



Using Velocity™ with OmniStream™ Best Practices

Version Information

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1	May 2023	Initial release

Sales, Marketing, and Customer Support

Main Office

Atlona Incorporated
70 Daggett Drive
San Jose, CA 95134
United States

Office: +1.408.962.0515

Sales and Customer Service Hours

Monday - Friday: 6:00 a.m. - 4:30 p.m. (PST)

<https://atlona.com/>

International Headquarters

Atlona International AG
Tödistrasse 18
8002 Zürich
Switzerland

Office: +41.43.508.4321

Sales and Customer Service Hours

Monday - Friday: 09:00 - 17:00 (UTC +1)

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Introduction

About This Manual

This document covers the following:

- Best Practices - Recommendations for using Velocity v2.5.3 with OmniStream 2.0.
- Example - Programmatically Defining Multiview Layout in Velocity using Fixed IP Inputs.
- Example - Programmatically Defining Multiview Layout in Velocity using IP Inputs 1 - 5.

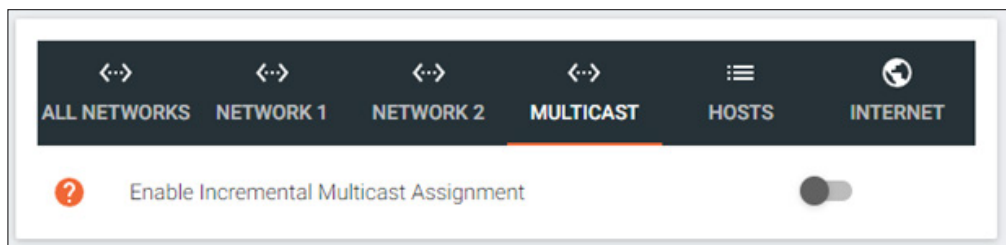
Read the OmniStream FAQs and keep them handy.

Before starting Velocity setup, define the OmniStream configuration.

Using Velocity v2.5.3 with OmniStream 2.0

Best Practices

When using multiviews in project, it is recommended that the Incremental Multicast Assignment under the Settings/ Networks tab be disabled.



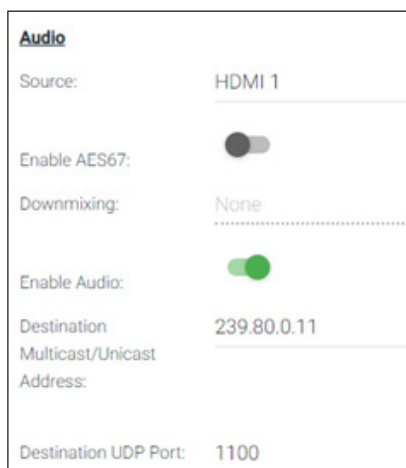
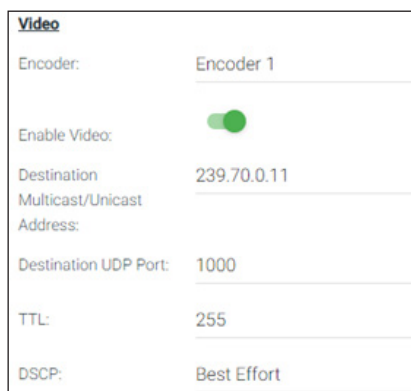
The reason for this is that when a factory reset is run on an encoder or an encoder is replaced with a different one, new multicast addresses are assigned when Incremental Multicast Assignment is enabled. When using the multiview feature, the multicast addresses in an encoder are used in the IP Inputs of a decoder. An updated encoder multicast address means the associated IP Input on the decoder has an incorrect multicast address in the IP Input field for that source.

It is recommended that once the Encoder and Decoder configurations are defined, then those configurations are saved. Then after either a Factory Reset or a device is replaced, the saved configuration can be restored on the device.

While realizing organizations have their own multicast address assignment guidelines, the following is an example of a scheme to use when assigning multicast addresses video & audio and the aux IP for the encoders. When using AES67 audio, please note the IP Address scheme and the use of port 5004 instead of port 1100.

Multicast Video IP (IP Port 1000)	Multicast Audio IP (IP Port 1100)	AES67 Audio (IP Port 5004)	Aux IP (IP Port 1200)
239.70.x.y	239.80.x.y	239.69.x.y	239.90.x.y
239.70.0.1	239.80.0.1	239.69.0.1	239.90.0.1
239.70.0.2	239.80.0.2	239.69.0.2	239.90.0.2
239.70.0.3	239.80.0.3	239.69.0.3	239.90.0.3
:	:	:	:
239.70.0.n	239.80.0.n	239.69.0.n	239.90.0.n

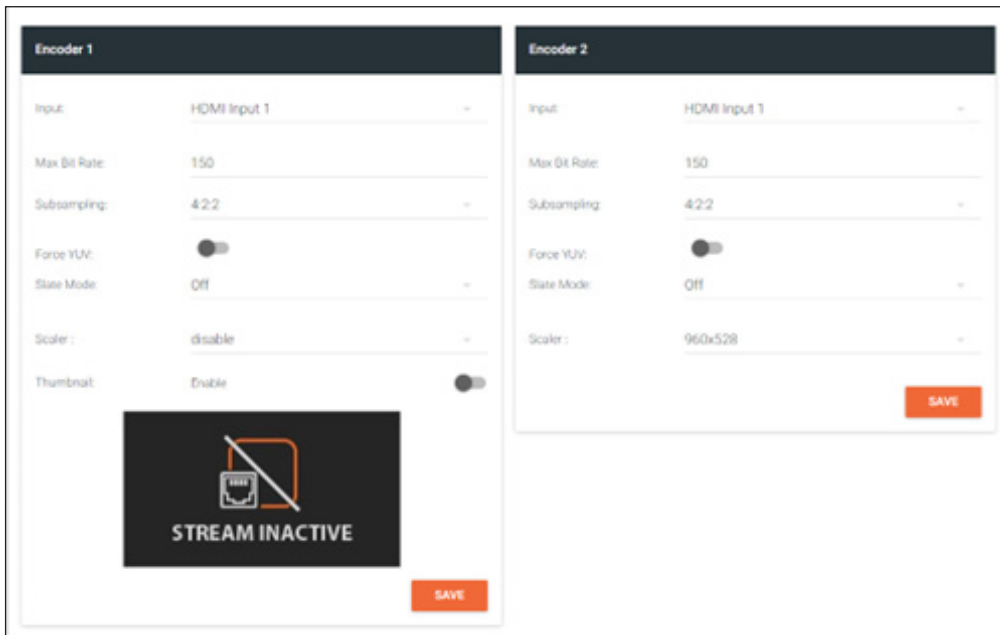
On the encoder the Video, Audio and Aux fields have default port values of 1000, 1100, and 1200 respectively. This can be located under the Session tab. See screenshots below.



Using Velocity v2.5.3 with OmniStream 2.0

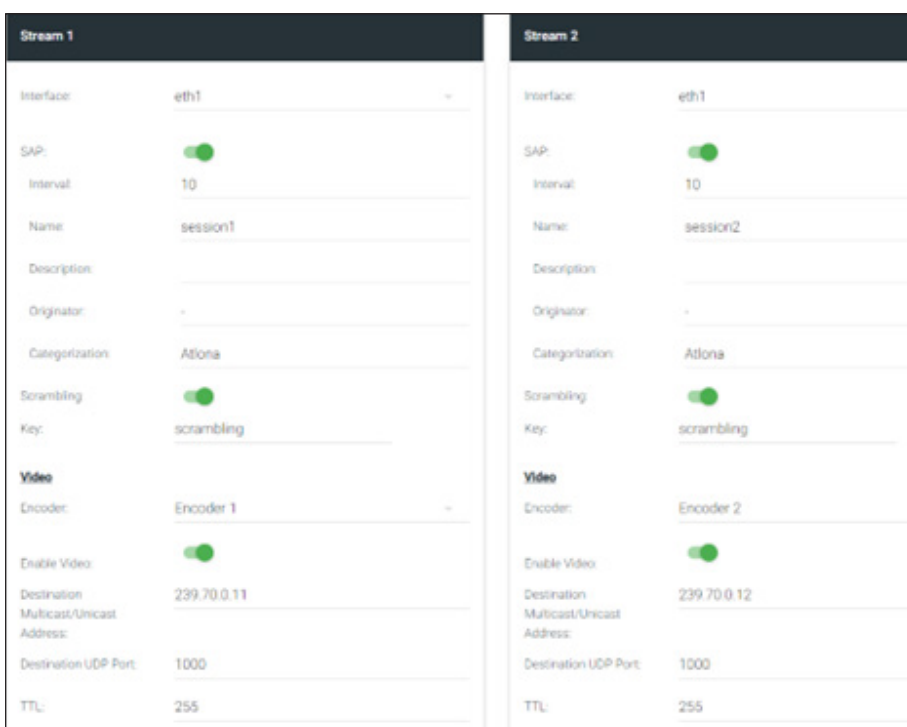
Single channel encoders support sending a secondary, scaled-down stream to support Multiview applications on the decoders. This will allow users to choose to view a stream full-screen using the input resolution of the source and/or to view a stream in a window on a decoder using the lower-resolution stream.

The primary stream is defined to be Encoder 1 while the secondary stream is defined to be Encoder 2. The default value for the Encoder 2 Input is Not Used. Set this field to HDMI Input 1 when using secondary stream. Then set the scaler to desired resolution as the default scaler is 1920x1080. See screenshot below with the secondary stream being defined as having a resolution of 960x528.



Encoder 1	Encoder 2
Input: HDMI Input 1	Input: HDMI Input 1
Max Bit Rate: 150	Max Bit Rate: 150
Subsampling: 4:2:2	Subsampling: 4:2:2
Force YUV: <input type="checkbox"/>	Force YUV: <input type="checkbox"/>
State Mode: Off	State Mode: Off
Scaler: disable	Scaler: 960x528
Thumbnail: Enable <input type="checkbox"/>	
STREAM INACTIVE	SAVE

Under the encoder's Session tab, the multicast address assignments for use by the IP Inputs can be found.



Stream 1	Stream 2
Interface: eth1	Interface: eth1
SAP: <input checked="" type="checkbox"/>	SAP: <input checked="" type="checkbox"/>
Interval: 10	Interval: 10
Name: session1	Name: session2
Description:	Description:
Originator: -	Originator: -
Categorization: Atlona	Categorization: Atlona
Scrambling: <input checked="" type="checkbox"/>	Scrambling: <input checked="" type="checkbox"/>
Key: scrambling	Key: scrambling
Video	Video
Encoder: Encoder 1	Encoder: Encoder 2
Enable Video: <input checked="" type="checkbox"/>	Enable Video: <input checked="" type="checkbox"/>
Destination Multicast/Unicast Address: 239.70.0.11	Destination Multicast/Unicast Address: 239.70.0.12
Destination UDP Port: 1000	Destination UDP Port: 1000
TTL: 255	TTL: 255

Using Velocity v2.5.3 with OmniStream 2.0

Steps needed to create OmniStream environment to support Multiview and/or CUI Singleview operation for Velocity.

1. Configure Encoders
 - a. Single channel encoders
 - i. Encoder 1 has an option to set the scaler for the source on the encoder that is being sent to a decoder.
 - ii. If using Encoder 2 as a secondary stream, under the Input tab set Encoder 2 Input to HDMI Input 1 and scaler to the desired subframe resolution.
 - iii. Under the Session tab, set Destination Multicast/Unicast Address for Encoder 1 associated with the source connected to HDMI port and if Encoder 2 is being used, set its Destination Multicast/Unicast Address.
 - b. Dual channel encoders
 - i. Encoder 1 is the source connected to HDMI 1.
 - ii. Encoder 2 is the source connected to HDMI 2.
 - c. When using the Multiview technology, as noted in the OmniStream FAQs, the Max Bit Rate going to the decoders must not exceed 1 Gb/s, however it is recommended not to exceed 900 Mb/s. If the source is part of a multiview, the Max Bit Rate of the encoders should be set to ensure the total bit rate of a multiview doesn't exceed the 900 Mb/s. The Max Bit Rate is located under the Input tab for each encoder under Device Manager.
 - d. When using multiviews such as PiP, the smaller subframe can run a source at 200 Mb/s while the same source may require an increased bitrate when enlarged. When changing bit rates it is recommended to disable IP inputs before switching to a new multiview since the total bitrate may exceed 900 Mb/s until all changes are completed.
 - e. Set the Destination IP Address for Video, Audio and Aux under the encoders under the Session tab for each source.
2. Configure Decoders
 - a. All video, audio and aux sources to be used must be defined under the IP Input tab of the decoder.
 - b. As noted above, all video streams use port 1000, audio streams use port 1100 and aux uses port 1200.
 - c. Multiview definition
 - i. Each subframe of a multiview requires the IP Inputs for each source as defined under the IP Input as defined in the step above.
 - d. The HDMI Output tab on the Decoder will have access to both the individual sources corresponding to the IP Input as well as the multiviews defined in the step above.



NOTE: If a project does not require more than 16 IP Inputs (sub of video, audio and aux input), then recommendation is to define a fixed set of IP Inputs which means the switching between multiviews just takes a simple HDMI Output – Video Input or HDMI Output – Video & Audio Input command to make the switch. In the case, where more that 16 IP Inputs are required for a project, then follow then use the OmniStream Multiview Programming Recommendations document as your guideline.

Do not use Velocity to switch between Default UI and Custom UI where Multiviews are managed. Dedicate display for either Default UI or Custom UI. Custom UI can be used for displaying fullscreen singleviews and multiviews.

Additional encoder and decoder macro commands for Velocity 2.5.3 and OmniStream 2.0.

Encoder Commands

1. Max Bit Rate
2. Scaler Resolution (VCx 2.0 Firmware only and single channel encoders)
3. Set HDCP Version

Using Velocity v2.5.3 with OmniStream 2.0

Decoder Commands

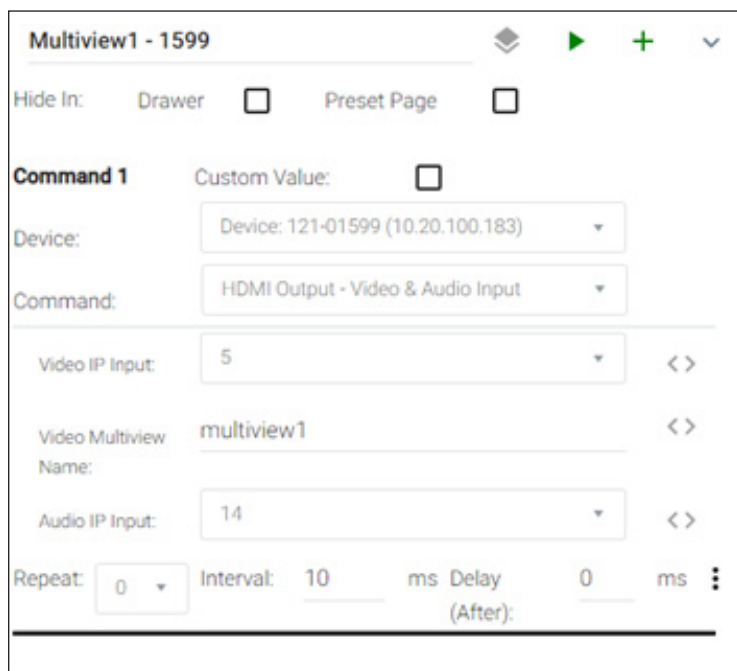
1. HDMI Output- Audio Input
2. HDMI Output- Video & Audio Input
3. HDMI Output- Video Input
4. IP Input Enable Range
5. Multiview Background Color (VCx and >2.0 Firmware only)
6. Multiview Subframe Select Input (VCx and >2.0 Firmware only)
7. Multiview Subframe Set Coordinates (VCx and >2.0 Firmware only)

When using Custom UI builder to manage audio and video whether Multiview or Singleview, use decoder command, HDMI Output – Video & Audio Input to set appropriate video and audio IP Inputs

Device: Device: 121-03507 (10.20.100.162)
 Command: HDMI Output- Video & Audio Input
 Video IP Input: <IP Input dropdown>
 Multiview Name: Parameter 2
 Audio IP Input: <IP Input dropdown>

When changing only Video or only Audio, then it is recommended to use the specific HDMI Output- Video Input and HDMI Output- Audio Input commands.

When sending a command to change video input, Multiview Name field overrides Video IP Input if both have data.



When updating video and audio inputs, it is not recommended to send separate HDMI Output – Video Input and HDMI Output – Audio Input commands in the same macro.

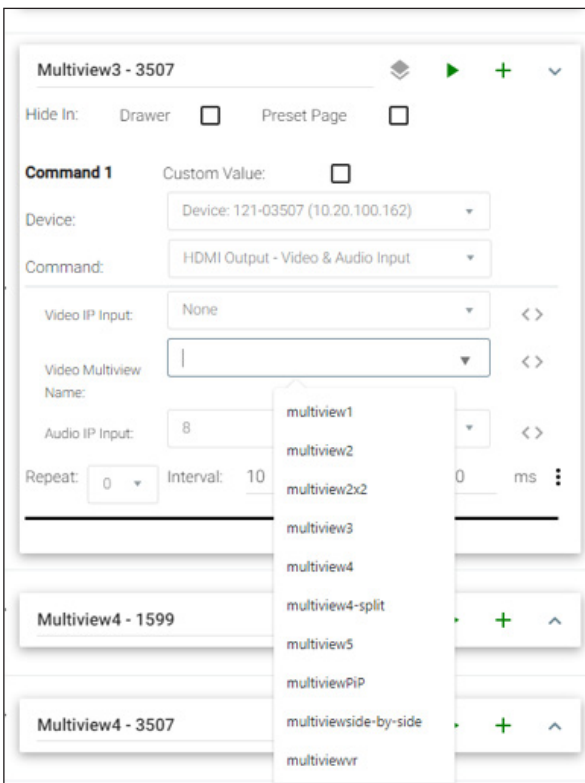
Using Velocity v2.5.3 with OmniStream 2.0

When defining multiviews, Velocity defaults to a numbering scheme but it is not necessary to follow this. For instance, the first multiview added starts with a name of multiview1. This can be used or a more descriptive name can be used such as multiview2x2. The only requirement is that the name begins with the string 'multiview'. See below for an example.



Macro commands in Velocity that require the multiview name allow the user to select from a dropdown of the multiview defined in the decoder or enter the multiview name via a text string. The dropdown filters the multiview name so if the name field is blank, you will see the entire list of all multiviews defined in the decoder.

Screenshot below shows the dropdown using the multiviews defined in the decoder.



Using Velocity v2.5.3 with OmniStream 2.0

In the case of entering the name, Velocity will accept either the full multiview name as defined or only the text following multiview. Velocity will append the multiview to the string passed to the macro for execution. For instance, using the multiviews defined in the screenshot above the following two macro commands are acceptable.

Command 1 Custom Value: <input type="checkbox"/>	Command 1 Custom Value: <input type="checkbox"/>
Device: Device: 121-03507 (10.20.100.162) ▾	Device: Device: 121-03507 (10.20.100.162) ▾
Command: HDMI Output - Video Input ▾	Command: HDMI Output - Video Input ▾
IP Input: None ▾ <>	IP Input: None ▾ <>
Or Multi View Name: multiviewside-by-side <>	Or Multi View Name: side-by-side <>
Repeat: 0 ▾ Interval: 10 ms Delay (After): 0 ms ⋮	Repeat: 0 ▾ Interval: 10 ms Delay (After): 0 ms ⋮

Using Velocity v2.5.3 with OmniStream 2.0

Programmatically Defining Multiview Layouts

To aid in programming, the following are provided as examples in Velocity that should be used for each of the steps above.

Mapping of multicast addresses for encoders.

This example uses 4 single channel AT-OMNI-111 encoders and 2 dual channel AT-OMNI-111 encoders.

Here is the configuration used below. 4 sources in dual channel encoders and 4 sources in single channel encoders.

Type	SN#		Video	Audio	Original Source Resolution	Original Encoder Bit Rate
OMNI-112	00655	HDMI 1	239.70.0.1	239.80.0.1	1280x720	225
		HDMI 2	239.70.0.2	239.80.0.2	1920x1080	225
OMNI-112	02019	HDMI 1	239.70.0.3	239.80.0.3	1920x1080	225
		HDMI 2	239.70.0.4	239.80.0.4	1920x1080	225
OMNI-111	02525	Encoder 1	239.70.0.5	239.80.0.5	2560x1440	225
		Encoder 2	239.70.0.6		1280x720	225
OMNI-111	03034	Encoder 1	239.70.0.7	239.80.0.7	2880x1584	225
		Encoder 2	239.70.0.8		960x528	225
OMNI-111	01397	Encoder 1	239.70.0.9	239.80.0.9	1920x1080	225
		Encoder 2	239.70.0.10		1280x720	225
OMNI-111	01147	Encoder 1	239.70.0.11	239.80.0.11	3840x2160	225
		Encoder 2	239.70.0.12		960x528	225

Next step is to define the IP Inputs for the decoder. In this case, IP Inputs 1-12 are used for video and IP Inputs 13-16 are used for audio. These are fixed and do not change in this example.

IP Input	Device	Multicast Address	Port	IP Input	Device	Multicast Address	Port
IP Input1	112-00655	239.70.0.1	1000	IP Input9	111-01397	239.70.0.9	1000
IP Input2		239.70.0.2	1000	IP Input10		239.70.0.10	1000
IP Input3	112-02019	239.70.0.3	1000	IP Input11	111-01147	239.70.0.11	1000
IP Input4		239.70.0.4	1000	IP Input12		239.70.0.12	1000
IP Input5	111-02525	239.70.0.5	1000	IP Input13	111-02525	239.80.0.5	1100
IP Input6		239.70.0.6	1000	IP Input14	111-03034	239.70.0.7	1100
IP Input7	111-03034	239.70.0.7	1000	IP Input15	111-01147	239.70.0.11	1100
IP Input8		239.70.0.8	1000	IP Input16	112-00655	239.80.0.2	1100

Using Velocity v2.5.3 with OmniStream 2.0

Example of video IP Input

IP Input 1

Enabled:

Interface: eth1

Multicast Address: 239.70.0.1

Port: 1000

Multicast Filter (IGMPv3)

Mode: Exclude

Addresses *:

*Separate multiple IP addresses with a comma.

SAVE

Example of audio IP Input

IP Input 13

Enabled:

Interface: eth1

Multicast Address: 239.80.0.5

Port: 1100

Multicast Filter (IGMPv3)

Mode: Exclude

Addresses *:

*Separate multiple IP addresses with a comma.

SAVE

Using Velocity v2.5.3 with OmniStream 2.0

Steps to create multiview:

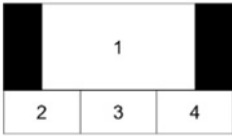
Only single channel encoders support scalers, therefore, the original source resolution on the dual channel encoders have to be used.

Example 1:

For this example, we will use the 1+3-horizontal-bottom template. The main subframe has a resolution of 2560x1440 while the 3 bottom subframes each have a resolution of 1280x720. The max bit rate for a multiview is 900 Gb/s, so we will use 450 for the stream going to the main subframe and 150 for the 3 subframes at the bottom of the multiview.

From IP Input table from the decoder, IP Input 5 will be the main subframe, IP Input 10 will be bottom left, IP Input 8 will be bottom middle and IP Input 1 will be bottom right.

Updates will be made to the source streams to ensure proper resolutions for each subframes as long as ensuring max bit rates stay under 900 Gb/s.

Name	7
Resolution	3840x2160
Layout	1+3-horizontal-bottom
	
main (2560x1440)	IP Input 5 - 239.70.0.5:1000 10.20.100.198
bottom_left (1280x720)	IP Input 10 - 239.70.0.10:1000 10.20.100.101
bottom_middle (1280x720)	IP Input 8 - 239.70.0.8:1000 10.20.100.118
bottom_right (1280x720)	IP Input 1 - 239.70.0.1:1000 10.20.100.197
<input type="button" value="CANCEL"/> <input type="button" value="SAVE"/>	

Using Velocity v2.5.3 with OmniStream 2.0

Below are the commands defined to create the above multiview.

Command 1 Macro to run view this multiview.

2-28-2023 14:46:47 Unnamed On Press ⏏ ▶ + ▾

Command 1 Custom Value:

Device:

Command:

Macro: <>

Repeat: Interval: ms Delay (After): ms ⋮

Multiview macro –

Command 1 defines which multiview to use in addition to an audio stream.

Hide In: Drawer Preset Page

Command 1 Custom Value:

Device:

Command:

Video IP Input: <>

Video Multiview Name: <>

Audio IP Input: <>

Repeat: Interval: ms Delay (After): ms ⋮

Using Velocity v2.5.3 with OmniStream 2.0


Commands 2-4 set resolution for each subframe. Some or all may not be needed. In this case the stream going to input 4 was already at a resolution of 1280x720.

Commands 5-8 set the max bit rate where the sum must be less than 900 Gb/s.

Command 2 Custom Value:

Device: Logic Actions

Command: RUN MACRO


Macro:  Set Fire TV Stick E-1 2560x1440 <>

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Command 3 Custom Value:

Device: Logic Actions

Command: RUN MACRO


Macro:  Set Micca G3 E-2 1280x720 <>

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Command 4 Custom Value:

Device: Logic Actions

Command: RUN MACRO


Macro:  Set Roku E-2 1280x720 <>

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Command 5 Custom Value:

Device: Logic Actions

Command: RUN MACRO


Macro:  Set Fire TV Stick E-1 Bit Rate 450 <>

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Command 6 Custom Value:

Device: Logic Actions

Command: RUN MACRO


Macro:  Set Roku E-2 Bit Rate 150 <>

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Command 7 Custom Value:

Device: Logic Actions

Command: RUN MACRO


Macro:  Set Micca G3 E-2 Bit Rate 150 <>

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Command 8 Custom Value:

Device: Logic Actions

Command: RUN MACRO

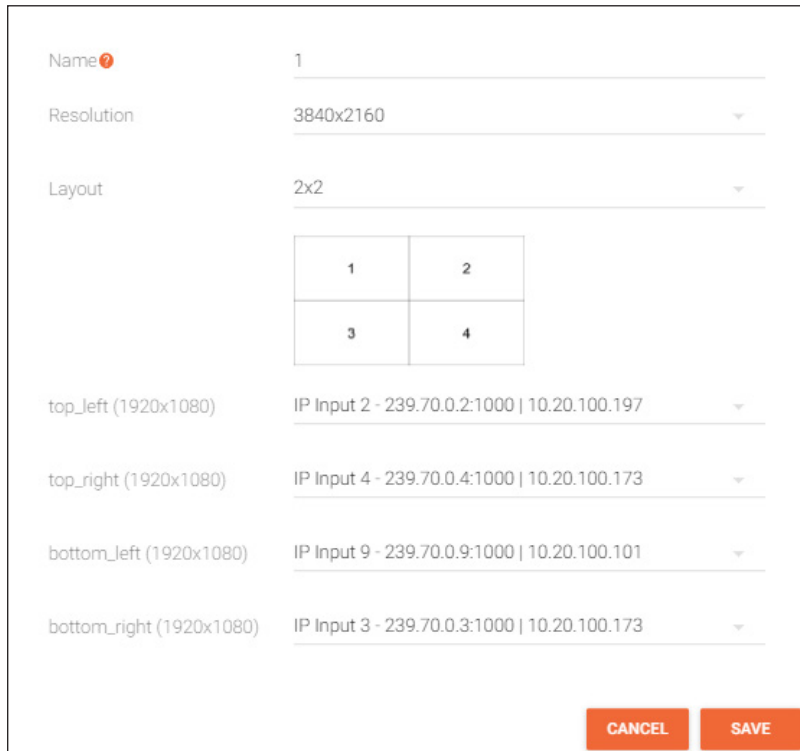
Macro:  Set Micca G2 E-2 Bit Rate 150 <>

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Using Velocity v2.5.3 with OmniStream 2.0

Example 2:

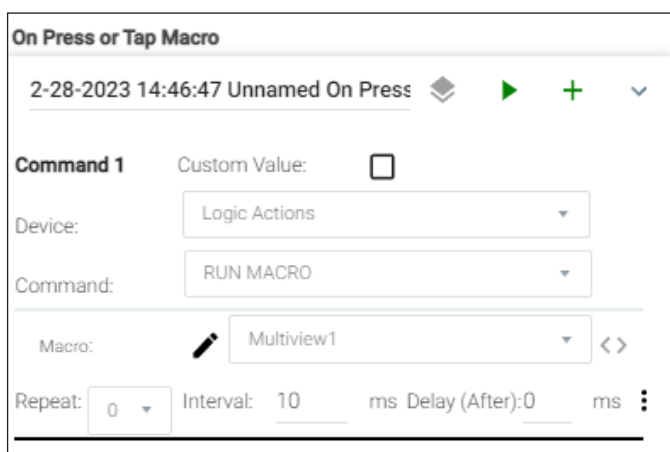
For this example, we will use the 2x2 template. Each of the 4 subframes have a resolution of 1920x1080. The max bit rate for a multiview is 900 Gb/s, and each of the streams used have a bit rate of 225.



Name	1				
Resolution	3840x2160				
Layout	2x2				
<table border="1"> <tr> <td>1</td> <td>2</td> </tr> <tr> <td>3</td> <td>4</td> </tr> </table>		1	2	3	4
1	2				
3	4				
top_left (1920x1080)	IP Input 2 - 239.70.0.2:1000 10.20.100.197				
top_right (1920x1080)	IP Input 4 - 239.70.0.4:1000 10.20.100.173				
bottom_left (1920x1080)	IP Input 9 - 239.70.0.9:1000 10.20.100.101				
bottom_right (1920x1080)	IP Input 3 - 239.70.0.3:1000 10.20.100.173				

Below are the commands defined to create the above multiview.

Command 1 Macro to run view this multiview.



On Press or Tap Macro

2-28-2023 14:46:47 Unnamed On Press

Command 1 Custom Value:

Device: Logic Actions





Command: RUN MACRO

Macro: Multiview1

Repeat: 0 Interval: 10 ms Delay (After): 0 ms

Using Velocity v2.5.3 with OmniStream 2.0

Not requiring any changes to resolution or bit rate, below in the macro. Notice that this used audio port 16 with is the audio associated with the video stream on IP Input 2.


Multiview1    


Hide In: Drawer Preset Page


Command 1 Custom Value:


Device:

Command:

Video IP Input: 

Video Multiview Name: 

Audio IP Input: 

Repeat: Interval: ms Delay ms 
(After):

Using Velocity v2.5.3 with OmniStream 2.0

Example of Programmatically Defining Multiview Layout – Velocity

The following is a recommendation for the best way to programmatically change multiview layout. If the user only needs to change a stream or streams within the layout already shown, the program only needs to change the addresses assigned to the ip_inputs used within the layout. The examples below using IP Input 5 for audio. If no audio is used with the multiview, then used only 4 IP Inputs. If the user needs to change the entire layout, Atlona recommends the following:

1. Disable the four ip_inputs used for multiview and the one of audio if needed
2. Optional: change the encoder resolution and bit rate as needed to accommodate the target multiview
3. Tell the decoder to switch multiview layout
4. Change the multicast addresses for the four ip_inputs to the addresses that should be shown after the switch as well as the port to 1000 for video. Note: a multiview can have 1-4 subframes for video, so the program will only need to set the addresses that will be shown. For consistency, always use IP Input 5 for audio and set its port value to its relevant audio port value. Set the enable parameter to On for each of the utilized IP Inputs.

To aid in programming, the following are provided as examples in Velocity that should be used for each of the steps above.

Mapping of multicast addresses for encoders

This example uses 4 single channel AT-OMNI-111 encoders and 2 dual channel AT-OMNI-111 encoders.

Here is the configuration used below. 4 sources in dual channel encoders and 4 sources in single channel encoders.

Type	SN#		Video	Audio	Original Source Resolution	Original Encoder Bit Rate
OMNI-112	00655	HDMI 1	239.70.0.1	239.80.0.1	1280x720	225
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OMNI-112	02019	HDMI 1	239.70.0.3	239.80.0.3	1920x1080	225
		HDMI 2	239.70.0.4	239.80.0.4	1920x1080	225
OMNI-111	02525	Encoder 1	239.70.0.5	239.80.0.5	2560x1440	225
		Encoder 2	239.70.0.6		1280x720	225
OMNI-111	03034	Encoder 1	239.70.0.7	239.80.0.7	2880x1584	225
		Encoder 2	239.70.0.8		960x528	225
OMNI-111	01397	Encoder 1	239.70.0.9	239.80.0.9	1920x1080	225
		Encoder 2	239.70.0.10		1280x720	225
OMNI-111	01147	Encoder 1	239.70.0.11	239.80.0.11	3840x2160	225
		Encoder 2	239.70.0.12		960x528	225

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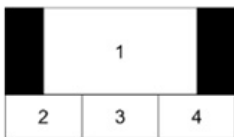
Steps to create multiview

Only single channel encoders support scalers, therefore, the original source resolution on the dual channel encoders have to be used.

For this example, we will use the 1+3-horizontal-bottom template. The main subframe has a resolution of 2560x1440 while the 3 bottom subframes each have a resolution of 1280x720. The max bit rate for a multiview is 900 Gb/s, so we will use 450 for the stream going to the main subframe and 150 for the 3 subframes at the bottom of the multiview.

IP Input 1 will be used for the main subframe and IP Inputs 2-4 will be used for the 1280x720 subframes at bottom of the screen.

New Multiview

Name ❗	1+horizontal-bottom
Resolution	3840x2160
Layout	1+3-horizontal-bottom
	
main (2560x1440)	IP Input 1 - 1000
bottom_left (1280x720)	IP Input 2 - 1000
bottom_middle (1280x720)	IP Input 3 - 1000
bottom_right (1280x720)	IP Input 4 - 1000

CANCEL
SAVE

Using Velocity v2.5.3 with OmniStream 2.0

Below are the commands defined to create the above multiview.

Command 1 Macro to disable IP Input ports.

Command 1 Custom Value:

Device: Logic Actions

Command: RUN MACRO

Macro: Disable Ports 1-5 1599

Repeat: 0 Interval: 10 ms Delay (After) 0 ms

Command 2 Custom Value:

Device: Logic Actions

Command: RUN MACRO

Macro: Set 1+3-HorBot-MaxBitRate-Resoluti

Repeat: 0 Interval: 10 ms Delay (After) 0 ms

Command 3 Custom Value:

Device: Logic Actions

Command: RUN MACRO

Macro: Set 1+3-HorBot - 1599

Repeat: 0 Interval: 10 ms Delay (After) 0 ms

Command 4 Custom Value:

Device: Logic Actions

Command: RUN MACRO

Macro: Set Input Ports - 1+3 Hor Bottom - 1!

Repeat: 0 Interval: 10 ms Delay (After) 0 ms

Disable Ports 1-5 3507

Hide In: Drawer Preset Page

Command 1 Custom Value:

Device: Device: 121-03507 (10.20.100.162)

Command: IP Input Enable Range

IP Input Start: 1

IP Input End: 5

Enabled: off

Repeat: 0 Interval: 10 ms Delay (After) 0 ms

Using Velocity v2.5.3 with OmniStream 2.0

Command 2 Macro

Optional: change the encoder resolution and bit rate as needed to accommodate the target multiview. This change should be made with care as any other decoder accessing this stream will be affected by the bit rate and resolution change.

Main subframe

Set 1+3-HorBot-MaxBitRate-Resolution ⏏️ ▶️ + ▾

Hide In: Drawer Preset Page

Command 1 Custom Value:

Device: ▾

Command: ▾

Mb/s: ▾ <>

Encoder: ▾ <>

Repeat: ▾ Interval: ms Delay ms (After) ⋮

Command 2 Custom Value:

Device: ▾

Command: ▾

Resolution: ▾ <>

Encoder: ▾ <>

Repeat: ▾ Interval: ms Delay ms (After) ⋮

Bottom Left

Command 3 Custom Value:

Device: ▾

Command: ▾

Mb/s: ▾ <>

Encoder: ▾ <>

Repeat: ▾ Interval: ms Delay ms (After) ⋮

Command 4 Custom Value:

Device: ▾

Command: ▾

Resolution: ▾ <>

Encoder: ▾ <>

Repeat: ▾ Interval: ms Delay ms (After) ⋮

Using Velocity v2.5.3 with OmniStream 2.0

Bottom Middle

Command 5	Custom Value: <input type="checkbox"/>
Device:	Device: 111-03034 (10.20.100.118) ▼
Command:	Max bit rate ▼
Mb/s:	150 ▼ <>
Encoder:	2 ▼ <>
Repeat: 0 ▼	Interval: 10 ms Delay 0 ms (After):

Command 6	Custom Value: <input type="checkbox"/>
Device:	Device: 111-03034 (10.20.100.118) ▼
Command:	Scaler Resolution (VCx 2.0 Firmware Only) ▼
Resolution:	1280x720 ▼ <>
Encoder:	2 ▼ <>
Repeat: 0 ▼	Interval: 10 ms Delay 0 ms (After):

Bottom Right

Command 7	Custom Value: <input type="checkbox"/>
Device:	Device: 111-01397 (10.20.100.101) ▼
Command:	Max bit rate ▼
Mb/s:	150 ▼ <>
Encoder:	2 ▼ <>
Repeat: 0 ▼	Interval: 10 ms Delay 0 ms (After):

Command 8	Custom Value: <input type="checkbox"/>
Device:	Device: 111-01397 (10.20.100.101) ▼
Command:	Scaler Resolution (VCx 2.0 Firmware Only) ▼
Resolution:	1280x720 ▼ <>
Encoder:	2 ▼ <>
Repeat: 0 ▼	Interval: 10 ms Delay 0 ms (After):

Command 3 Macro

Tell the decoder to switch multiview layout. Note that the Multi View Name field will need to be changed to match the name of the multiview that is being switched to. And note, in this example the Audio IP Input is set to 5. In no audio required for this multiview, the Audio IP Input field is set to None.

Set 1+3-HorBot - 1599	
Hide In:	Drawer <input type="checkbox"/> Preset Page <input type="checkbox"/>
Command 1	Custom Value: <input type="checkbox"/>
Device:	Device: 121-01599 (10.20.100.183) ▼
Command:	HDMI Output - Video & Audio Input ▼
Video IP Input:	None ▼ <>
Video Multiview Name:	multiview1+horizontal-bottom <>
Audio IP Input:	5 ▼ <>
Repeat: 0 ▼	Interval: 10 ms Delay 0 ms (After):

Using Velocity v2.5.3 with OmniStream 2.0

Command 4 macro

Change the multicast addresses for the four ip_inputs to the addresses that should be shown after the switch as well as set the port to 1000 for video. Note: a multiview can have 1-4 subframes for video, so the program will only need to set the addresses that will be shown. For consistency, always use IP Input 5 for audio and set its port value to its relevant audio port value. Set the enable parameter to On for each of the utilized IP Inputs. If audio is not needed, do not set IP Input 5.

Set Input Ports - 1+3 Hor Bottom - 1599

Hide In: Drawer Preset Page

Command 1 Custom Value:

Device: Device: 121-01599 (10.20.100.183) ▼

Command: IP Input Set All ▼

IP Input: 1 <>

Multicast IP Address: 239.70.0.11 <>

Multicast Port: 1000 <>

Enabled: on <>

Repeat: 0 ▼ Interval: 10 ms Delay 0 ms (After) ⋮

Command 2 Custom Value:

Device: Device: 121-01599 (10.20.100.183) ▼

Command: IP Input Set All ▼

IP Input: 2 <>

Multicast IP Address: 239.70.0.6 <>

Multicast Port: 1000 <>

Enabled: on <>

Repeat: 0 ▼ Interval: 10 ms Delay 0 ms (After) ⋮

Command 3 Custom Value:

Device: Device: 121-01599 (10.20.100.183) ▼

Command: IP Input Set All ▼

IP Input: 3 <>

Multicast IP Address: 239.70.0.8 <>

Multicast Port: 1000 <>

Enabled: on <>

Repeat: 0 ▼ Interval: 10 ms Delay 0 ms (After) ⋮

Command 4 Custom Value:

Device: Device: 121-01599 (10.20.100.183) ▼

Command: IP Input Set All ▼

IP Input: 4 <>

Multicast IP Address: 239.70.0.10 <>

Multicast Port: 1000 <>

Enabled: on <>

Repeat: 0 ▼ Interval: 10 ms Delay 0 ms (After) ⋮

Command 5 Custom Value:

Device: Device: 121-01599 (10.20.100.183) ▼

Command: IP Input Set All ▼

IP Input: 5 <>

Multicast IP Address: 239.80.0.11 <>

Multicast Port: 1100 <>

Enabled: on <>

Repeat: 0 ▼ Interval: 10 ms Delay 0 ms (After) ⋮

