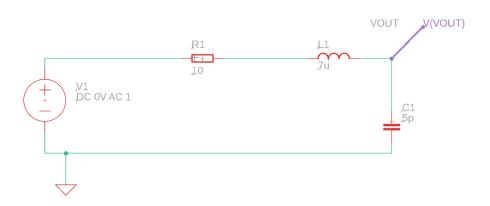
Choose where to place your probe in the circuit.



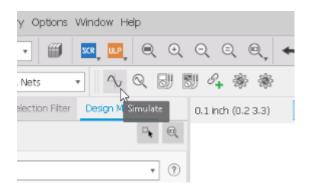
N\$3 isn't the most descriptive name, so you can use the "name" tool in the toolbar ro change the name of that node in the net.



Here is my outfit named as VOUT.



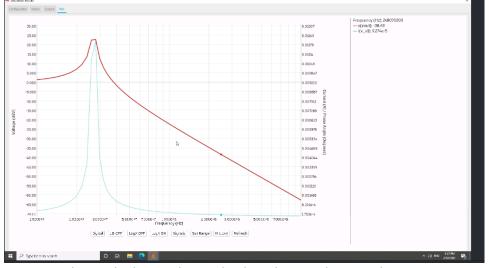
Once you've placed all of your probes, you can click the "Simulate" button.



In this case we are doing an AC sweep, so fill in your simulation details and click simulate.

| Configuration Netfits Output Plot Simulation Type DC Sim Options Operating Point Is 2010 ASSTOL GMUN PIVREL DC Sweep Source Start Value End Value O C Sweep Start Value End Value Is 2010 Is 2010 O AC Sweep Type Start Freq End Freq Is 2010 Is 2010 Is 2010 Transient Start Time Stop Time It Max) Is 30 Is 60 OFF Is 2010 # Points Stop Max # Points 2000 Temperature (C) 25.0 METHOD SRCSTEPS TRTOL Multipliers (fig.n.m.m.K/Meg.G,T) and units (V.A.H.F.H.L.s) may be used along with scentific notation (e.g., 1e-10V or 2.4KH2). Reset Reset Reset Reset Reset Reset | × |
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| Operating Point DC Sweep Source Start Value End Value AC Sweep Type Lin Start Freq End Freq IG Transient Start Time Start Time Stop Time Points S00 Multipliers (f, p, n, u, m, K, Meg, G, T) and units (V, A, H, F, Hz, s) may be used along with scientific notation (e.g., 1e-10V or 2.4(Hz)). Reset | DC Sim Options |
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| AC Sweep Type Start Preq End Freq II | |
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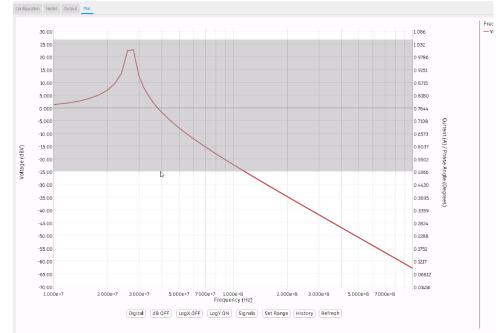
A graph of the results will appear. In this graph there is a VSource and a VOUT line.



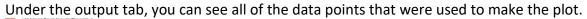
You can adjust which signals are displayed using the Signals Button.

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You can click and drag to select regions of the graph to zoom in on either vertically or horizontally. Any of these adjustments you make can be undone using the refresh button.



| Configuration | Newst 0 | utput Plot | |
|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------|------------------------------------|-----------------------------------------------------------------------------------|
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| 1 | 1.247539607 | 7479614e+000 | ,0.00000000000000000000000000000000000 |
| 2 | 1.369031239 | 491624e+000 | ",0.00000000000000000000000000000000000 |
| 3 | 1.542173364 | 312726e+000 | ;0.000000000000000+000),-1.191940930180368e-002),-7.728506788500663e-004 |
| 4 | 1.799998114 | 761635e+000 | ;0.00000000000000000000000000000000000 |
| 5 | 2.213317728 | 3019904e+000 | ,0.000000000000000e+000),-3.066243068887257e-002),-1.385094721066322e-003 |