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# Multiple Openings: 124

## Using Array

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## Multiple Openings: 124 Using Array

In Course 120 on Adding Openings to a Multiple Opening Design, the Array tab was introduced and demonstrated. It deserves more attention in its own presentation because it can be so useful.

### Project 1

Begin on the **New Opening** screen as if you were intending to design a typical single mat.

One of the tabs along the top is labeled **Array**.

- ▶ Click it. Here it is possible to add and arrange any number of identical openings.

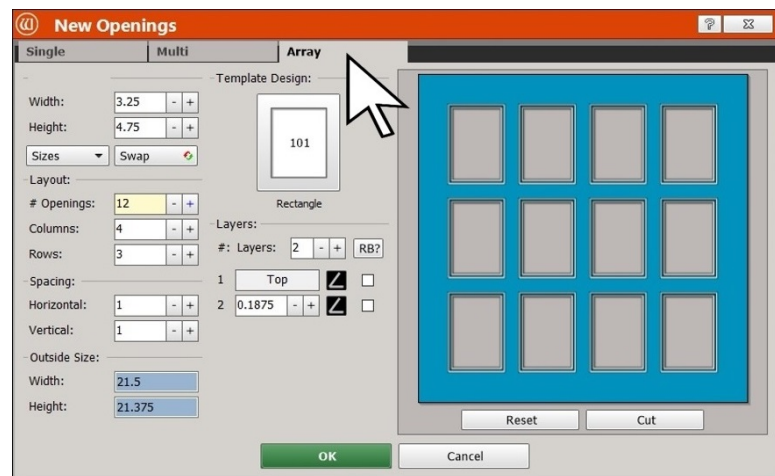
We begin by making a normal arrangement of 12 openings.

Look at the column of fields on the left. Their labels are self-explanatory, and their functions should be obvious.

- ▶ Enter the **Opening Size** at the top left.

- ▶ Below, enter the **Number of Openings** you'd like. In this example, there are 12 openings.

A proposed arrangement of 4 **Columns** and 3 **Rows** appears in the **Layout** section below. At the right there is an image of the arrangement.

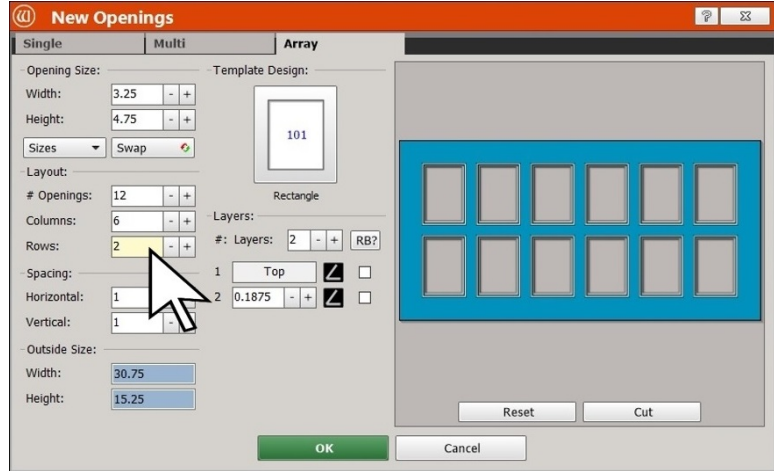




## Altering the Arrangement

It is possible to change the numbers of **Columns** and **Rows** in the **Layout** section to more closely match what is necessary for the project at hand.

This is how the layout looks with **6 Columns** and **2 Rows**.

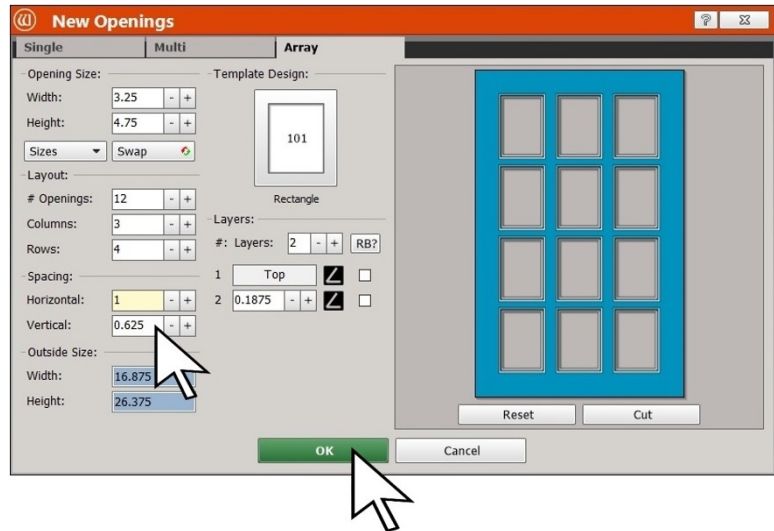


To suit the current project, though, there are **3 Columns** and **4 Rows**.

Below the **Layout** section is the **Spacing** section.

The **Horizontal** and **Vertical** spacing can be set separately.

The **Vertical** spacing has been set to 0.625 inch and the **Horizontal** spacing remains at 1 inch.



## A Reminder

The **Positioning** button on the **Edit** screen is set so that all the spacing distances and alignment tools will reference the top layer of the opening, not the bottom layer.

**Note:** the default setting for the positioning button can be changed on the **Editor** tab of the **Admin** section so that the alignment tools will always reference the top layer, if you choose.

Therefore, the openings are 0.625 inch apart vertically and 1 inch apart horizontally as measured on the top layer of the mat. For more detailed information about the **Positioning** button, refer to the presentation on **Alignment** or **Guides**.



## Refining the Openings' Details

To the right, there are fields to change the number of **Layers** and the sizes of the **Reveals**.

It is also possible to click the **Template** icon and change the openings' shape using the **Template Library**. Remember, though, there is no access to the parameter adjustments to adjust the details of the template shapes from here on the **Array** tab.

Whether it's **Size**, **Layers**, **Shape**, or **Reveals**, remember that these are all identical openings—what you change for one, changes for all.

At the bottom, there are fields that display the **Outside Size**. These fields cannot be altered on the **Array** screen.

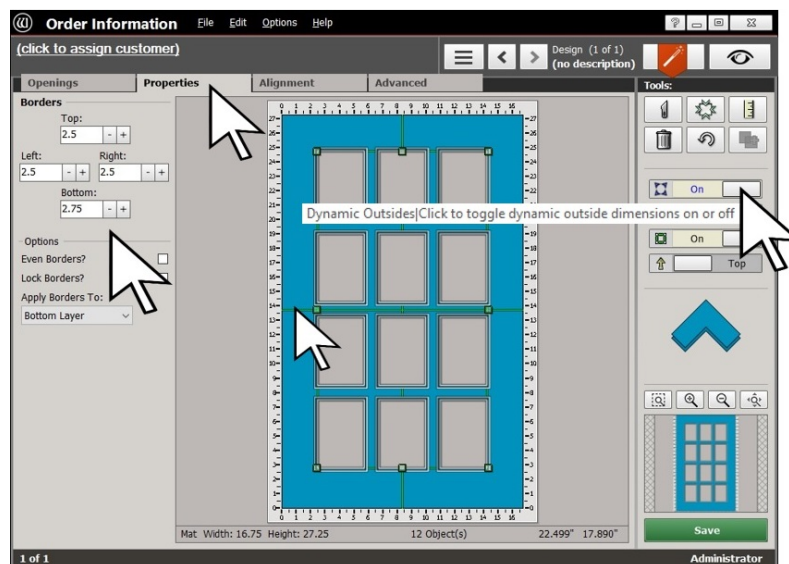
When the sizes, spacing, and arrangement are correct, click **OK** at the bottom to send the design to the **Edit** screen to set the outside size.

## Setting the Outside Size

The final step prior to cutting is setting the outside size on the **Edit** screen.

There are different requirements for every project, but we will take the custom framing approach—where the openings' arrangement and the borders determine the outside size.

*Review course 122 on “The Outside Size” for further options.*



## The Borders

- ▶ Click on a green border line of the design to select the **Borders**.
- ▶ Click the **Properties** tab at the top. At the left is the column of fields to set the **Border** widths.
- ▶ Activate **Dynamic Outsides** under **Tools** at the right.

The specified borders will be applied to the arrangement of openings.

The outside size will be automatically set, and the mat is ready to cut.

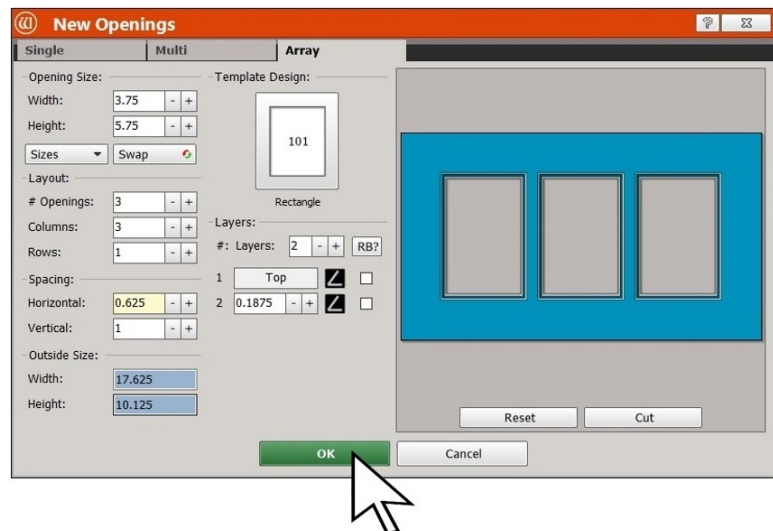


## Project 2

Mats with 2, 3, or 4 identical openings are much more common than these larger arrays.

**Array** will prove itself to be quicker and more efficient making smaller groups than using the alignment tools on the **Edit** screen.

Here is an example of a simple row of 3 openings. The procedure for adding and arranging the openings for a small group is exactly the same as it is for a larger group.



## Project 3

There are times when the array of identical openings is only part of the design. This design begins with a larger 3 layer opening on the left. To its right there will be a column of 3 smaller openings. We will use **Array** to arrange and add these 3 smaller openings to this design.

- Design the large opening.

Before we add the 3 smaller openings, though, there will be a few preparations for their alignment. The column of 3 small openings needs to be 0.625 inch away from the right of the larger opening.

A guide will make it easy to snap them into place.

### Adding a Guide

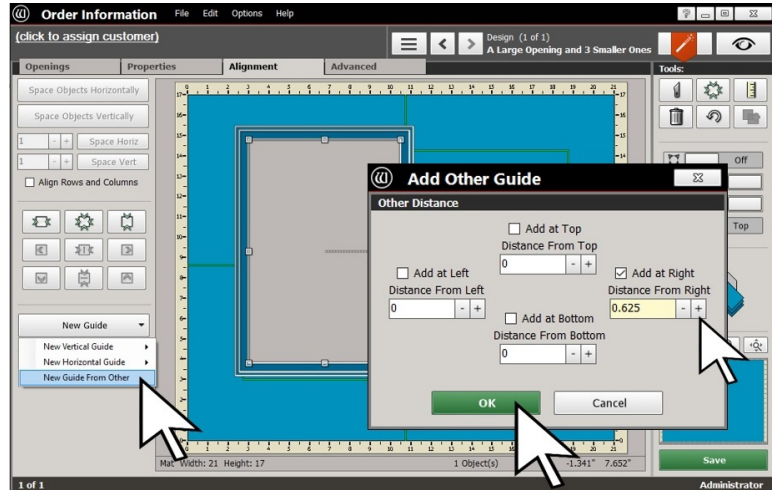
Select the large opening and click the **Alignment** tab at the top.

- Click **New Guide** at the bottom left and select **New Guide From Other** from the list that appears. The **Add Other Guide** dialog box appears.



- ▶ Check the **Add at Right** box.
- ▶ Enter 0.625 into the **Distance** field, and click **OK** at the bottom.

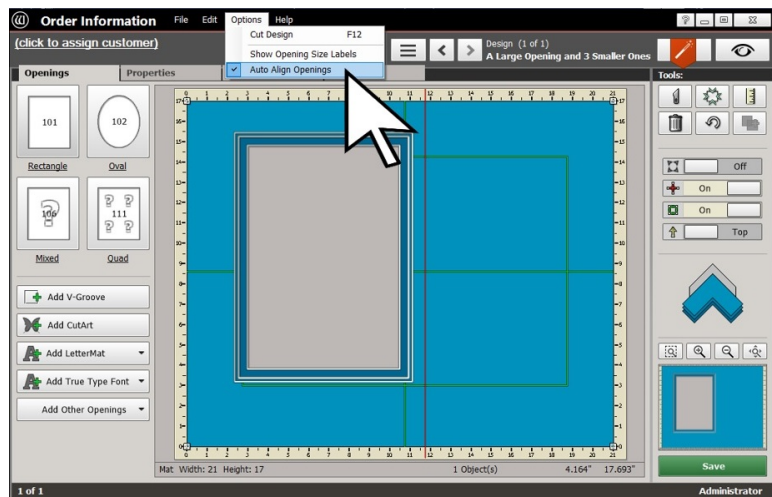
A vertical guide will appear 0.625 inch away from the right of the large opening in the next illustration.



## Auto Align Openings

- ▶ Click **Options** at the top.
- ▶ Make sure that **Auto Align Openings** is checked in the drop-down list.

*This is a feature in FrameShop that indicates when openings' tops, middles, sides, and bottoms are lined up. It will be useful in a future step.*



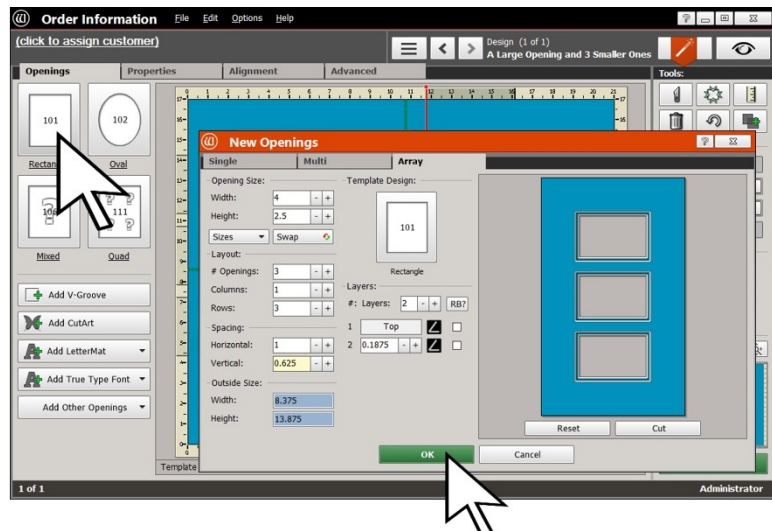
## Adding an Array to a Design in Progress

- ▶ Click the **Openings** tab at the top.

If you want to add an **Array** of rectangles, right-click on the rectangle icon at the top left.

The **Array** screen appears.

- ▶ Enter the numbers to add and arrange the openings just as we have done in the previous projects.





- ▶ Click **OK**, and the column of openings appears in the **Design** screen.

**Note:** all 3 openings arrive into the design selected. It is possible to move them around as a unit to position them on the right of the large opening.

## Positioning the Array

- ▶ Move the column of 3 openings and snap its left edge to the guide.
- ▶ Move the column up and down.

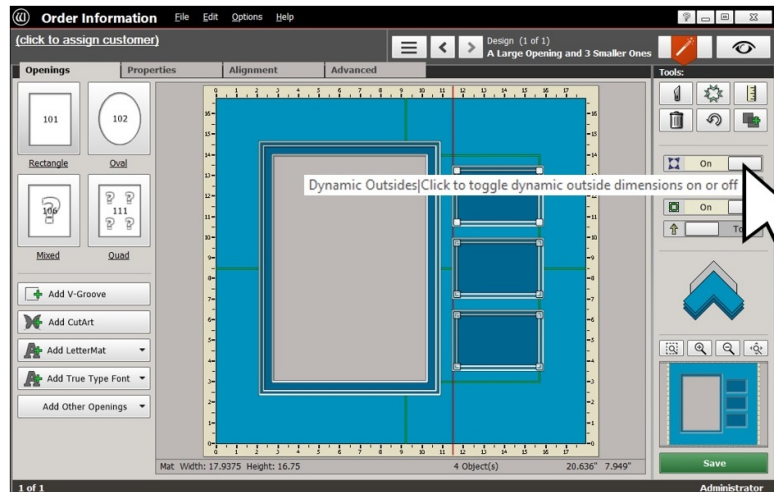
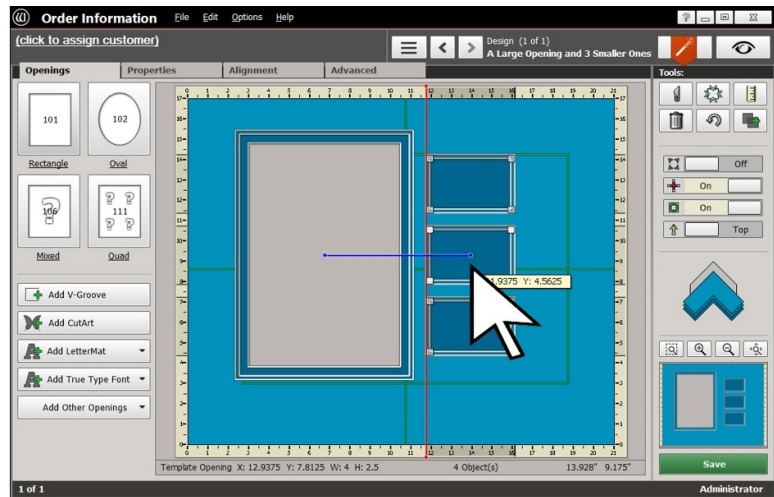
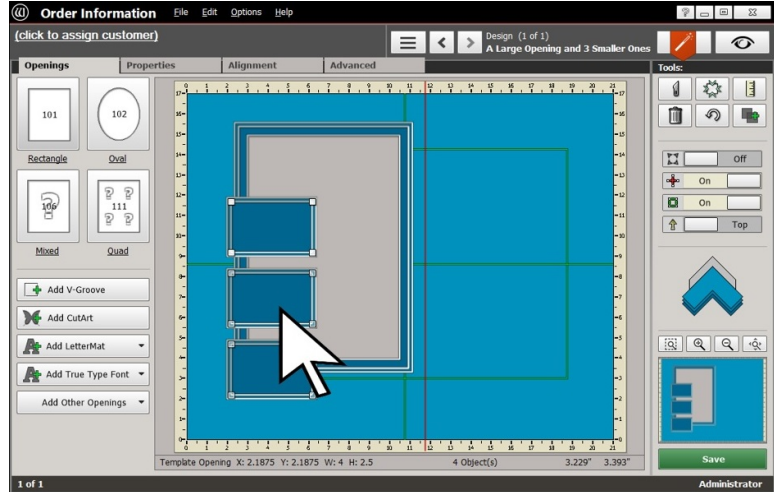
When the center of the column is lined up with the center of the large opening, a bright blue horizontal line will appear between them.

This bright blue indicator line is **Auto Align Openings** in action. The arrangement of openings is complete.

## The Outside Size

- ▶ Activate **Dynamic Outsides**.

The specified Borders will be built around the arrangement of openings, the outside size will be automatically set, and the project is ready to cut.





## Things to Remember

The **Array** tool is easy to use, and it makes some impressive arrangements quickly.

- ★ Never forget that its everyday use will be for those rows and columns of 3, 4, and 5 identical openings.
- ★ We saw **Auto Align Openings** in operation. It was a handy tool for this project, and it will undoubtedly be useful in the future.
- ★ Remember the right-click method for adding an array from the **Design** screen.

