## The Ultimate Picture Frame Instruction Guide: Consumer Edition



Thank you for buying the Ultimate Picture Frame! May you never need to buy another picture frame ever again!
Within this guide you will find instructions on how to:

- Plan your frame
- Determine the right option for your printer
- Print your frame for an optimal fit
- Assemble your frame
- Troubleshoot potential issues

If you have any questions that this guide cannot answer, you can reach me at hello@katzcreates.com and I'll do my best to assist!
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## Step One: Planning Your Frame



Before you can get making your frame, you need to figure out what size frame you'll be making. The different versions of the frame will determine the sizing options available. The Ultimate Picture Frame can accommodate the following:

| Inches: |
| :---: |
| All standard |
| sizes above |
| 8"x8", |
| including Letter |
| Any |
| configuration |
| that can be |
| made from |
| the following |
| measurements: |
| 4 inches, 3 |
| inches, and 2 |
| inches |


| A Sizes: |
| :---: |
| All standard |
| sizes between |
| A6 and 4A0 |
| Larger sizes |
| can be |
| created |
| following the |
| same sizing |
| convention at |
| your own risk! |
|  |


| B Sizes: |
| :---: |
| All standard |
| sizes between |
| B6 and 4B0 |
| Larger sizes |
| can be |
| created |
| following the |
| same sizing |
| convention at |
| your own risk! |
|  |


| Metric: |
| :---: |
| All standard |
| sizes above |
| $20 \mathrm{~cm} \times 20 \mathrm{~cm}$ |
| Any |
| configuration |
| that can be |
| made from |
| the following |
| measurements: |
| $10 \mathrm{~cm}, 5 \mathrm{~cm}, 4$ |
| cm |
|  |

All of the files have the size of the piece listed in the name. If you are not using the Frame Planning tool and doing your own maths, you should be able to determine the pieces required according to the lengths mentioned in the file names.

Please note that the sizes listed with the $A$ and $B$ sized pieces are more precise to create the necessary sizes. The number you get may be up to lmm larger than official sizes; this is normal.


How to Use:
Solect vout freme nae type from the above choises (A Sam. B Sien Letres, Inchex, or Ceesimeteri) leput ysur cestom meovatements on those fram the peovibed drop down and tich the Geserate Fiome
bution.
Piecet mill be listed occording to ahat you need for the Top ond Botram
lengthe es well on Lett and Right. Keep in mied that the eumber pronided a the amount required for BOTH listed vides IE G. it a Long pieces ore movired for Top and flottom then eoch side wit use 3 . Nares listed (long, hart, etel will correipond to the the namen

If you are using the Frame Planning Tool, then choose your frame type, put in your desired frame measurements (or choose from the drop down) and the tool will tell you exactly how many of each piece you will need to print. There are further instructions on the page.

The frame is designed to be able to fit additional mounting, thicker pieces of art, as well as a pane of glass or acrylic. The front slot can accommodate up to 4 mm , the back slot can take up to 7 mm . Please plan accordingly.

Along with your frame pieces, you will also need either M3x10
 screws to secure the backing pieces, or some 3D print friendly glue only if you want to make the frame permanent.

Consider how you want to display the frame as well! The frames stand independently or can be hung with either a bit of lmm wire or $\mathbf{8}$ gauge/4.5mm wall screws.

## Step Two: Printing Your Frame



For your frame to function as intended, it is very important that the printed pieces have a good, tight fit when slotted together, which requires having the correct settings dialed into your printer. To determine the best fit for your printer, it is highly recommended that you print out all of the Test
Pieces included first. See Figure 2.1 for an example piece.


Figure 2.1
There are four sets of test pieces, identified with Sizes 1-4. The size of each piece is marked with a number on the bottom of the print.

These can all be printed at the same time with the same settings (these settings are for FDM only, see next page for resin):

- Nozzle Size: . 4 mm
- Layer Height: . 2 mm
- Top Layers: 5
- Bottom Layers: 5

You are welcome to add variation around infill and wall thickness; I recommend $\mathbf{1 0 - 1 5 \%}$ grid and 2 perimeters. No supports or rafts are required. These
settings can be applied to all frame prints.

Once you've got the pieces printed, slot them together as seen in Figure 2.2. The pieces should require a small amount of force to get them to fit, then sit snuggly with little to no wobble. In an ideal fit you should be able to pry them back apart with a bit of force. If you require great force to slide them together and they become stuck, the size is too small. If they wobble or slide apart, the size is too big.
Choose the size that is closest to described above, erring on the side of too tight.


Figure 2.2

## Top Tips!



Figure 2.3

If you find yourself struggling to fit the pieces together, check the print for elephant foot, as seen in Figure 2.3. Elephant foot can be removed after the fact with a blade or deburring tool, however it is better to factor for it before you print your final pieces. Many slicers include a setting that allows you to compensate for elephant footing, or you can adjust your nozzle height until the first layer is less squished.

Once you are happy with the fit, you're ready to print your pieces!

## Important Notes!

There are only two sizes for the backing pieces as they require a less precise fit. Use Backing Size 1 for frame sizes 1 and $2, \&$ Backing Size 2 for frame sizes 3 and 4.

These settings are for FDM style printing ONLY. If you are printing in resin, default settings should be fine, but some post processing (sanding) may be required.

## Step Three: Frame Assembly



To prepare for assembly, gather up all of your printed pieces, as well as your chosen method of attaching the backing (screws or glue). If you are using a piece of glass or perspex in the frame, you'll also need that to hand, as well as what you are framing.
If at any point something doesn't appear to be working as stated, please check the Troubleshooting Section at the end of this guide for help.


Figure 3.1

To get started, arrange your pieces in the general shape of the final frame to make sure you have all the pieces you need, with the backs on the table and the front of the frame facing up, as seen in Figure 3.1. Become familiar with the direction in which the pieces will slide together as the order in which you connect them will be important!

## Top Tips!

Be aware that corner pieces only slot together in one direction!


Figures 3.2-3.6
Start the assembly with the corners at one end of the frame, putting each corner together as seen above before adding any length pieces or attaching the corners to each other. The corner and lengths come together the same way as the test pieces (see Figure 2.2). You'll finish with one side complete.


Figures 3.7-3.9
From there, add length pieces (as seen in Figures 3.10 and 3.11) until you have three sides of the frame assembled. Leave off the remaining corners and fourth side for now.


Figure 3.10


Figure 3.11

Check and make sure everything is fitting together nicely so far. You should be able to give the assembled pieces a bit of a tug and not have it wiggle or rattle about much. If any pieces are not fitting together well, a bit of clean up with a knife/deburring tool should help.


Instead of fitting the remaining corner pieces together (as seen in Figures 3.2-3.6), slot onto the main body of the frame the side of the corner that is the 'receiving' piece, or the piece that will be slid into. (See Figure 3.12) It should look like the corner piece with slots, instead of the piece with triangular extensions (see Figure 3.13). Prepare the last side of the frame, but do not attach it. There should also be one last corner piece, completely unattached (Figure 3.14).


Figure 3.14
Your frame will look a bit different due to the sheer variation of size possibilities, but your frame should be looking somewhat like the photo above. Time to grab your glass/art!


Figure 3.16
Carefully insert the art into the front slot if you are not using any clear front piece, or insert your glass/acrylic if you are. There is space in the back of the frame for the art if you are using the front slot for glass/ acrylic, or simply prefer to place the art in the back. Make sure that the edges of whatever you are inserting are straight and square, or you may find the frame bending a bit to accommodate it! If you are having trouble with this, please refer to the Troubleshooting section at the end of this guide for more help.


Once you've got the art or glass slid fully into the front slot of the frame, or if you are only placing art in the back, attach the fourth side of the frame at the corner where you already have the first corner half.

Figure 3.17


Figure 3.18


Figure 3.19

Once you've got the fourth side on, it's time for the final piece. This will likely be the most stubborn to attach, but if you put it together in the right order, both the length and corner fit should go in the same direction, allowing you to slide the final piece on. Don't be afraid to use a little force to squeeze together any remaining gaps!


## If you're placing art or anything in the back slot of the frame,

 flip the frame over and gently place it in after giving your glass/ perspex a wipe to clean it of any debris. If your art is thin, a piece of cardboard should be placed behind for support, as seen in Figure 3.20. From there you are ready to attach the back plates.Figure 3.20
Keeping your hanging orientation and direction of the art in mind, place your back plate pieces in the slots on the back of the frame. Make sure you place them with the slots for the screw heads facing out, and the indentations for the hanging screws facing in. You may need to clear loose plastic from the screw holes to get a clear path.


Figure 3.21


Figure 3.22


Figure 3.23

Secure the back plates to the frame with the M3x10 screws, or with a bit of glue if you prefer. Check that they are secure.

## Top Tips!

Even if you aren't placing anything in the back, or choosing to hang the frame, you should still secure at least two back plates for stability. Also, your back plates may look different as some sizes come with an L-shaped screw mounting hole.


Flip it back over and admire your new frame, because it's complete! Find a good place to display it, then get started on the next one!
Please be sure to share photos of your frame on social media and tag me in the results so I can see and share it! \#UltimateFrame

## FAQ/Troubleshooting



## I've printed the test pieces and none of them fit together right; help!

- First of all, double check that you are testing the correct pieces together; a Test Piece 1 and a Test Piece 2 won't fit together correctly! If they still won't fit, check that there isn't any elephant foot on the prints (see Figure 2.3) preventing them from coming together. If they still won't fit (or are all too loose), then please email me for further assistance.

How do I get a multi-coloured frame like in the photos?

- If you just want different pieces in different colours (like the frame in Part 3) you simply need to print each set of pieces separately to make them different. If you want more than one colour in a single piece (as seen in the cover photo) then you can add a pause in the print where you want the change and swap filaments then. Your individual slicer should have more information on how to do this online.


## What if I want a frame that's smaller than the options here?

- If you want a custom frame size that is not possible with the pieces provided, then you can get in touch to swap to the Pro CAD version to customise the design in the CAD software of your choice, at the price difference between versions. Only do this if you have CAD experience. Otherwise, I'm afraid there is no other way to change the size of the pieces; it is recommended to not scale them in your slicer to change the size. Doing this can result in the pieces not fitting together.

The straight length pieces fit together well but the corner pieces are a bit wobbly, how do I fix this?

- If there is just a bit of wobble at the corners, this will be stabilised when the frame is fully assembled and is completely normal. If the pieces are sliding apart (but the lengths are stable) then double check and make sure that you haven't printed pieces from two different size sets.


## I'm struggling with the assembly of the frame; are there more visuals of the process I can see?

- Yes! There is a video showing the entire build process on my website. You can find it through the shop, or navigate there directly via the QR code below.



## Can I glue the frame pieces together to improve the stability of the frame?

- You can glue it if you really want to, but it is not recommended as it will make the frame permanent and potentially make it impossible to get your art back out. If the frame is unstable without it then a smaller size of tolerance should be used until the frame is stable on its own.


## My screws aren't tightening all the way when I attach the backing?

- The holes for the screws may not print completely perfectly due to being on their side, so the screws may not stop rotating or grip at the end. This is okay so long as the backing plate is secure, so just give it a little tug to double check!


## My glass/perspex is flexing the frame a bit and not fitting quite right?

- Double check that the piece is completely square! Acrylic and Perspex are often cut quite imprecisely and may not have completely straight
 edges. A bit of sanding may help even it up, otherwise building the frame 'around' it a bit more instead of sliding it into a mostly complete frame may help. Don't be afraid to get a bit forceful screwing in the backing; it will help the frame hold its shape. The black frame to the left had imperfect Perspex but a little elbow grease got it to work!


## Is there a limit to how many frames I can make with one purchase?

- Nope! The joy of this design is that you aren't limited in the kinds of frames you can make, and you are encouraged to fill your house with the Ultimate Picture Frame! You are also welcome to make and give them as gifts!


## Can I print and sell frames to other people?

- No, as the files were purchased with a personal use license only. If you are interested in selling prints of the frame to others then you must contact me directly to reach an arrangement and be granted a commercial license. The reselling of digital files is strictly prohibited. Evidence of either without written permission will result in legal action.


## How do I make an Inches/Metric/etc. sized frame if I purchased a different size?

- Each unique Size Group can only make frames in that unit of measurement, meaning trying to make a Metric frame with an Inches set of files isn't going to yield the results you want. If you want to make frames in other sizes then the one you purchased you will have to go back and purchase the additional size you need.


## Thank you so much for purchasing the Ultimate Picture Frame!

Like it? Love it? Wanna shout about it? Please share your thoughts and reviews online and tag them with \#UltimateFrame.


