

breeze

DIGITAL SIGNAGE SOFTWARE



Breeze Video Wall Playlist Design
Version 3.1

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Note: For the **Breeze** video wall software and hardware to work together correctly, all screens must be the same brand and the same model number.

Technical Support

Questions or issues can be submitted to the **Keywest Technology Technical Support** department via e-mail or online at our helpdesk.

Contact information:

- E-mail: tech@keywesttechnology.com
- Helpdesk: <http://helpdesk.keywesttechnology.com>

Documentation

Quick Start Tutorial:

helpdesk.keywesttechnology.com/portal/kb/articles/breeze-tutorials-version-3

Training Videos:

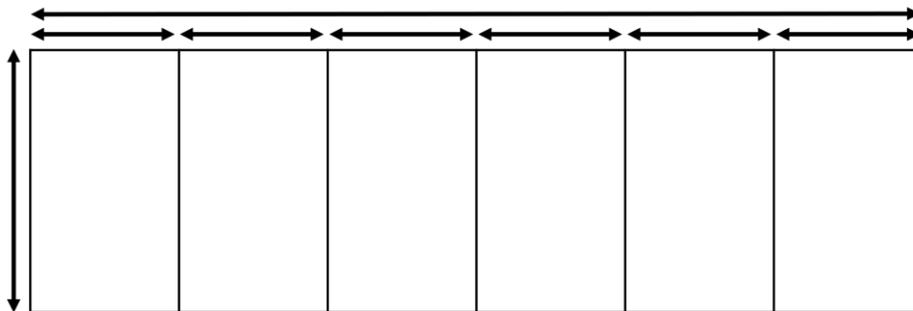
helpdesk.keywesttechnology.com/portal/kb/articles/recorded-training-version-3

Introduction

Video walls are often a combination of multiple smaller screens positioned together to form one large visual display. A multi-head **Breeze** player takes one set of video output, or one playlist, and divides the content to display and synchronize across all the screens. The player also takes one playlist and divides the content to display each individual screen.



The total resolution, or the combined size of all screens in the video wall, is required to build one set of content to display correctly across all screens.



Screens possess two sets of width and height measurements: physical and digital. While most of us are familiar with physical screen sizes, like 60 inches, screens also possess a digital size measurement known as [display resolution](#). The resolution of a screen is the number of pixels the screen displays in each direction.

A pixel is the smallest unit of measure of digital graphics. Numerous pixels combine together create the “picture” displayed on the screen. Screen resolution and the total resolution are extremely important to **Breeze** video wall designers.

Breeze Video Wall Playlist Design

Total Resolution

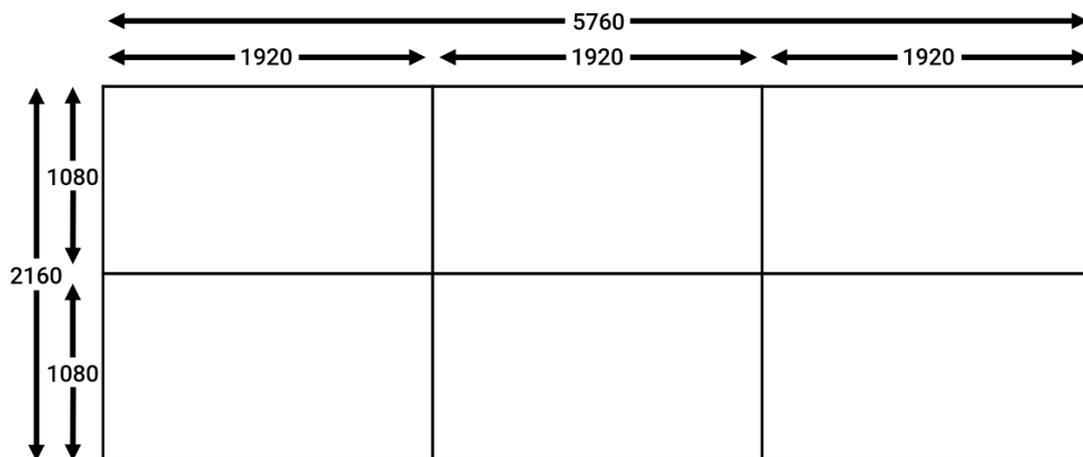
Playlists built for a video wall require the playlist resolution in the **Breeze Editor** to exactly match the total resolution of all combined screens. Total resolution, or total screen resolution, is the sum of the dimensions (width and height) of all screens in each direction.

Calculating Total Resolution

A 3 x 2 layout of screens with 1920 x 1080 resolution results in a total resolution of 5760 x 2160.

$$\text{total width} = 5760 = 1920 + 1920 + 1920$$

$$\text{total height} = 2160 = 1080 + 1080$$



The width of each screen in the horizontal direction is added together for a total width of 5790. The height of the screens is added together for a total height of 2160.



Breeze Video Wall Playlist Design

Total Resolution

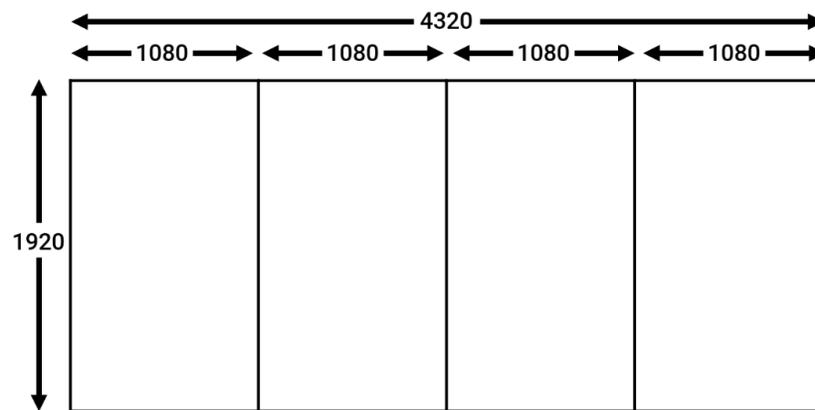
Calculating Total Resolution

The dimensions for any layout can be configured using the same process. In the image below, four screens are installed portrait-style.

The resolution of portrait-style screens is 1080 x 1920 instead of 1920 x 1080 because the screens are rotated 90 degrees. Again, the dimensions (width and height) of all screens in each direction are added together to find the total resolution.

$$\text{total width} = 4320 = 1080 + 1080 + 1080 + 1080$$

$$\text{total height} = 1920$$



The width of each screen in the horizontal direction is added together for a total width of 4320. Since there is only one row, the total height is equal to the height of the screen or 1920.



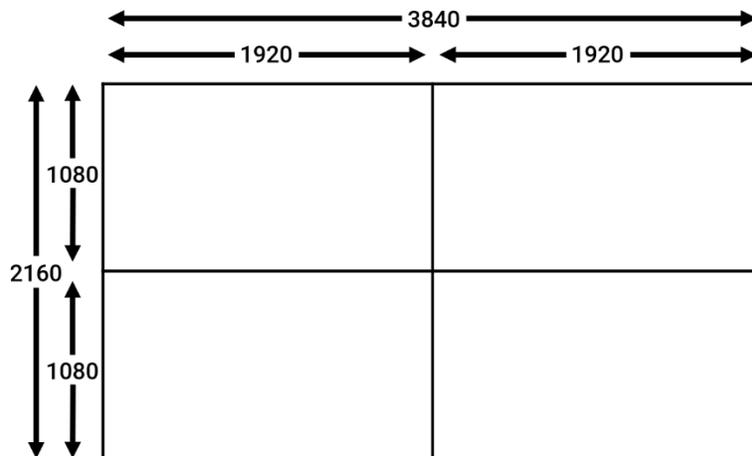
Total Resolution

More Resolution Calculations

The total resolution for any video wall layout can be configured by adding the width and height of all screens in each direction. The following examples are calculations of the total resolution for common screen installations.

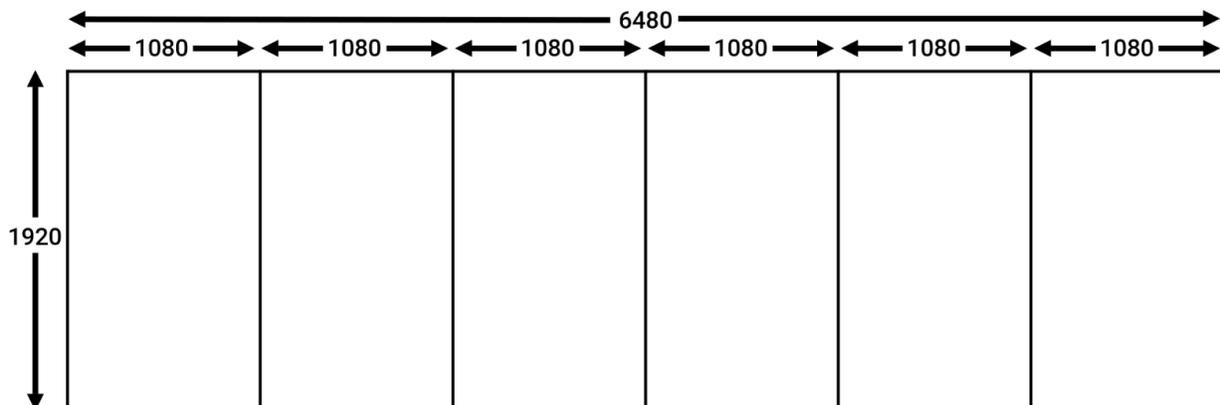
$$\text{total width} = 3840 = 1920 + 1920$$

$$\text{total height} = 2160 = 1080 + 1080$$



$$\text{total width} = 6480 = 1080 + 1080 + 1080 + 1080 + 1080 + 1080$$

$$\text{total height} = 1920$$



Playlist Resolution

Typically, media content on a video wall is arranged in one of two approaches:

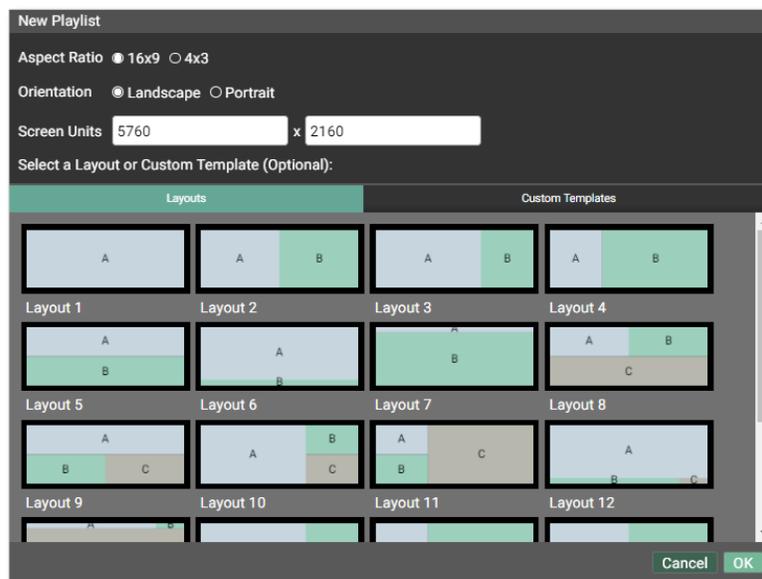
1. combining all screens to display one image or video at a time
2. displaying different media content on each screen

Both approaches can even be utilized in one playlist!

Note: This guide covers **Breeze Editor** functions specific to differences for video wall players. Please refer to the [Breeze Knowledgebase](#) for information about basic functions of the **Breeze Editor**.

Regardless of how the screens are combined to display media content, the total resolution must be provided to the **Breeze Editor** so the design area, called the **Canvas**, will exactly match the dimensions of the combined screens.

The **Canvas** area in the **Breeze Editor** is specified by the user when a new playlist is created. A custom resolution is specified by entering the width and height in **Screen Units** fields of the **New Playlist** window.



Set a Custom Playlist Resolution

1. Select **New Playlist**.
2. Enter the total width in the left **Screen Units** field of the **New Playlist** window.
3. Enter the total height in the right **Screen Units** field.
4. Select a **Layout** (optional).
5. Click **OK**.

Zone Layouts are also resized when the **Screen Units** fields are altered and offer pre-designed zones in a playlist when it is created. Alternately, a new playlist can be created without a **Layout** and zones added as needed.

Playlist Layout

Zones are containers for media content in a playlist and it is the zones that determines where media content displays on the video wall. The position and size of all zones in a playlist make up the playlist layout.

Combined Screens

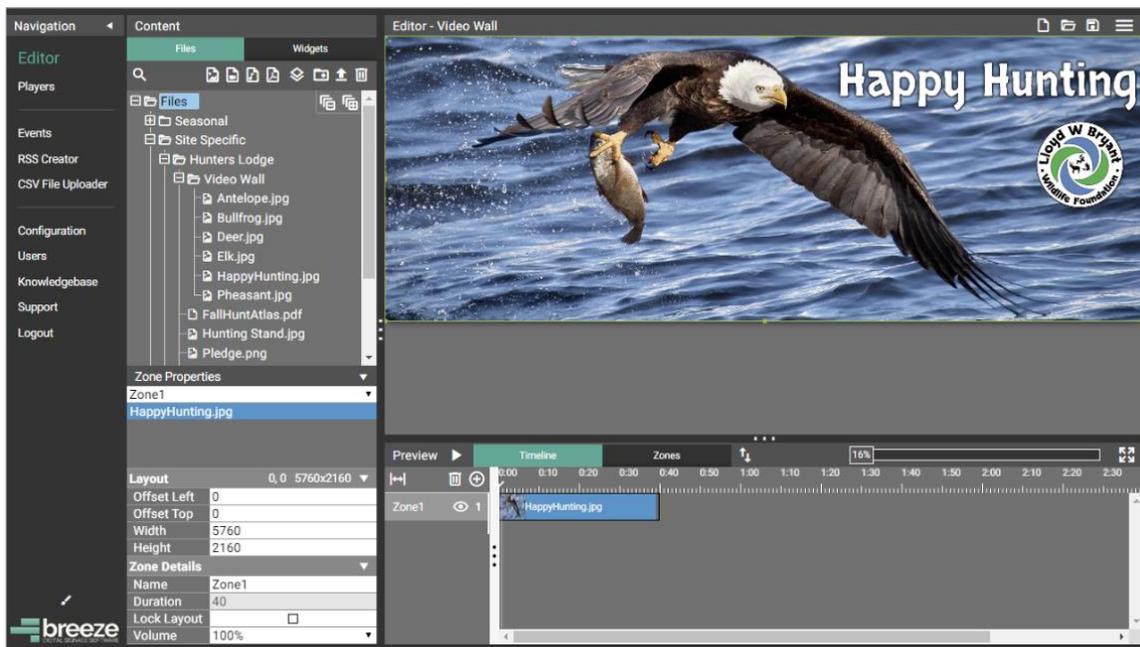
To create one large display for one image or video across all the screens, one zone should be created across the entire **Canvas**. This zone will be the same size as the total resolution.

Combine Screens into One Display

1. Start a **New Playlist**.
2. Enter the total width in the left **Screen Units** field in the **New Playlist** window.
3. Enter the total height in the right **Screen Units** field.
4. Select **Layout 1**.
5. Click OK.

Layout 1 is a playlist layout containing one large zone.

(Alternately, the user could begin the playlist without a **Layout**, add a new zone, position the zone in the upper left corner and size the zone to match the total resolution.)



Breeze Video Wall Playlist Design

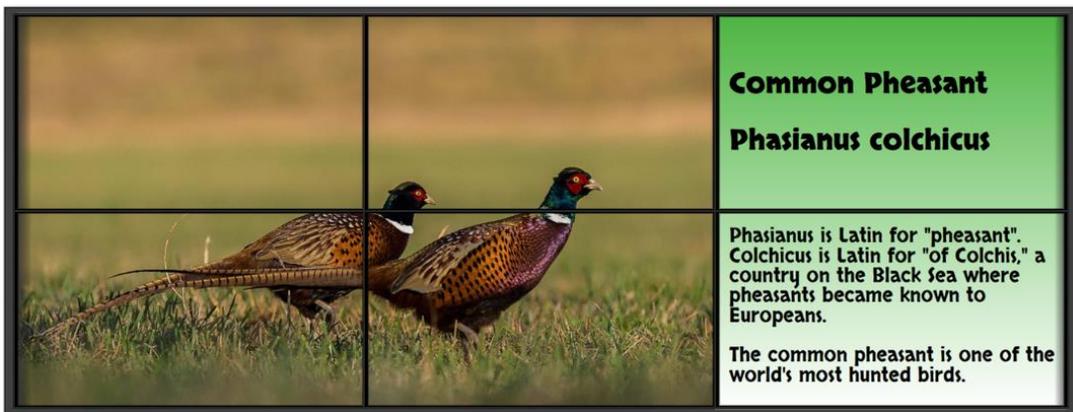
Playlist Layout

Combined Screens

Once this playlist reaches the player, specialized video card software divides the media content into the appropriate portions for each screen.



Advanced designs can utilize any combination of screens displaying shared content by creating zones the same size as the sum of the resolutions of the screens displaying the shared content.



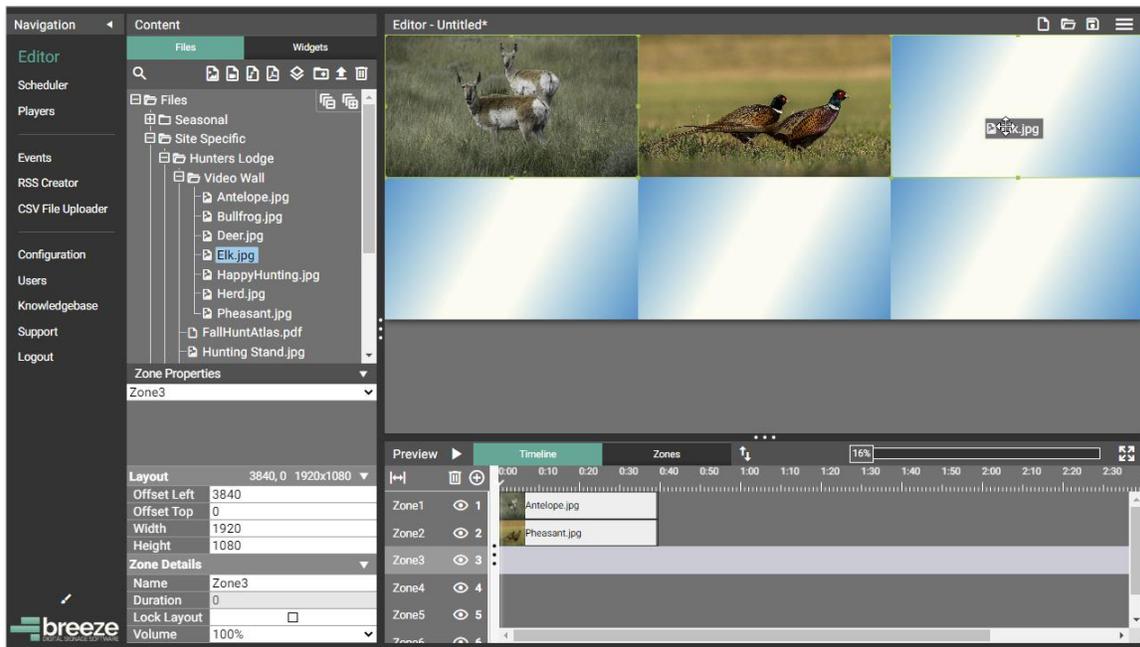
Breeze Video Wall Playlist Design

Playlist Layout

Independent Screens

To display different media content on each screen, a zone must be created for each screen. Each zone size will equal the resolution of a single screen. To display different media on six screens, six zones must be created.

The first zone is positioned in the upper left corner of the **Canvas**. Subsequently added zones are lined up by offsetting the zone from the left or from the top or both.



After a layout is created, simply add media to each zone. When this playlist is sent to the multi-head player, each zone of media content will line up with the edges of the screens exactly!



Playlist Layout

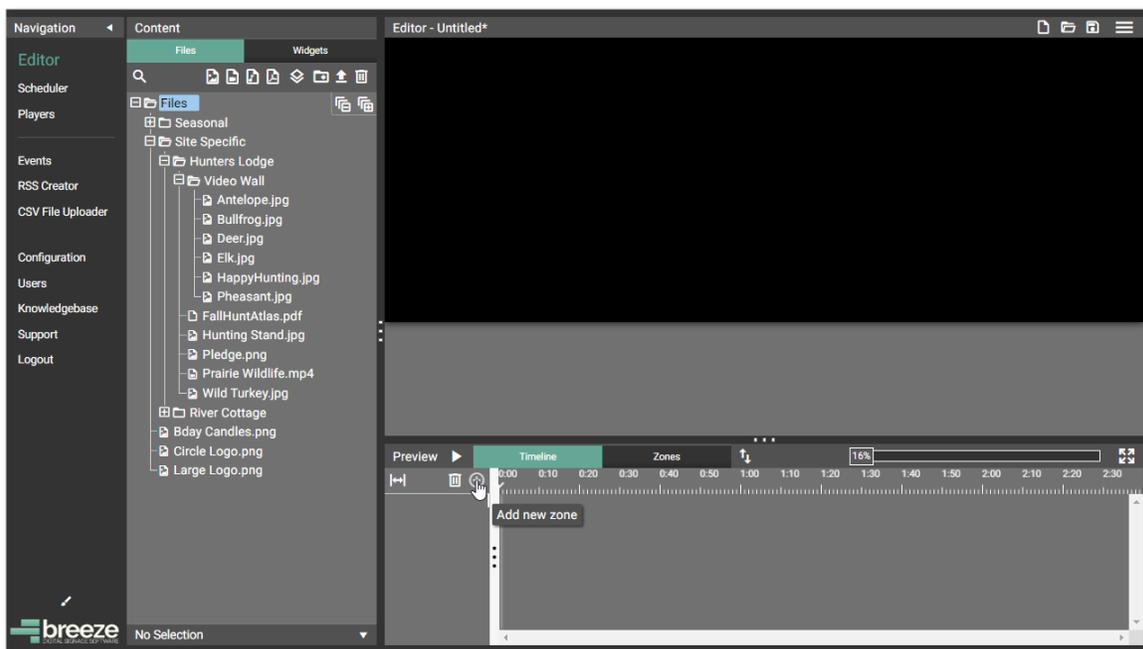
Independent Screens

Display Independent Media on Each Screen – Part 1: Create Playlist

1. Start a **New Playlist**.
2. Enter the total width in the left **Screen Units** field in the **New Playlist** window.
3. Enter the total height in the right **Screen Units** field.
4. Click **OK** to create a playlist with the resolution defined in the **Screen Units** fields.

Display Independent Media on Each Screen – Part 2: Add Zone 1

5. Select the **Add new zone** button.

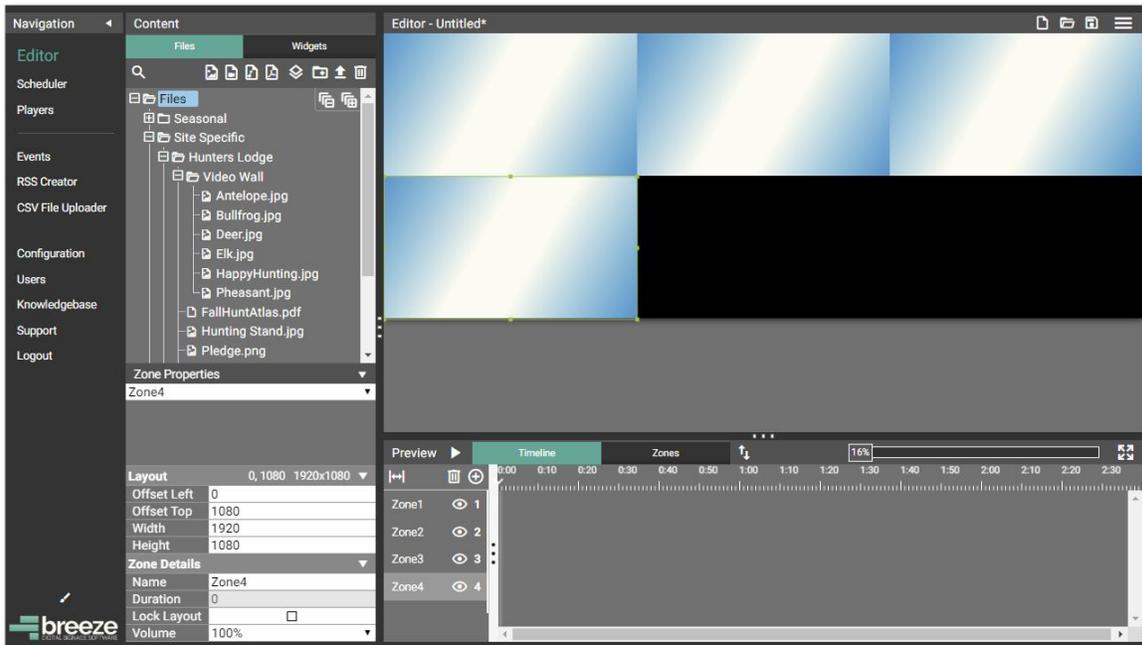


6. In the **Zone Properties** panel, set the **Width** field to **1920** and the **Height** field to 1080.
7. Drag the zone into the upper right corner of the **Canvas**. Or set the **Offset Top** and **Offset Left** fields in the **Zone Properties** panel to 0.

Playlist Layout

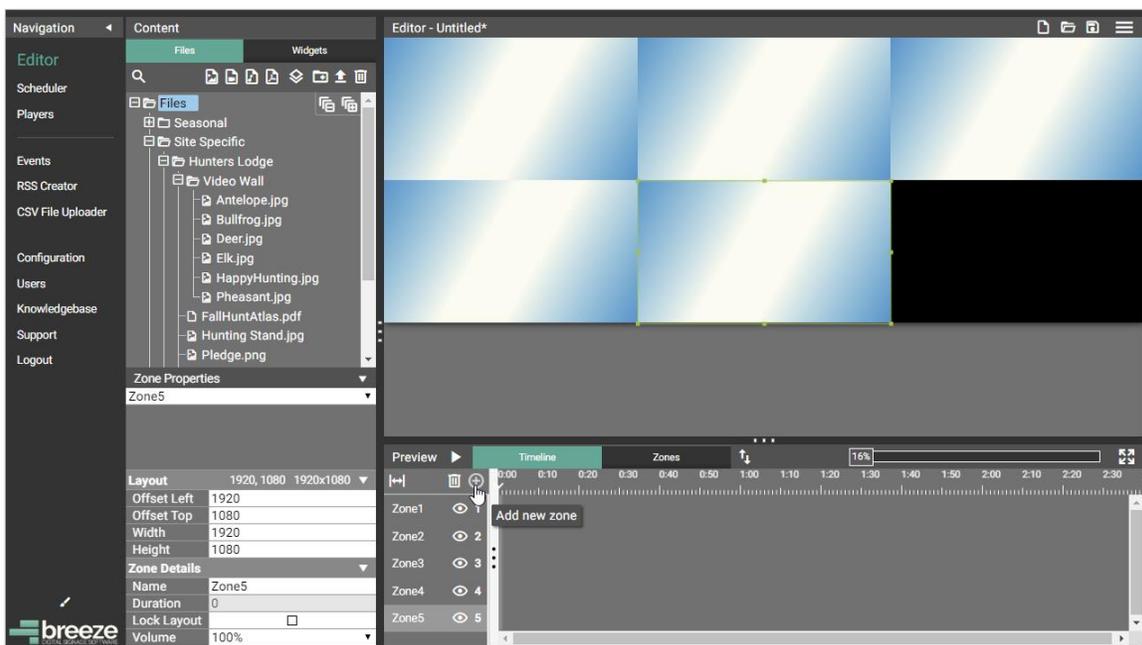
Display Independent Media on Each Screen – Part 4: Additional Rows

11. To start a second row, add a new zone and set the **Offset Left** field to 0 and the **Offset Top** field to 1080. The first zone in the second row begins at the bottom boundary of the first zone.



12. Add another new zone and set the **Width** field to 1920 and the **Height** field to 1080.

13. Set the **Offset Left** field to 1920 and the **Offset Top** field to 1080. This zone begins at the right boundary of the first zone in the second row and the bottom boundary of the first row.

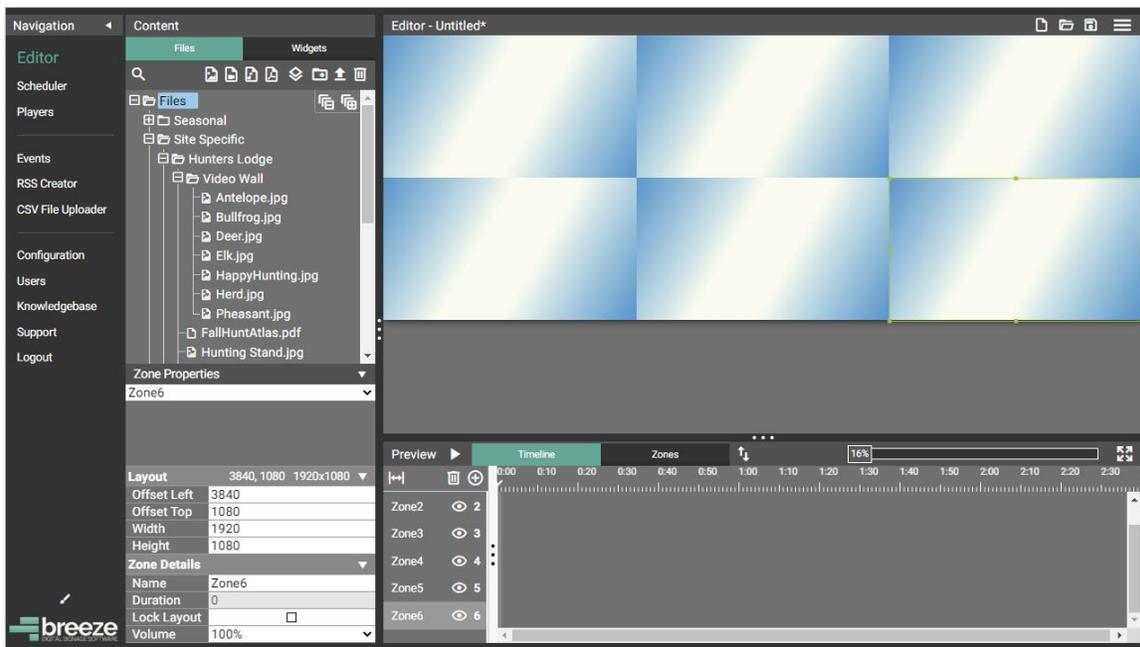


Breeze Video Wall Playlist Design

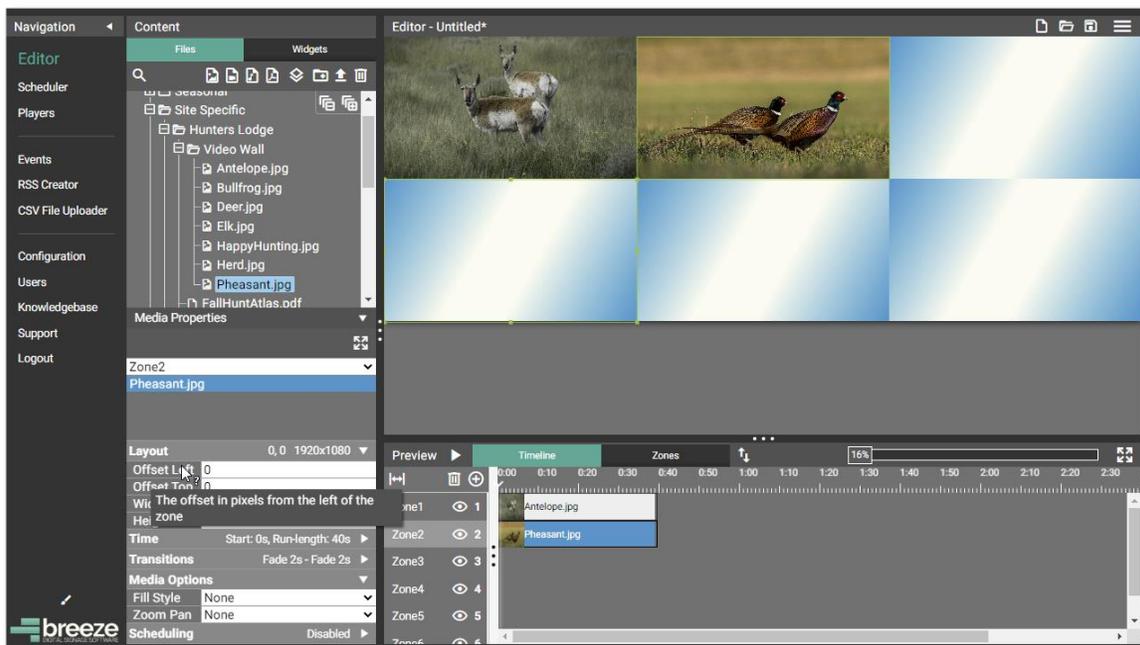
Playlist Layout

Display Independent Media on Each Screen – Part 4: Additional Rows

14. Repeat steps 12 and 13 for each additional screen in the second row.



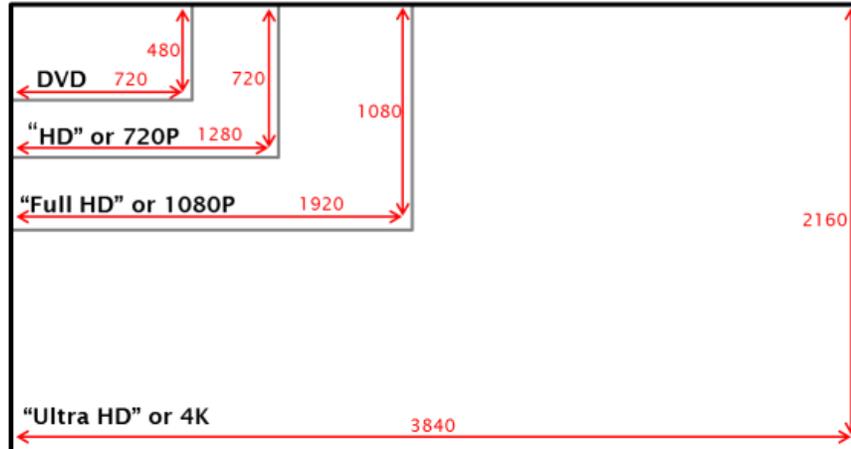
Note: Once media has been added to a zone, the **Media Properties** contains a second set of **Layout** fields. The **Layout** fields in the **Media Properties** panel apply to the size and position of media items *within* the zones, not the size and positions *of* the zones. The **Media Properties: Layout** fields will not affect the playlist layout.



More About Screen Resolutions

Screen Sizes

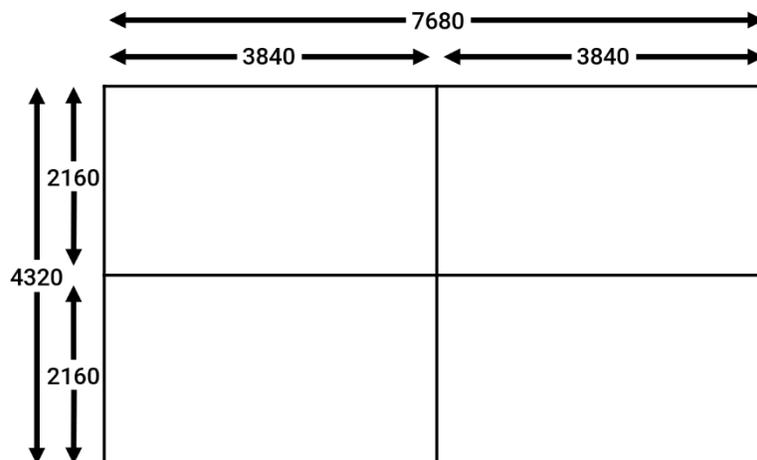
A resolution of 1920 x 1080, often referred to as "Full HD," is an extremely common screen resolution. This guide uses a screen resolution of 1920 x 1080 in example calculations. However, a wide range of screen resolutions exist and 4K displays are rapidly becoming mainstream.



To calculate the total resolution of screens that are not 1920 x 1080, simply replace 1920 with the correct screen width and replace 1080 with the correct screen height in the calculations. The following example calculates the total resolution of 4K screens.

$$\text{total width} = 7680 = 3840 + 3840$$

$$\text{total height} = 4320 = 2160 + 2160$$



More About Screen Resolutions

Physical Space vs Logical Space

All previous examples assumed the screens are installed side-by-side, or without space between them.



When a user wants to create one large display across screens physically separated by space, graphics may appear askew because the playlist content is not affected by physical aspects.



To accommodate for physical space, the playlist will need to include logical areas in the total resolution to represent the space the screens are separated by in the physical world. This creates a window-like effect.



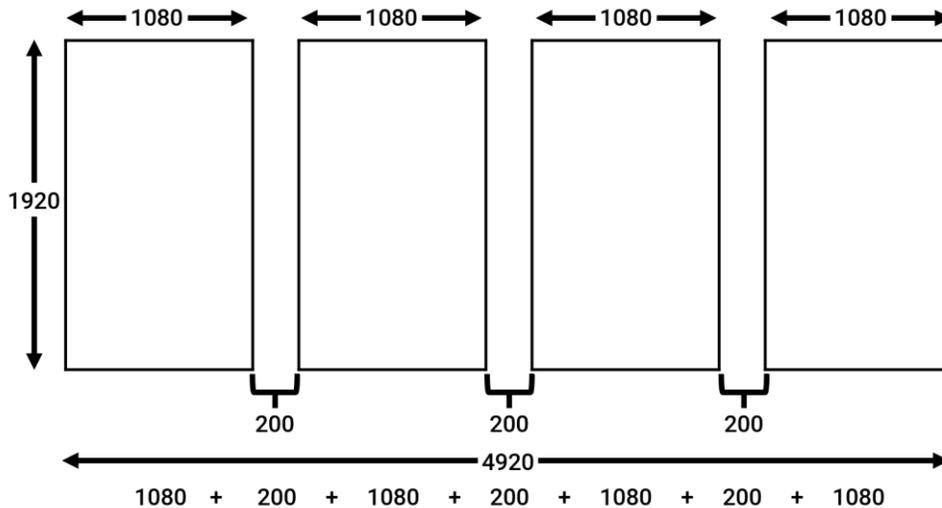
More About Screen Resolutions

Physical Space vs Logical Space

Since the **Breeze** player uses logical measurements to divide up the playlist content, the total resolution is not affected by physical space between screens.

To accommodate for physical space between the screens, logical areas must be added to the playlist to represent the space the screens are separated by in the physical world.

The additional space must be accounted for in the total resolution.



The total resolution for the playlist layout, including logical areas representing the space separating the screens, is 4920 x 1920.

It can be helpful to create zones representing the space between screens in a playlist when one graphic is often displayed across the screens.

