

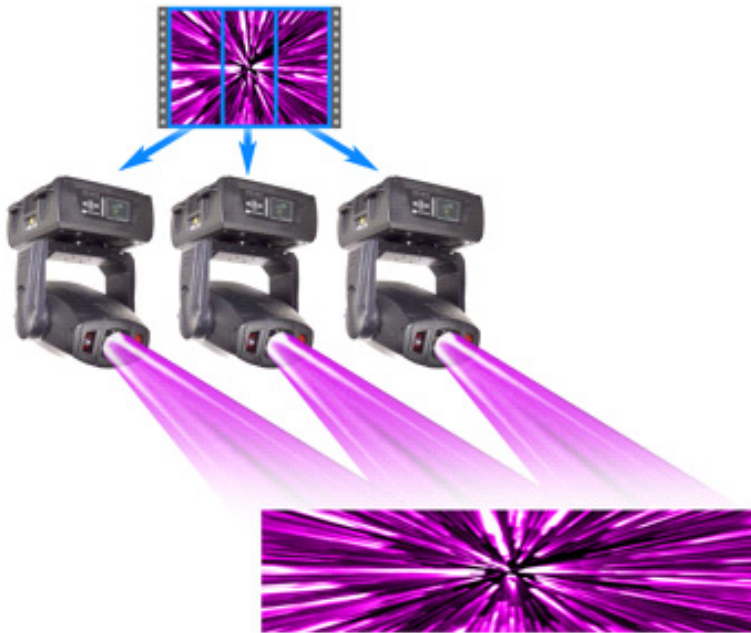
Axon HD Collage Generator™

Collage Generator™ technology allows you to create virtually seamless panoramic media projections controlled from your DMX console. You can display either stock or custom content.

The Axon HD version of the Collage Generator has streamlined this process. The Collage Generator is no longer a part of Global Effects but is defined using dedicated parameters.

You can configure multiple media server outputs to display a single image in arrays up to 16 units horizontal by 8 units vertical using DL.3, DL.2 fixtures or Axon media servers outputting to Orbital Head fixtures or other digital projectors.

NOTE: *When using third party projectors, you will need to position output manually.*



The native aspect ratio of one DL.3, DL.2 or Axon media server output is 4:3. Some of the arrays configured in conjunction with the Collage Generator will output a different overall aspect ratio.

NOTE: *You can find other configurations and information on sizing and compressing media to use with the Collage Generator at the High End Systems website (www.highend.com/support/digital_lighting).*

Collage Type

The **Collage Type** global parameter has four collage options:

DMX Value	Action
1	Standard Collage divides content for projection onto a flat surface
2	Standard Collage with 360° wrap divides the content into an array and edge blending for projection onto a 360° surface
3	Multipane Collage pre-configures the content into cells that are then arranged into an array for projection onto a flat surface
4	Multipane Collage with 360° wrap pre-configures the content into cells that are then arranged into an array for projection onto a 360° surface.

In **Standard Collage** and **Standard Collage with 360° Wrap** options, the content is automatically divided into cell segments by the graphics engine after you define the array size. This yields good results in situations where moderate output resolution is suitable.

In **Multipane Collage** options where you pre configure the content into cells and project each cell from a separate server, you can project a 1024x768 from each server.

In situations where you require extremely high resolution output of custom content, the **Multipane Collage** options' resolution capabilities is greatly increased because the graphics engine is no longer taking a single file and stretching it across multiple servers; but is, instead, showing the file as rendered. Using **Multipane Collage** gives you the option to use video files that match the resolution of the display devices exactly. For example, if you have four 1080p HD projectors using a 4 part Multipane Collage with individual 1080p HD video files, the resulting collage resolution will be much higher. In standard collage modes, a single file is divided by the number of parts in the collage. To equal the same resolution in standard collage mode, the single file would have to be 4 times larger, and it would have a negative impact on server performance.

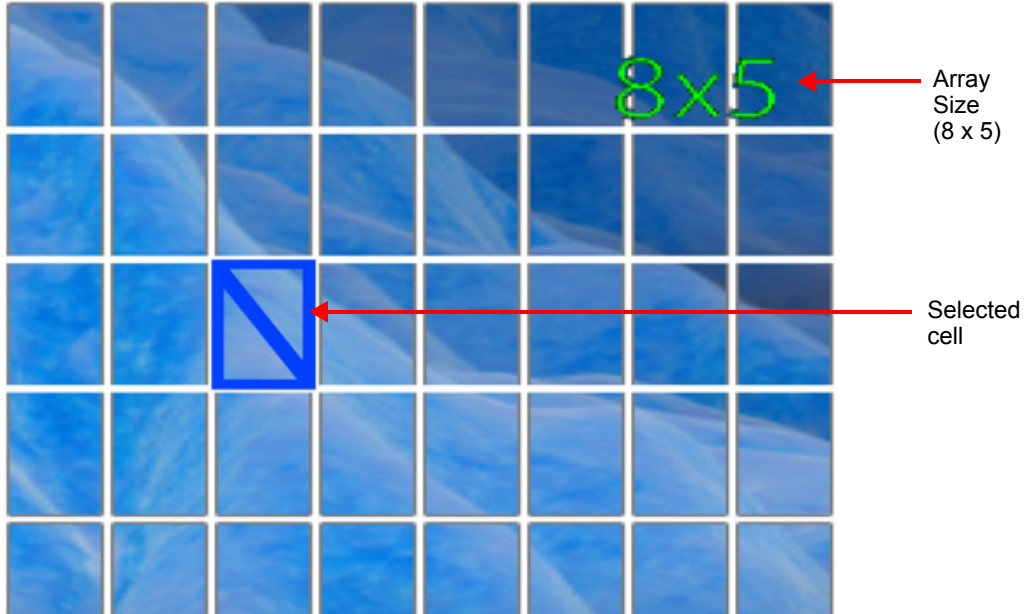
Collage Configuration Selection

The **Collage Config Selection** parameter selects which type of Collage array to use from DMX Values 1-127. The selected size displays in the upper right corner of the grid pattern. A DMX value of 0 = No collage. DMX Values of 126-255 are reserved and default to No collage.

DMX Value	Array (W x H)	DMX Value	Array (W x H)	DMX Value	Array (W x H)	DMX Value	Array (W x H)	DMX Value	Array (W x H)
1	2 x 1	26	1 x 6	51	8 x 2	76	10 x 5	101	13 x 6
2	1 x 2	27	6 x 2	52	2 x 8	77	10 x 6	102	13 x 7
3	2 x 2	28	2 x 6	53	8 x 3	78	10 x 7	103	13 x 8
4	3 x 1	29	6 x 3	54	3 x 8	79	10 x 8	104	14 x 1
5	1 x 3	30	3 x 6	55	8 x 4	80	11 x 1	105	14 x 2
6	3 x 2	31	6 x 4	56	4 x 8	81	11 x 2	106	14 x 3
7	2 x 3	32	4 x 6	57	8 x 5	82	11 x 3	107	14 x 4
8	3 x 3	33	6 x 5	58	5 x 8	83	11 x 4	108	14 x 5
9	4 x 1	34	5 x 6	59	8 x 6	84	11 x 5	109	14 x 6
10	1 x 4	35	6 x 6	60	6 x 8	85	11 x 6	110	14 x 7
11	4 x 2	36	7 x 1	61	8 x 7	86	11 x 7	111	14 x 8
12	2 x 4	37	1 x 7	62	7 x 8	87	11 x 8	112	15 x 1
13	4 x 3	38	7 x 2	63	8 x 8	88	12 x 1	113	15 x 2
14	3 x 4	39	2 x 7	64	9 x 1	89	12 x 2	114	15 x 3
15	4 x 4	40	7 x 3	65	9 x 2	90	12 x 3	115	15 x 4
16	5 x 1	41	3 x 7	66	9 x 3	91	12 x 4	116	15 x 5
17	1 x 5	42	7 x 4	67	9 x 4	92	12 x 5	117	15 x 6
18	5 x 2	43	4 x 7	68	9 x 5	93	12 x 6	118	15 x 7
19	2 x 5	44	7 x 5	69	9 x 6	94	12 x 7	119	15 x 8
20	5 x 3	45	5 x 7	70	9 x 7	95	12 x 8	120	16 x 1
21	3 x 5	46	7 x 6	71	9 x 8	96	13 x 1	121	16 x 2
22	5 x 4	47	6 x 7	72	10 x 1	97	13 x 2	122	16 x 3
23	4 x 5	48	7 x 7	73	10 x 2	98	13 x 3	123	16 x 4
24	5 x 5	49	8 x 1	74	10 x 3	99	13 x 4	124	16 x 5
25	6 x 1	50	1 x 8	75	10 x 4	100	13 x 5	125	16 x 6
								126	16 x 7
								127	16 x 8

Collage Cell Selection

The **Collage Cell Selection** parameter selects which cell of the grid a particular Axon server or DL fixture will display. DMX values 0 up to 127 are used to step through grid pattern you selected with the Modifier 1 channel. As you dial through Modifier 2, the selected cell in the grid is highlighted. DMX values of 128-255 default to the upper left corner of the grid.



Selecting any value larger than the number of grid rectangles defined by the **Collage Config Selection** parameter or values from 128-255 defaults to the top-left rectangular area of the grid.

Collage Blending Adjustment

The Collage Blending Adjustment parameter lets you select from a variety of blend curves to control the edge blending of the adjacent projections.

DMX Value	Action
0	Standard color blend curve. No adjustment
1-33	Standard color blend curve with intensity reduction adjustment (1 = maximum reduction)
34	Standard color blend curve. No adjustment
35-63	Standard color blend curve with increasing intensity (63 = maximum increase)
64-95	Gray scale blend curve with reduced intensity adjustment (64 = maximum reduction)
96	Gray scale blend curve. No adjustment
97-127	Gray scale blend curve with increasing intensity (127 = maximum increase)

Alignment Pattern Control

The Adjustment Pattern Control parameter lets you how to view the cell as you apply the selected blend curve. You can also display grid overlays that show your selections for Collage Config and Collage Cell Selection parameters.

DMX Value	Action
0	Graphics out. Normal blending per selected blend adjustment
1	Graphics out. Blend area defaulted to black
2	Graphics out. Blend area shown with no blending applied
3	Alignment pattern out. Normal blending per selected blend adjustment
4	Alignment pattern out. Blend area defaulted to black
5	Alignment pattern out. Blend area shown with no blending applied
6	Grid cell selection shown over graphics output

Variable Edge Blending

Variable Edge Blending parameters are used in conjunction with the Collage Generator parameters and allow for on-the-fly adjustment of blend overlap between projectors. These parameters allow more flexibility for sizing a collage to a given screen or projection surface, as well as smoother blending if wider blend regions are used. Horizontal and vertical blend regions can be controlled independently of one another.

The **Variable Edge Blend Horizontal** parameters allow 16-bit control of the horizontal blend region width from 0% (hard edge) up to 50% of the image size. The default fixture library value has been chosen to give a 9% overlap, this starting value is adjustable based on your specific installation.

The **Variable Edge Blend Vertical** parameters allow 16-bit control of the vertical blend region width from 0% (hard edge) up to 50% of the image size. The default fixture library value has been chosen to give a 9% overlap, this starting value is adjustable based on your specific installation.

Collage Setup Example

The new Axon HD offers multiple types of blending, and this example focuses on building a standard 2x2 collage using four Axon HD media servers and a lighting console based on Hog 4 software.

NOTE: *If you are going to be mapping your Collage to a sphere, you will need to roughly adjust the output before you set up the Collage, (see Spherical Mapping Setup Guide on page 141).*

Setup the Collage effect:

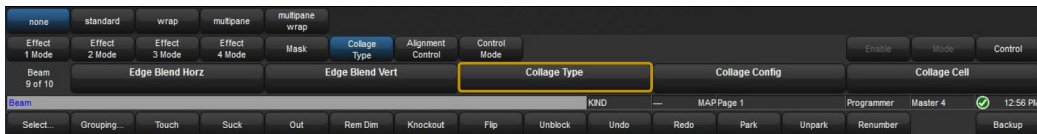
1. Select the same content on four media servers.

NOTE: *Any parameter adjustment to a graphic object must be set on ALL graphic objects that are a part of the Collage. For example, if you are configuring Graphic Object 1 on four media servers to project as a Collage and want to apply a color effect, that effect must be manipulated on Graphic Object 1 of all four media servers.*

2. Set the **Collage Type** parameter on the Global Layer to **Standard Collage** (DMX = 1).
3. In the **Alignment Control** parameter on the Global Layer, show the collage selection grid by selecting the **Grid Cell Selection** option (DMX=6).
4. In the **Collage Config Selection** parameter, select 2x2 (DMX=3) on all four Axon HD servers.
5. Select and assign each individual Axon HD media server its unique section of the collage using the **Collage Cell Selection** parameter on the Global Layer.
6. Show the alignment grid by selecting the **Pattern Normal Blend** (DMX=3) option in the **Alignment Control** parameter on the Global Layer.
7. Use the **Edge Blend Horizontal** and **Edge Blend Vertical** parameters on the Global Layer to adjust the edge blend on each server.

Execute the panorama Collage:

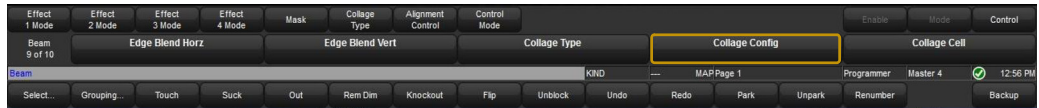
1. 1) Select All GLOBAL LAYERS and GRAPHIC LAYER 1 @ FULL.
2. Select a Media Folder and Media File.
3. Select All GLOBAL LAYERS.
4. Under the Collage Type; select Standard. (available on Slot Toolbar).



5. Under Alignment Control; select Cell Selection Grid. (available on Slot Toolbar)



6. Under Collage Config.; select 1 for a 2x1



7. Select each individual GLOBAL LAYER; use Collage Cell to assign collage section to each fixture; for example select 0 for the left display device, and 1 for the right display device.



8. Select ALL GLOBAL LAYERS; under Alignment Control select Pattern Normal Blend. This will bring up the standard alignment grid.



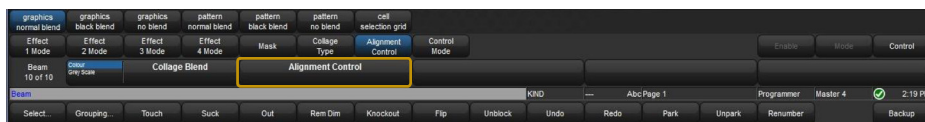
9. Under Edge Blend Horz.; set the value to 50%. (This will set a blend size)



10. Align the grid using the following:

- Position
- Zoom/Focus
- Keystone
- Keystone Ratio

11. Once grid is aligned; Set Alignment Control to Graphics Normal Blend.



Creating Custom Content for the Collage Generator Effect

There are two main steps to process HD footage into DL.3, DL.2 and Axon compliant media for use with the Collage Generator.

First, acquire or commission High-resolution media footage or stills. In most cases, scaling and cropping of the media is a simple process. However, certain types of media such as footage of people or round objects like planets may require more sophisticated cropping and scaling to optimize display in certain aspect ratios.

Then, save your media at Photo jpeg 95% or a non compressed format (these can be very large files) to use as a master file. Or, if you are an intermediate video editor yourself, there are many Video editing packages that will allow you to size and optimize the master for your application.

Once the master file is created, you will need high-definition encoder software.

For more information on creating Digital Lighting content and selecting encoder software, go to www.highend.com/support/digital_lighting.

Collages Using Live S-Video and SDI Input

DL.3, Axon and DL.2 media servers can create Collage arrays using live S-Video or SDI input. All the media servers used to project a Collage need to be receiving the same source input signal to use video as a Collage feed.

For example, using DL.3 Camera outputting across a 2 x 2 20-K lumen Central Panorama Collage, four DL.3 fixtures are assigned an output from the SDI-DMX Mixer Pro to each SDI input and a fifth DL.3 fixture is used as the source.