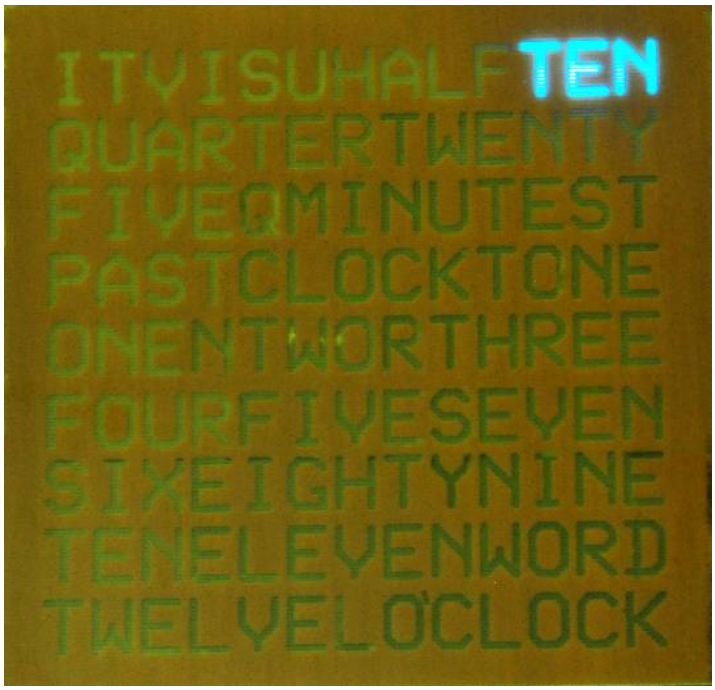
Word Clock

Stencil Construction Notes

A fun clock to build



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Welcome

Thanks for deciding to make this great little clock project. You will find that this clock will be a centre piece for many discussions into the future, as well as providing a great way to tell the time.

Because there are so many ways to construct the clock, I have broken assembly down into various documents – this document details the construction of the front display (stencil) and baffles.

You will find that construction of this clock is very simple. If you are methodical with your construction practices , and careful with you soldering, you will find that the clock almost assembles itself.

Parts List

The first thing you need to do is to verify that you have all of the necessary components required to assemble your clock. Here is the complete parts list. Feel free to check off each component as you verify it is present.

Baffles

140mm long	15

Stencil

Stencil	1

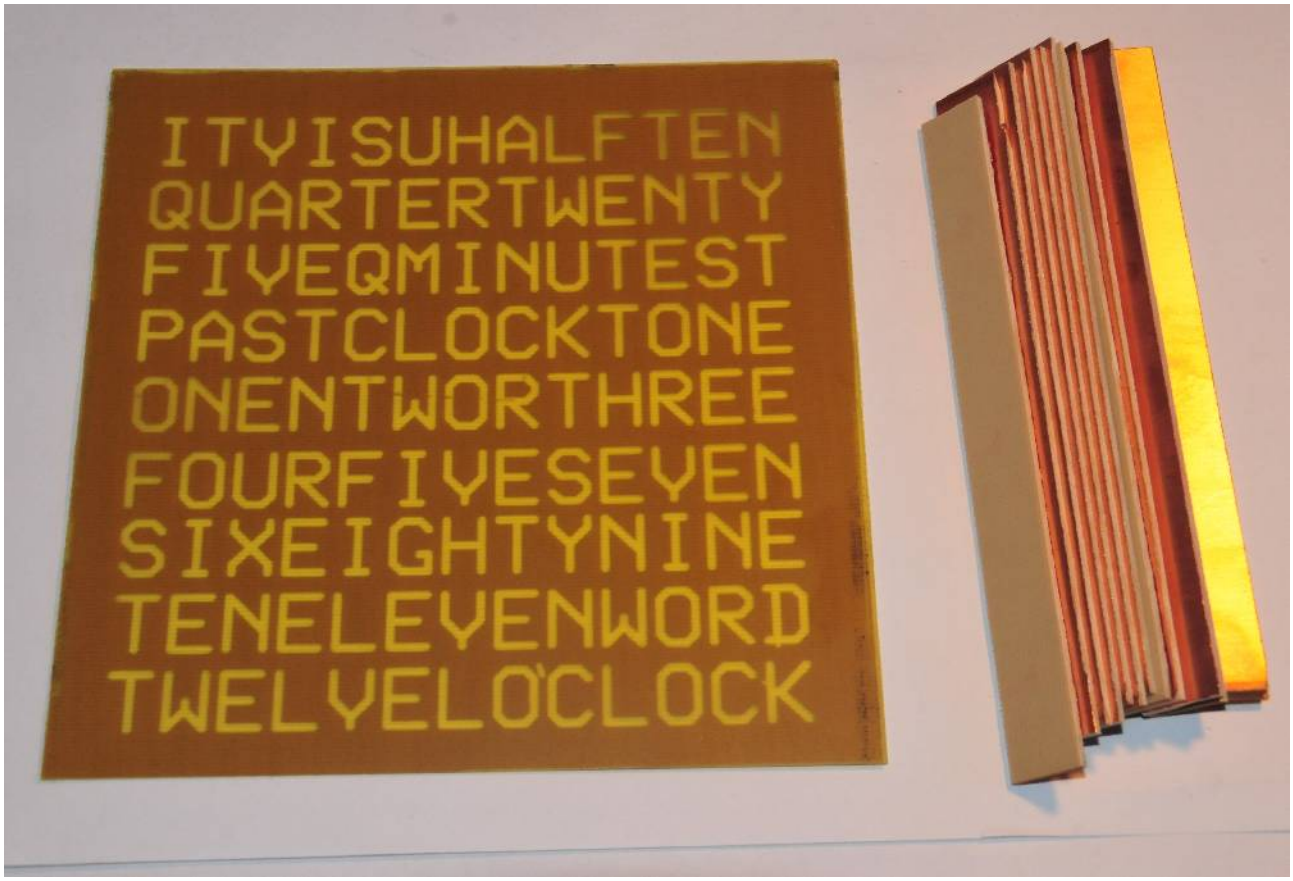
You will need a hot melt glue gun, and hot melt glue to assemble the baffles.

Note that the wording on the stencil may vary from these instructions depending on the custom words you have chosen.

Construction

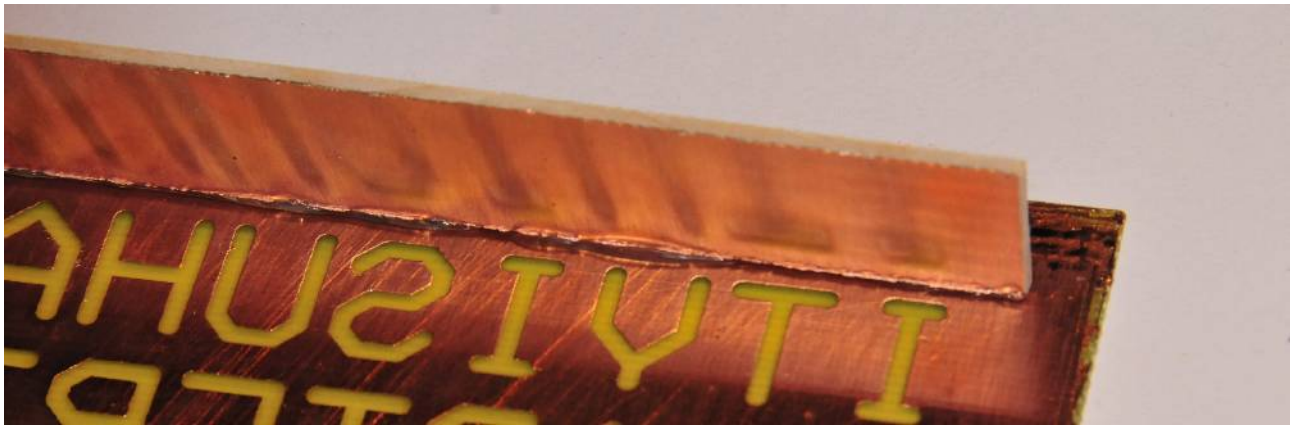
Assembly of the stencil and baffle assembly is straight forward. You will use hot melt glue to glue a set of baffles onto the inside of the display. Which side is the inside will vary from clock to clock, depending on whether you requested the copper to be on the inside or the outside.

CAUTION: DO NOT SOLDER THE BAFFLES. If you have requested fiberglass on the outside, you may be tempted to solder the baffles in place. The PCB material used is 1/32" thick (half that of the controller or display PCBs) to ensure that maximum light transmission is possible. Soldering will heat the PCB material, and cause discoloration on the front of the face. Use HOT MELT glue instead.



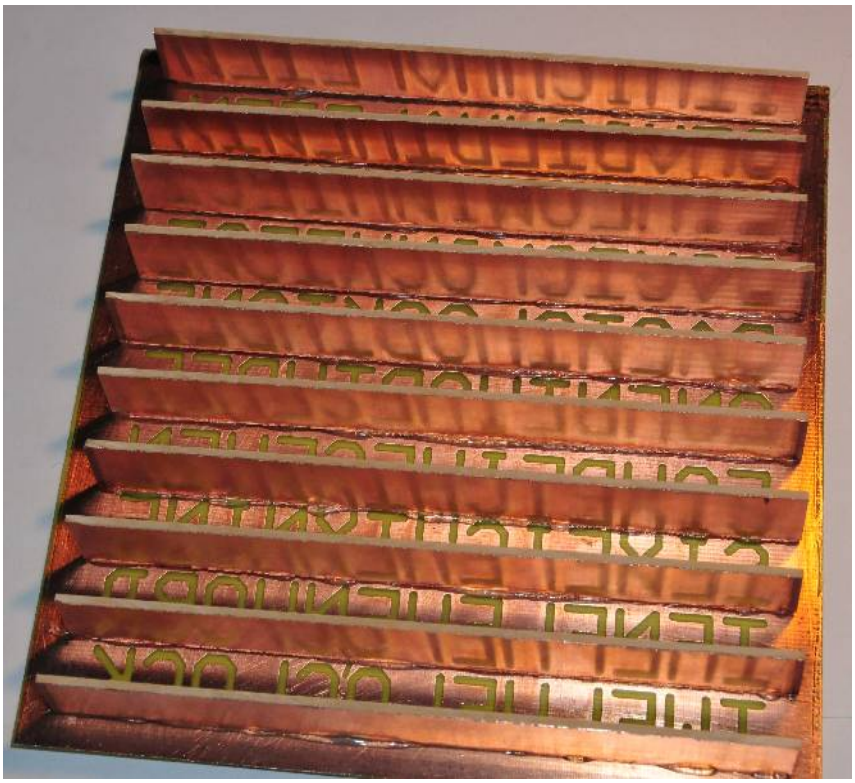
The above picture shows the components we start with.

Start assembly by running a bead of hot melt glue along one of the baffle pieces, and gluing it in place at the inside top of the stencil. Be careful to align the baffle evenly.



If the glue sets before you have mounted the baffle, simply strip the glue off, and start again.

Continue with all of the horizontal baffles. Be careful not to cover the visible letters with glue.



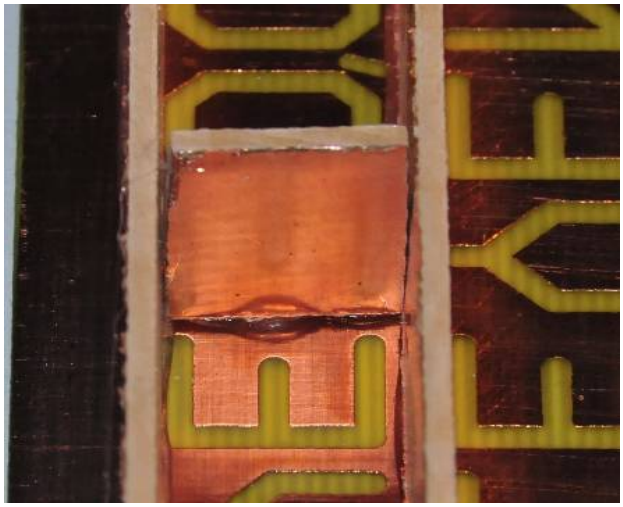
Next, we need to glue in the vertical baffles – these are cut of the remaining baffle pieces.

CAUTION: Retain 2 baffle pieces for the left and right hand sides. Cutting 3 baffles is more than enough to allow all vertical baffles to be made.

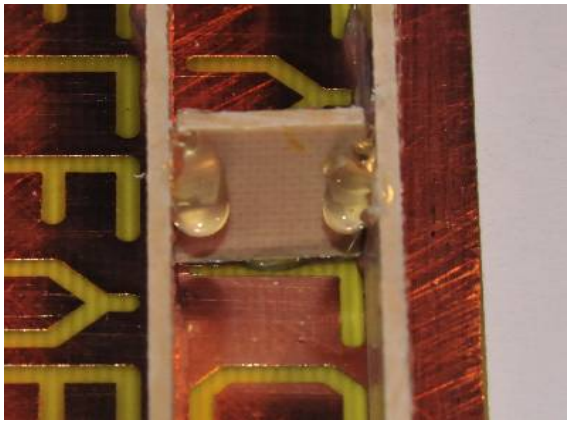
A pair of large diagonal cutters is very well suited to cutting the PCB stock.

Measure the required length of baffle material, mark it out on the baffle, and cut. The vertical baffle is then held in place with hot melt glue.

Start gluing by running a bead of glue along the base of the strip, and insert the strip in position.



Once the glue has set, run a bead along the sides to prevent the vertical baffle from moving.



Continue until all of the vertical baffles are in position:

The final step is to glue the left and right baffles in place, using the two baffle pieces you held over.

Start by running a bead of glue along the baffle edge, then run a bead up every second horizontal. Quickly position the edge, and hold it till the glue dries.

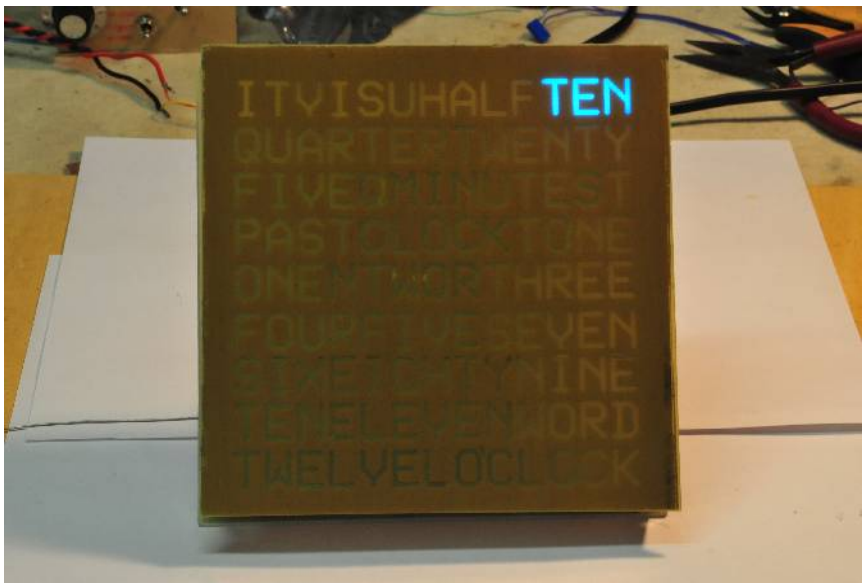
You can see that vertical alignment of the baffles is not critical – just be careful not to obscure a letter edge with glue, as that will be visible from the front of the display..

And – Thats it – Your stencil is completed.

It should look like the photo below:

The stencil assembly is not ready to be mounted (glued) to the LED assembly, and placed inside your clock frame.

The stencil can be covered with colored paper, or celophane, or any material that light can pass through – experiment with various media until you find a combination that is right for you.



Here is a picture of a sample stencil, mounted in a LED display, with just the word "ten" being driven from a bench power supply.

I hope you enjoy your clock, Doug Jackson