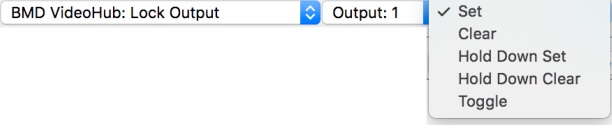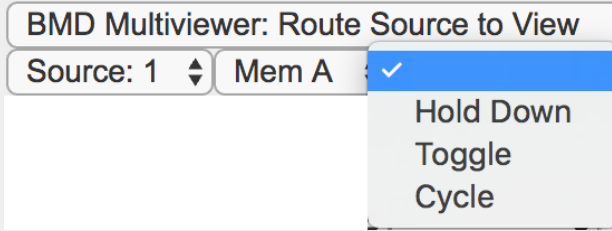# Device: BMD Multiview 16

Introduction

The Device Core "BMD Multiviewer" can be used to control

- Multiviewer 4

- Multiviewer 16

All actions applies to Multiview 16 while only some will work on Multiview 4 (according to Blackmagic's documentation, it's not clearly specified which).

Note on SDI Tally Mode: Tally function can be enable by conning an ATEM switcher's program SDI output to input 16 on a Multiview 16 or input 4 on a Multiview 4.

Solo / Border / Labels / Audio meters / SDI Tally 	Select Solo / Border / Labels / Audio meters / SDI Tally mode *Binary triggers:* If Set, it sets the mode. If Clear it clears the mode. Hold Down Set and Clear will Set or Clear the mode for as long as the trigger is held down. Toggle will Set/Clear the mode based on the current state. *Pulse inputs:* Will turn the mode On/Off. *Button colors:* Highlighted when mode is on, dimmed when not (unless Clear or Hold Down Clear is used in which case it's reversed). *Displays:* Shows the mode name (eg. "MV Solo") in the title bar and the current value (for pulse inputs or buttons in toggle mode) or the function label (for all other button modes) in the main display as "On" or "Off"
Layout 	Selects layout on the Multiviewer (2x2, 3x3 or 4x4) *Binary triggers:* Sets the selected layout. If Hold Down is selected, the layout will fall back to the previous layout whenever the trigger is released. Toggle will select the layout, but on a second trigger, it will fall back to the previous layout. If Cycle mode is selected, a trigger will set the next layout (2x2 -> 3x3 -> 4x4) *Pulse inputs:* Will cycle forth and back through the layouts. If Cycle mode is selected, it will allow to fall over when it reaches the end points. *Binary outputs:* On when actual layout matches selected layout (or when trigger is held in Cycle mode) *Button colors:* Will be highlighted when actual layout matches selected layout, otherwise dim. In Cycle mode color will be highlighted when button is held down. *Displays:* Shows "MV Layout" in title bar and "2x2", "3x3" or "4x4" as value text. The text will be either the current value (status) or labeling the function of the button (for buttons it will be a label unless cycle mode is selected).
Store Presets 	Saves the source to view routing of the Multiview *Binary triggers:* Store routings to specified Bank *Pulse inputs:* Will select the bank and on press and hold (binary trigger) it will store routings to specified bank. *Button colors:* Highlighted when pressed. *Displays:* Shows the Bank number and "Save" as text. If "Label" is different from "Label: 0" it will use that label to override the individual labels parts (or show an image)

Recall Presets

`BMD Multiviewer: Recall preset ▼` `Bank: 1▼` `From: 1 ▼` `To: 4 ▼` `Label: 0 ▼`

Recall preset while defining the range of Outputs affected

Binary triggers: Recall preset from selected bank. The range "From" and "To" defines the view ports which should be recalled. View ports outside this range will not be affected by the "Recall" action.

Pulse inputs: Will select the bank and on press and hold (binary trigger) it will recall routings from the specified bank.

Button colors: Highlighted when preset is recalled. Otherwise dimmed. Off if no preset exists.

Displays: Shows the bank number and the text "Recal". If "Label" is different from "Label: 0" it will use that label to override the individual labels parts (or show an image)

Lock View

`BMD VideoHub: Lock Output ▼` `Output: 1`
- ✓ Set
- Clear
- Hold Down Set
- Hold Down Clear
- Toggle

Locks views on Multiviewer

Binary triggers: If Set, it sets the lock. If Clear it clears the lock. Hold Down Set and Clear will Set or Clear the lock for as long as the button is held down. Toggle will Set/Clear the lock based on the current state.

Pulse inputs: Will cycle through sources from 1 to the selected view. When the pulse input is held down for 1 second it will send a binary trigger (and if set to toggle, it will turn lock on and off)

Button colors: Highlighted when locked, dimmed when not (unless Clear or Hold Down Clear is used in which case it's reversed). Blinking if externally locked.

Displays: Shows the view in the header line and the state of the lock in the main display: Open, Lockd or Lck-E (Locked Externally - another user). If the HWc is a trigger not in toggle mode, a label for the function ("Lock" / "Unlck") will be shown.

Route Source to View

`BMD Multiviewer: Route Source to View ◄`
`Source: 1 ⏶⏷` `Mem A`
- ✓
- Hold Down
- Toggle
- Cycle

Route a given source to a given view

Binary triggers: Sets the selected routing. If Hold Down is selected, the routing will fall back to the previous route whenever the trigger is released. Toggle will select the routing, but on a second trigger, it will fall back to the previous routing. If Cycle mode is selected, a trigger will set the next source, while maintaining the selected view (corresponds to a single pulse input)

Pulse inputs: Will cycle through the sources while maintaining the selected view as destination. If Cycle mode is selected, it will cycle up to the selected source, otherwise all the way up to the last source (16).

Binary outputs: On when actual sources matches view (or when trigger is held in Cycle mode)

Button colors: Will be highlighted when sources matches view, otherwise dim. In Cycle mode color will be highlighted when button is held down. Will blink if a lock is set for the selected view.

About views: Can be selected from 1-16 or Mem A-D.

Displays: Shows the view name in the title bar (N/A if none) and the input source in one or two text lines (depends on Large Labels configuration option). All labels are pulled from the Multiview itself.

Select Source for Solo / Audio BMD Multiviewer: Select Source for Sol▼ Source: 1 ▼ ▼ and ▼ BMD Multiviewer: Solo ▼ Toggle ▼	Route a given source to solo / audio monitoring. Note: To view a source as solo it needs to already be in solo mode or solo mode needs to be an 'and' function. Binary triggers: Sets the selected routing. If Hold Down is selected, the routing will fall back to the previous route whenever the trigger is released. Toggle will select the routing, but on a second trigger, it will fall back to the previous routing. *Button colors:* Highlighted when preset is recalled. Otherwise dimmed. Off if no preset exists. Displays: Shows 'Solo Input' in the title bar and the input source in one text line. Input source name is taken from the BMD Mulitview and can be set in the BMD Multiview interface.
Set Shift/State by BMD Multiviewer: Set Shift/State by ▼ State Reg S ▼ Layout+Solo▼	Sets shift level or state register value based on Multiview states This action does not depend on any trigger from the HWC, it will always be evaluated if inside the proper state and shift levels. Will set the selected register to values from 0 (2x2), 1(3x3) and 2(4x4) if Layout is selected. If Solo is selected, the register is set to 0 or 1 depending on state. If Layout+Solo is selected, values will be set from 0-2 (2x2 to 4x4) and 3 for "Solo" mode. Values are only set if they change. Has a transparent return value.
Auto router BMD Multiviewer: MemGroup Autoroute▼ Mem AA▼ Numeric Order ▼ ▼ Bank: 1▼ Always run▼	This action will monitor the contents of memory group AA/BB and adjust settings on the multiviewer according ly. If nothing is stored in the selected memory group it will display the default grid and routing (or the one selected: 2x2, 3x3, 4x4). If one source is in the memory group, this source will be displayed in solo mode. If more than one source is in the memory group, a 2x2 (or 3x3 grid) will be shown with those sources routed (and source 16 used as blank). The selected bank is used to track the original routing so when the memory group is again empty, it can revert all routing back to that state. The "Always run" option means that whenever this action is evaluated it will perform the monitoring action and adjustment if necessary. Alternatively you can let it depend on a system flag that could be enabled/disabled by another action. This action could be placed in a "controller"-type virtual HWc.

A device configuration option exist:

- Index 0: Large labels: If "1", labels in displays will be max 5 chars and big font. For instance, if the Multiview device core is the first one, the value could be "D0:0=1" to enable large labels.