

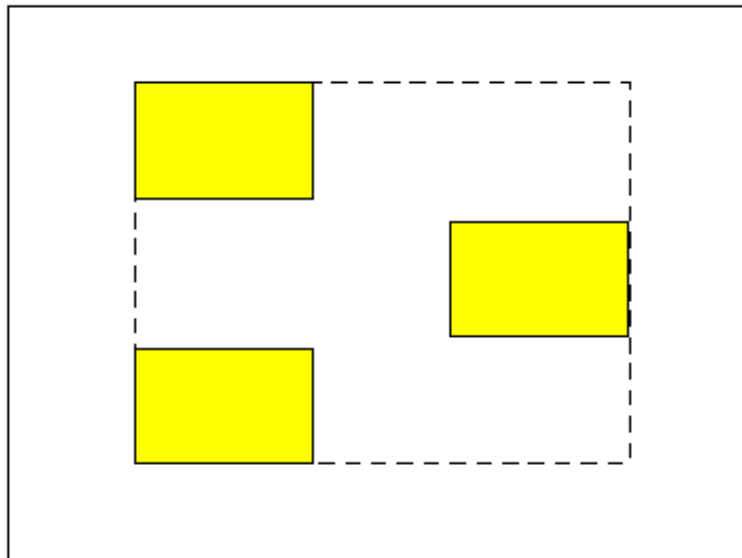
## How to get the best quality video windows from Mosaic

The following example shows a single screen with 3 Mosaic windows, shown in yellow. The Mosaic software analyses the position and size of the Mosaic Window and allocates each window to an overlay. Mosaic supports up to 4 overlays but there can be only one overlay covering any particular screen. In this example a single overlay would be generated that bounds the 3 Mosaic windows. The overlay size and position is shown as a broken line (-----). In the following examples any window shown in YELLOW indicates GOOD QUALITY. Windows shown in Red indicates BAD QUALITY. The trick for best quality is to position the windows such that the bounding overlay is as small as possible.

*Note:*

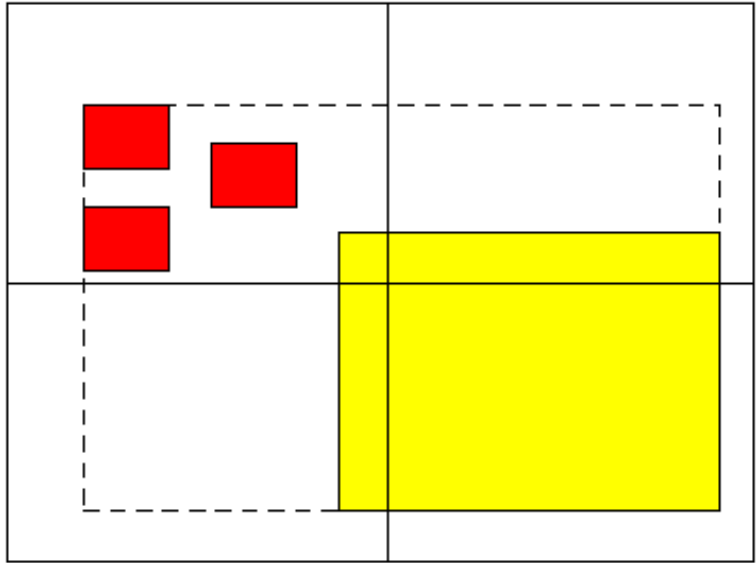
*You cannot display 2 or more overlays on the same screen and there is a maximum of 4 overlay's available.*

### Example 1.

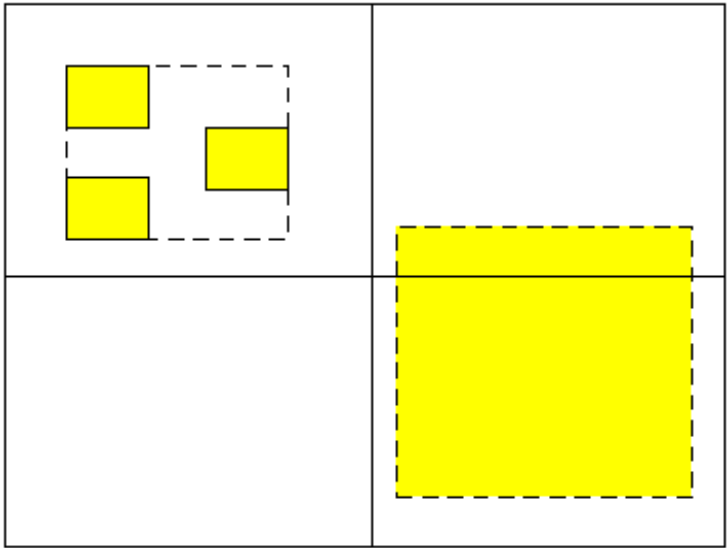


### Example 2

In this example a 4th Mosaic window is now opened on a 2 x 2 wall. The new window is large and touches the same screen as the 3 small windows. THIS IS BAD. Mosaic can only use one overlay to produce this layout because 2 overlays cannot cover the same screen. The overlay has to bound all 4 windows and then be up-scaled to cover the screen area. The video quality for the large window shown in yellow will be good. The 3 smaller windows have to be down-scaled because they occupy a small part of the overlay and so quality will degrade.

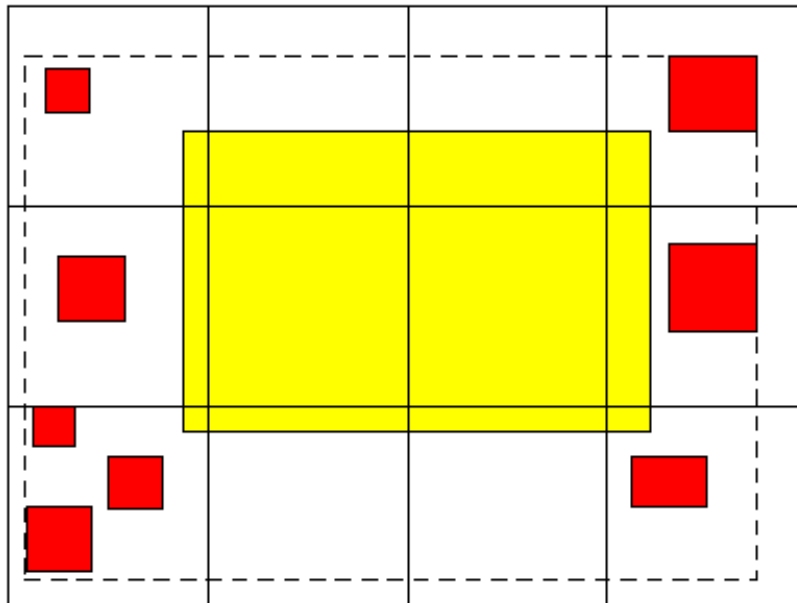


To improve the quality of the 3 small Mosaic windows, reposition the large window so that it does not have any contact with the same screen as the 3 small Mosaic windows. The example below shows that by repositioning the large yellow window Mosaic is allowed to use 2 overlay outputs and maximise the quality of the 3 small windows and maximises a second overlay for the large window.

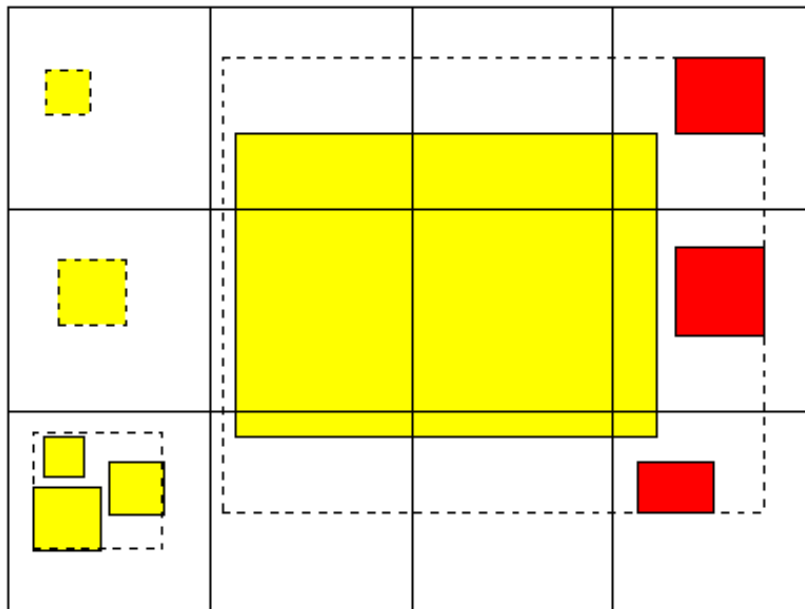


**Example 3** (4 x 3 wall with 1 Mosaic card and 9 windows)

BAD layout - Only 1 overlay can be used because the large window touches all screens.

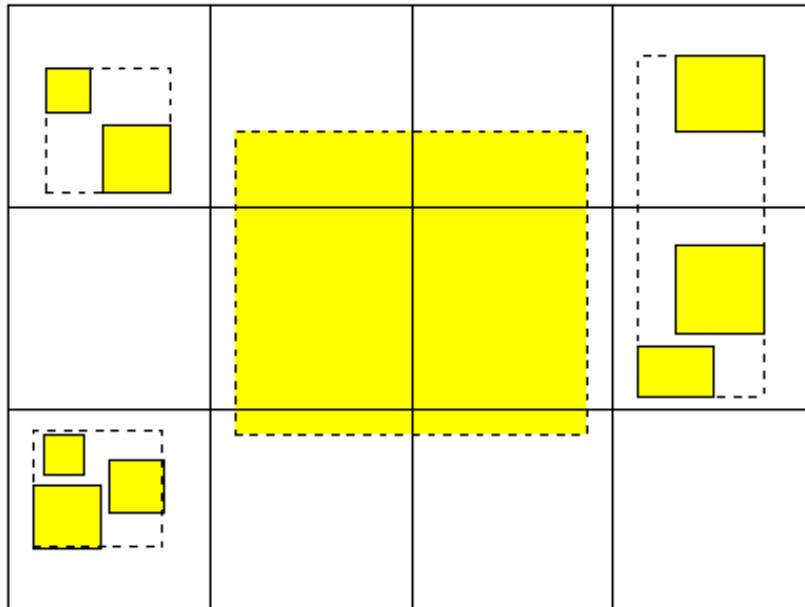


By repositioning the large window so that it touches fewer screens, Mosaic can allocate more overlays and quality will improve. All 4 overlays can be used here dramatically improving the quality of the small windows on the left of the wall. However, although the small windows on the right are improved, they are still not ideal.



If the large window is now repositioned such that it touches even fewer screens then the quality will improve further. Also, move the window on screen 5 nearer to the window on screen 1.

The 4 overlays are all used making best use of each overlay. All windows should be of good quality.



This layout is almost the same as the starting layout but the video quality has greatly improved.

**Always try and make the Mosaic window as large as possible relative to the size of the overlay that bounds the window(s).**

**The resolution of each Mosaic window is the ratio of it's horizontal and vertical size when compared to the size of the overlay that bounds the window. The resolution of the overlay is always 768 x 567 so if the Mosaic window is tiny in proportion to the overlay, the resolution of the Mosaic window will be small and of low quality.**

**Using more than 1 Mosaic Card.**

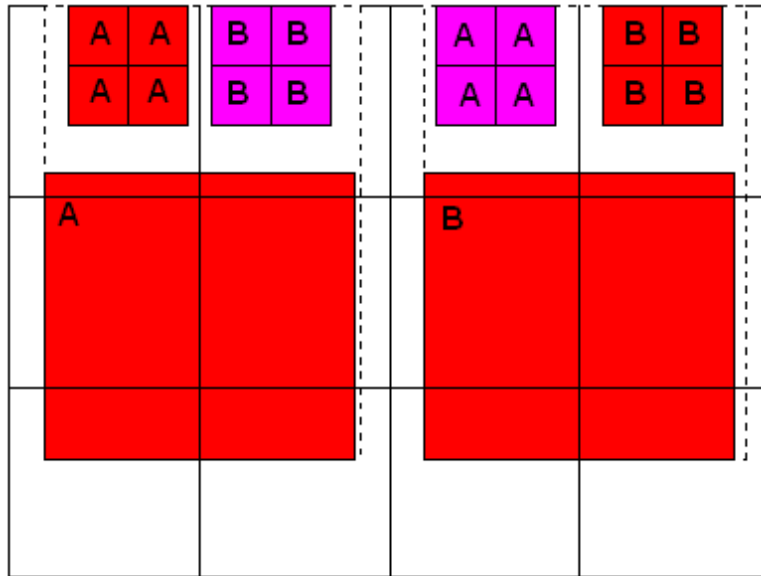
The same rules apply when you use more than 1 Mosaic card, however, the number of overlays for each card reduces, so this means that greater care is required with window positioning to obtain optimum quality. Also, video windows from different Mosaic cards cannot be placed on the same screen.

- 2 Mosaic Cards = 2 overlays per card.
- 4 Mosaic cards = 1 overlay per card.

**Example showing 2 Mosaic cards on a 4 x 3 wall**

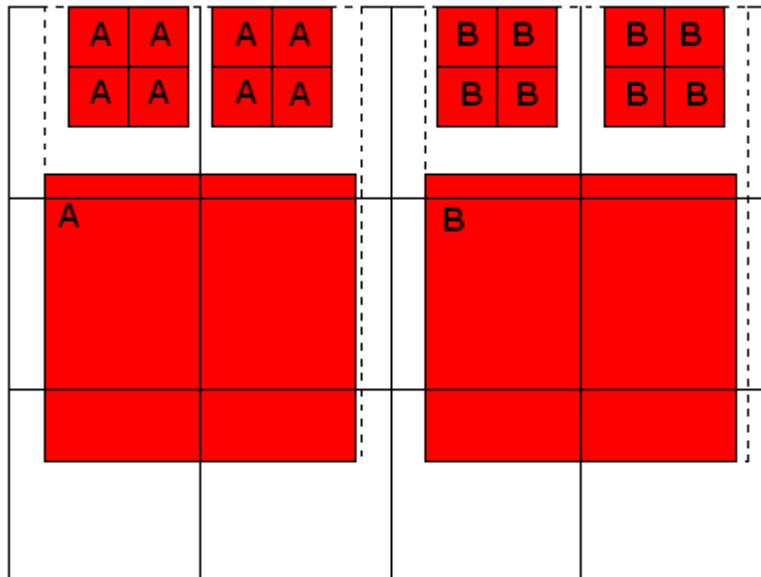
A = Window from Mosaic card A  
 B = Window from Mosaic card B

The layout is not possible because the overlay bounding areas overlap. The windows shown in purple will not display any video. Also, because the large windows touch the same screen as the smaller windows, quality will be bad. With this layout each Mosaic cards would generate only 1 overlay.

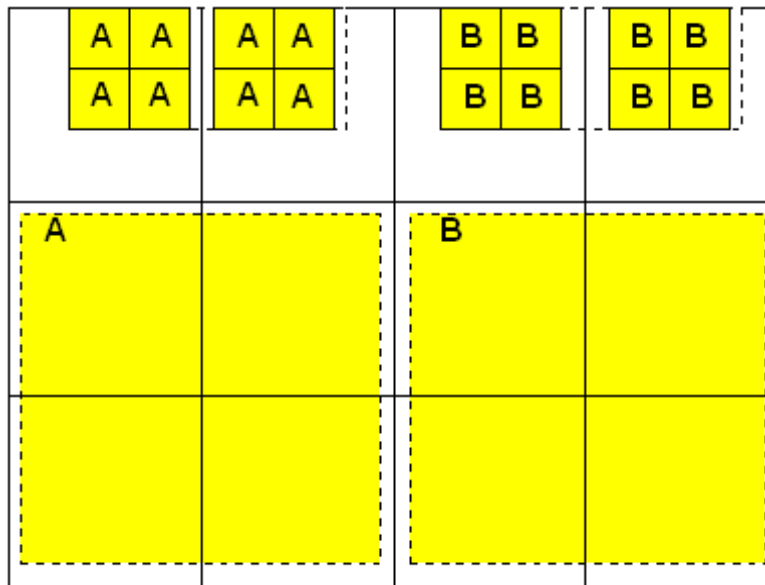


**In order to be able to display all the windows first change the window order as follows:**

Now each Mosaic card will generate a single overlay containing all the windows. Quality is still bad because the large windows touch the top row of screens. This stops the Mosaic cards from being able to use their second overlay.



Now adjust the position of the large windows such that they do not touch the top row of screens. The Mosaic cards can now use their second overlay. (1 for the 8 small windows and 1 for the large window.) Picture quality is now much improved and the layout is almost the same as the starting point.



## Further Improvements

One problem when using multiple Mosaic cards is that it is difficult to display a particular video source in any window position without upsetting the quality. A solution for this issue is to input all video sources into the VisionSwitch card and then connect the Mosaic card inputs to the output on the VisionSwitch. With this configuration any video source can now be routed to any of the Mosaic windows without disturbing the layout. Also, it is possible to display any input multiple times. In the example shown the small window could be pre-views of 16 video sources with larger windows being able to select any of the pre-view windows for display at higher resolution.

## Recommended products for this example:

Hardware requirements:

- 3 x iH4-DIG cards (12 screen wall)
- 2 x Mosaic cards with M2H4 cable set (18 video windows)
- 1 x VisionSwitch32-SA (Video switch with 32 inputs and 32 outputs).

VisionSwitch32-SA connection details:

- Connect up to 32 video sources to the inputs of the VisionSwitch32 card.
- Connect outputs 1 to 9 to the 9 inputs of Mosaic card A.
- Connect outputs 10 to 18 to the 9 inputs of Mosaic card B.

### Note:

**VisionSwitch32 outputs 19 to 32 are not used. You could use these outputs if you wanted to add another Mosaic card to the system.**



Software:

Use the VisionSwitch stand alone application to select which video source goes to each Mosaic window.

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