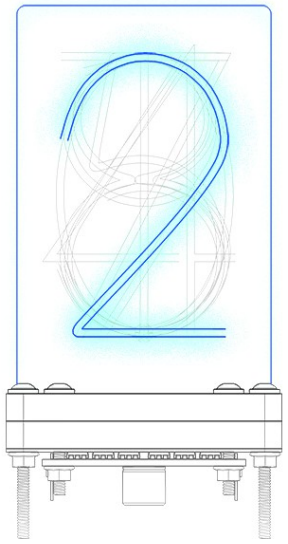


LIXIE II ASSEMBLY INSTRUCTIONS (UGLY TEMPORARY VERSION)

To begin assembly, you will need:

Included:

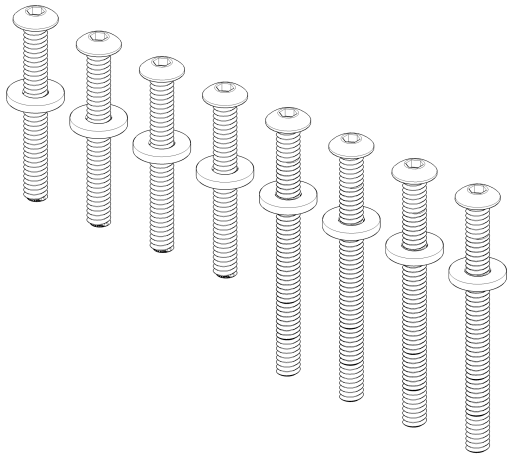
- 1x Fully Assembled Lixie II PCB (Pink Bag)
- 10x 1.5mm Acrylic Number Panes (Dark Blue Bag)
- 1x 3mm Acrylic Decimal Pane (Dark Blue Bag)
- 2x Melamine-finished MDF base (Green Bag)
- 2x Nitrile Gloves
- 4x 35 mm M3 Screw (Red Bag)
- 4x 25 mm M3 Screw(Yellow Bag)
- 8x Rubber Washer (orange Bag)
- 1x Light Filter (Light Blue Bag)
- 8x M3 Flange Nut (Purple Bag)

What else do I need?

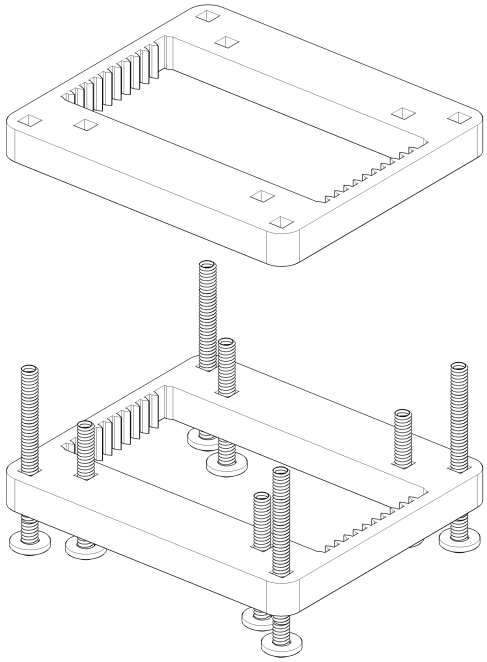
- 1x ESP8266 or ESP32 Microcontroller
- 3x Female Jumper Wires (for each digit purchased)
- 20 minutes of prep/assembly time
- NO SOLDERING REQUIRED!

Lixie II Base Assembly:

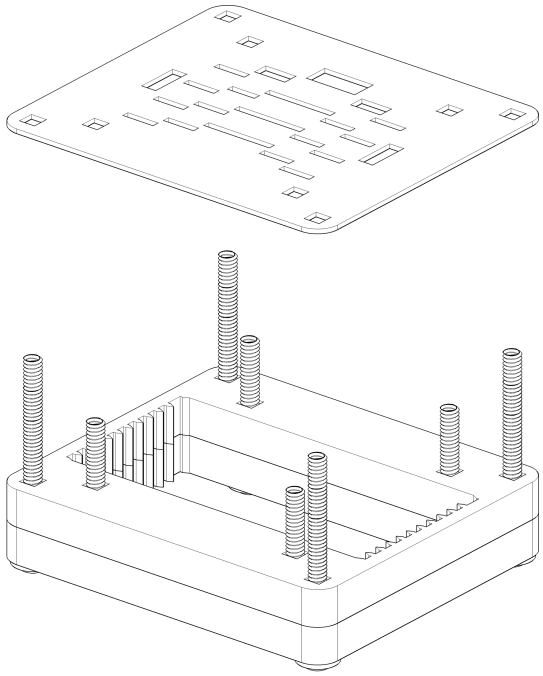
- First, remove the two black melamine wood base pieces from the bag with the green sticker on it.
- Next, stack and orient the two base pieces so that the thicker 3mm slot is farthest from you.
- Next, locate the yellow bag with the shorter 25 mm screws (x4) and the orange bag with the rubber washers (x8) in it.
- Put one washer on each 25 mm screw, sliding it so that it sits snugly beneath the head the screw. Set aside remaining washers for later.



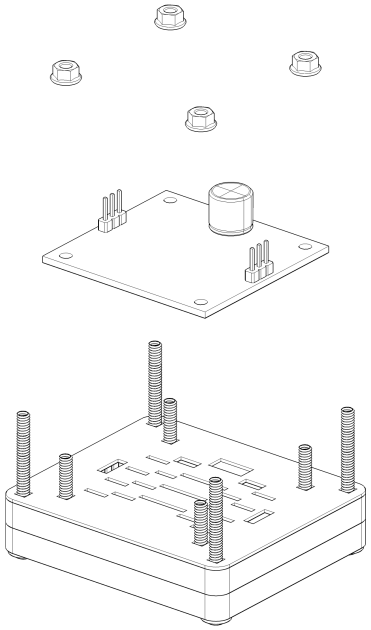
- Feed one 25 mm screw through each of the four inner holes on the base pieces.
- Carefully flip the base pieces with the short screws in the inner holes so that the heads of the screws rest on your assembly surface and the threaded ends point up.



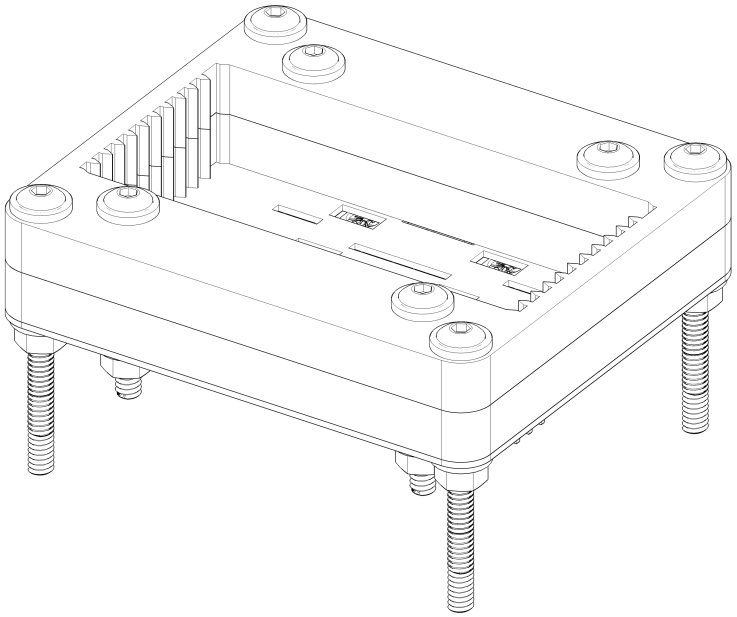
- Find the light blue bag with the light filter in it and remove it from the bag..
- Make sure that the black side of the light filter is face down, with the largest slot farthest from you to match the largest slot in the base pieces.
- Line up the light filter screw holes with the threaded ends of the screws and position flush against the base piece stack.



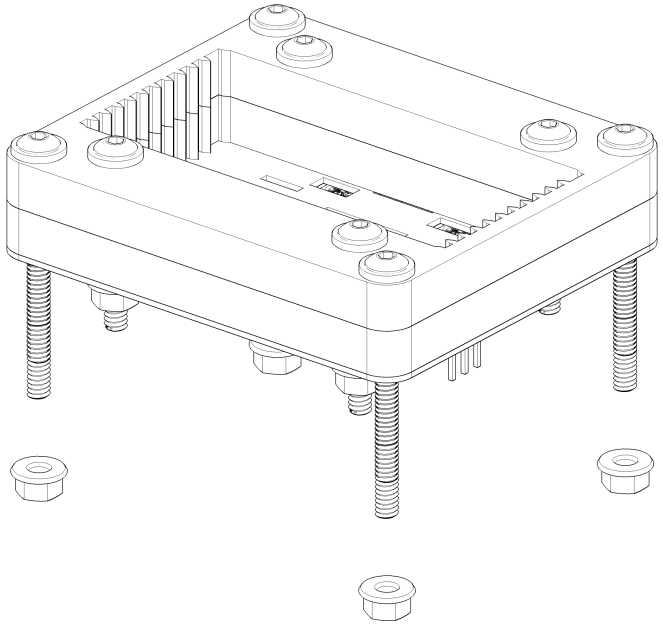
- Now locate the pink bag with the fully assembled PCB and remove it from the bag.
- Remove the foam insert and set it aside.
- Rotate the PCB so that the LEDs are face down, the body of the capacitor is pointing up, and is oriented farthest from you.
- Line up the screw holes on the PCB with the 25 mm screws in the stack of base pieces. The capacitor should sit over the large slot in the light filter.



- Find the purple bag with the M3 flange nuts (x8) and remove four nuts. Set aside the rest for later.
- Orient the flange nut so that the large flat side is pointing down and screw one onto each screw until the flat side sits flush with the PCB.
- Flip the finished base piece right side up and set on assembly surface.



- At this point you can decide whether or not to mount the finished Lixie II base or to have it stand alone on its 35 mm screws.



For a Standalone Finish:

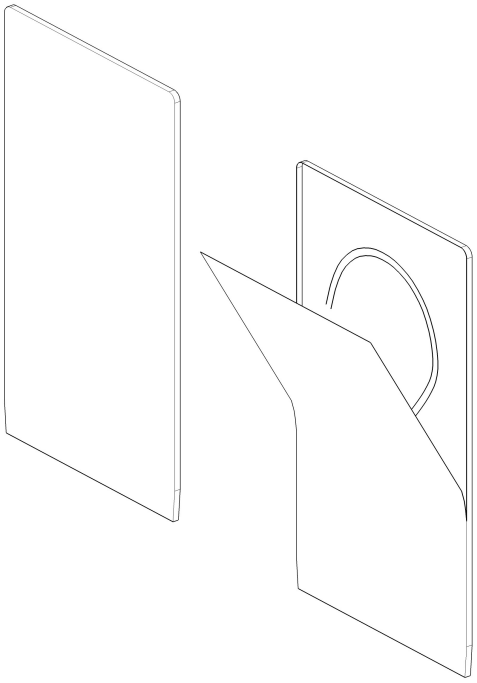
- Locate the red bag with the 35 mm screws (x4) and remove them from the bag.
- Now it's time to use the rest of the rubber washers that were set aside.
- Put one washer on each 35 mm screw and, from the top, put one screw into each of the remaining outer screw holes in the base piece so that the threads are pointing down.
- Locate the purple bag with the flange nuts (x4) and screw one flange nut onto each screw until it is flush with the bottom of the Lixie II base pieces.
- See later instructions for acrylic peeling and number ordering.

For a Base Mounted Finish:

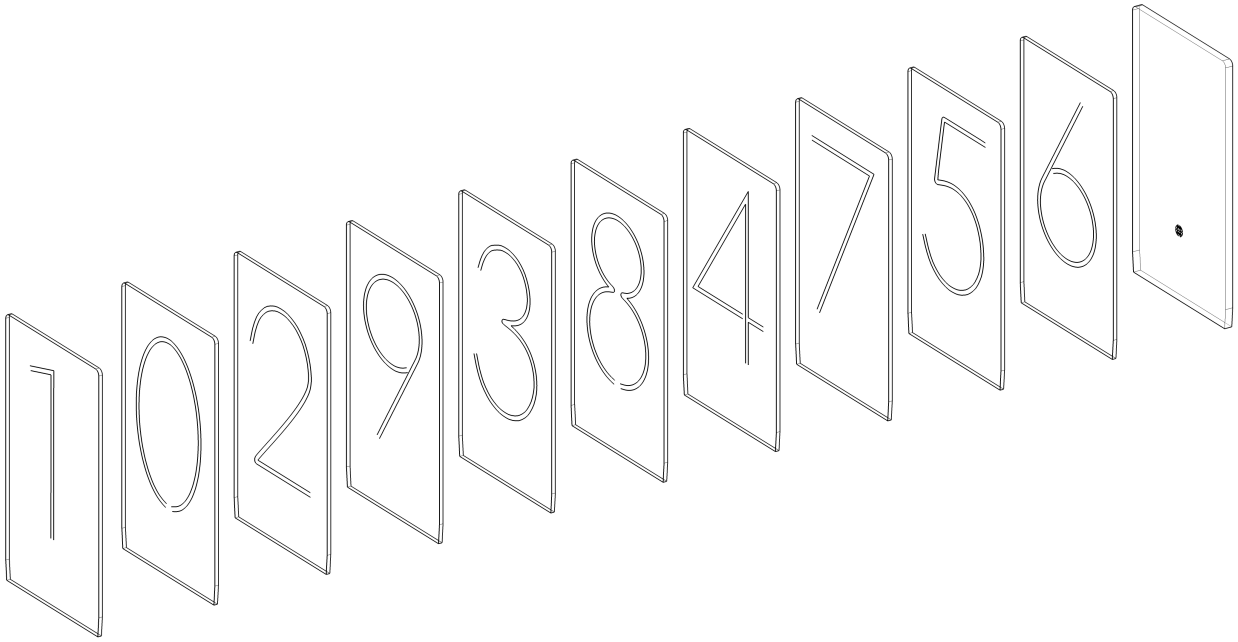
As the user, you get to design our own mounting base to complete your project should you choose to. We have seen several creative bases made by users in the past like an Art Deco piece, exotic woods, and 3D printed bases. We also have 3D printable base kits on our GitHub!

- Locate the red bag with the 35 mm screws (x4) and remove them from the bag.
- Now it's time to use the rest of the rubber washers that were set aside.
- Put one washer on each 35 mm screw and, from the top, put one screw into each of the remaining outer screw holes in the Lixie II housing so that the threads are pointing down.
- Line up the screws with the mounting holes in your base and push down so that the Lixie II housing is flush against the base you made.
- Locate the purple bag with the flange nuts (x4) and screw one flange nut onto each screw until it is flush with the bottom of the base you are mounting to.

PEELING:

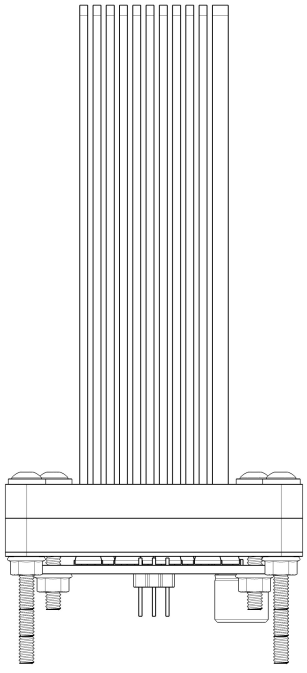


ORDER: (left is front)



Acrylic Digit Panes and Decimal Pane:

- The current library has a default order to the digits. Starting from back to front, the digits should be placed: Decimal, 6, 5, 7, 4, 8, 3, 9, 2, 0, 1
- Locate the dark blue bag with the laser cut acrylic number panes (x10) and the decimal pane (x1) and carefully remove from the bag.
- Each piece of acrylic has protective paper backings that need to be removed. However, to make this process easier, the numbers are all open ended so that the paper comes off in one piece. (A pair of Nitrile gloves are included with each digit to help avoid fingerprints on the panes!)
- Pro Tip: Peel from the bottom of each digit (the side with the tapered end) so that the paper is peeled with the grain of the engraved numbers; and so that any light scratches that may occur are hidden from view in the base.
- Place the digits into their slots in the above mentioned order. The Decimal pane is the thickest and will sit in the very back.



And Voila!

Your hardware is done! Now connect three wires to your right-most Lixie's right side as follows:

- 5V → 5V
- GND → GND
- DIN → (Any Arduino digital pin)

Next, for each of the remaining digits, if any, connect the 5V & GND pins of all the boards, and connect all DOUT pins to the DIN pin of the Lixie to its left.

LIXIE II ARDUINO LIBRARY:
https://github.com/connornishijima/Lixie_II

LIXIE II HARDWARE FILES:

https://github.com/connornishijima/Lixie_II_OSHW

CONCLUSION

We would love to see your finished projects, works in progress, and every stage in between. Take a picture and tag us @lixielabs on Facebook, Instagram, and Twitter so we can see what you're working on. If for any reason you have any questions or concerns, please email us right away at lixielabs@gmail.com so that we can address those concerns. Keep in mind, we are a two person team and sometimes it may take a little bit to get back to you, but we get back to you as soon as we are able. Thank you for supporting us and happy tinkering!