

# Alternately Occluding Dichoptic Modifier of Stereoscopic Transmission User Manual

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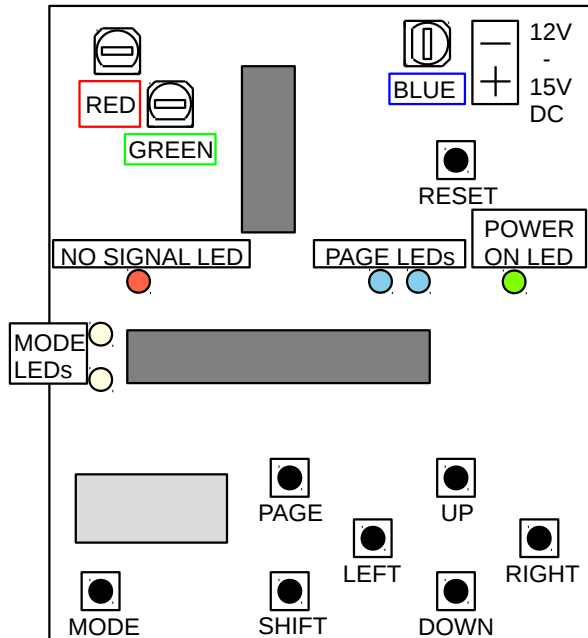
## Connecting AODMoST

Plug VGA Input into your video source and VGA Output into 3D display. Preferably it should be done when all devices are turned off, but VGA generally can be hot plugged. If your video source or 3D display does not have VGA connector, you may use appropriate converter. Connect AODMoST to a 12–15V DC power source.

When everything is hooked up, turn on video source and 3D display. AODMoST after being powered on, at first enters synchronization pulse detection mode (indicated by a red NO SIGNAL LED being light up). When detection is completed and display starts receiving VGA signal, AODMoST enters MODE 0: VIDEO PASS-THROUGH.

If you hot plugged display, it may not be detected. Manually detecting display in display settings of video source should solve the problem.

## User Interface



You may change MODE (there are 4 of them, they will be described in detail later) by pressing MODE button. Current mode is indicated by yellow MODE LEDs.

Pressing PAGE button changes PAGE to the next one (indicated by blue PAGE LEDs). Pressing SHIFT + PAGE buttons simultaneously changes page to the previous one.

Pressing MODE + PAGE at the same time restores default settings in all modes. Restoring singular settings will be described in detail on following pages of manual.

Adjusting trimpots changes color of overlay laid by AODMoST on top of video send to a display. There are 3 components to overlay color: RED, GREEN and BLUE. Each of them has a separate trimpot. Turning trimpot with screwdriver counterclockwise increases intensity of component color, turning it clockwise decreases insensitivity. Lowest intensity is achieved at the center position of trimpot.

AODMoST can store its settings in a non-volatile memory, so that they can be restored at the next device launch. It is done automatically after 10 seconds of no buttons being pressed.

## Resolutions and picture issues

AODMoST can work with resolutions up to 1920x1080. Unfortunately 8-bit microcontroller that is the heart of this device, is not fast enough to make all area of display available for drawing rectangles at higher resolutions (left 25% of display will have to stay unaltered by overlay). I recommend using 1280x720 or 1366x768 (scaled up 1280x720 may look better on a native 1920x1080 panel).

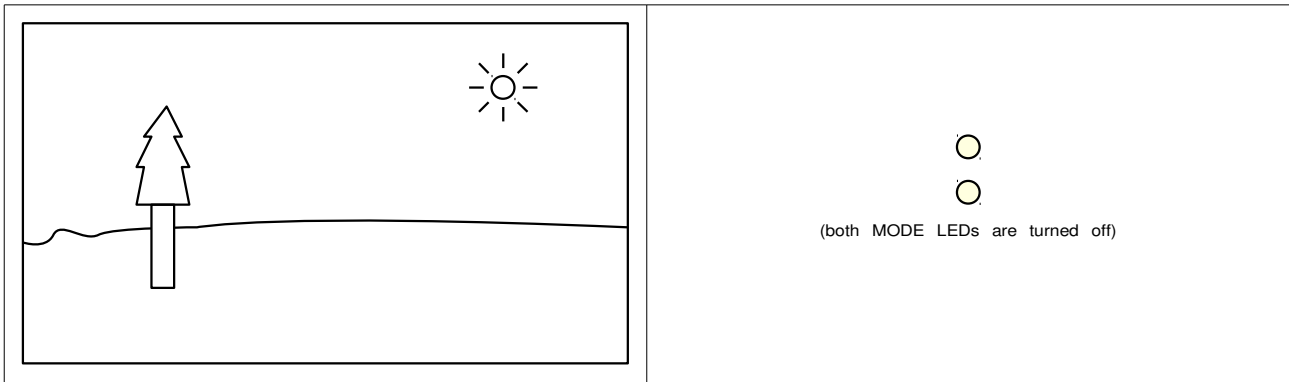
Some configurations of rectangles that form overlay may cause artifacts on your display, try to avoid that. Placing rectangles too close to the edges of a display may cause display to stop working temporarily, to resolve the issue press RESET or restore default settings. AODMoST uses Watchdog Timer built in into its ATmega328P microcontroller, so it should automatically reset itself in case of its software failure. Reset also occurs during change of resolution.

**NOTE:** All times and frequencies found in this manual are given for 60Hz vertical synchronization frequency of video signal. If you are going to use other Vsync frequency, you need to use following formulas to convert values given in this manual:

$$T = \frac{60 \text{ Hz}}{f_{Vsync}} \cdot T_{\text{manual}}$$

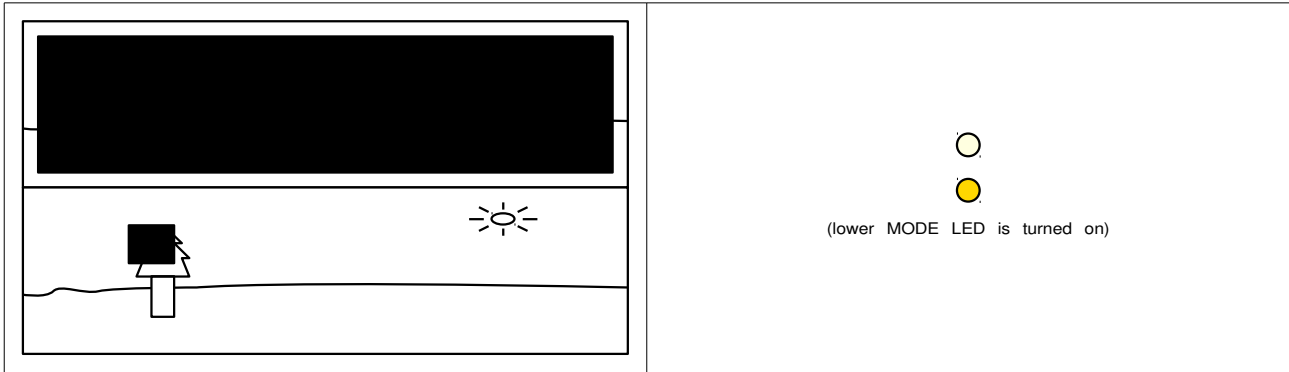
$$f = \frac{f_{Vsync}}{60 \text{ Hz}} \cdot f_{\text{manual}}$$

## MODE 0: VIDEO PASS-THROUGH



AODMoST always enters MODE 0 after its launch. You should keep device in this mode until your video source starts sending proper 3D material in Top – Bottom or Side By Side format. No rectangles are drawn upon video signal in this mode.

## MODE 1: TOP – BOTTOM



In MODE 1 AODMoST draws two rectangles that alternate between occupying upper and lower part of the screen. Larger one, alternately occluding rectangle, after correct adjustment of settings, should take half or almost half of the screen. The smaller one, dihoptic rectangle, always stays within the confines of alternately occluding rectangle. Alternations between parts of the screen done by both rectangles are independent. When both rectangles occupy the same part of the screen, alternately occluding rectangle is the one visible.


When video source starts sending proper 3D material in Top – Bottom format (upper half of video is supposed to be shown to the one eye, usually the left one, lower part to the other eye), make adjustments of MODE 1 settings, so that alternately occluding rectangles occupy all or almost all area of the screen and dihoptic rectangle occludes chosen part of the screen. You may change frequency of alternations and which eye is occluded more (percentage of alternation cycle period by which each eye is occluded). When this is done you should instruct your 3D display to generate 3D image that can be viewed through 3D glasses (you most likely need to do it from your 3D display settings, they should be accessible by pressing MENU button on the remote control).

### MODE 1 settings:


PAGE	BUTTONS	DESCRIPTION
<p>PAGE 0</p> <p>(both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of Alternately Occluding Rectangle</p>	<p>UP</p> <p>increase frequency</p>	<p>Alternately Occluding Rectangle Frequency</p> <p>Available frequencies are:</p> <ul style="list-style-type: none"> <li>• 15Hz (U-50% : L-50%)*</li> <li>• 12Hz (U-60% : L-40%)*</li> <li>• 10Hz (U-50% : L-50%)*</li> <li>• 7.5Hz (U-50% : L-50%)*</li> <li>• <u>5.0Hz</u> (U-50% : L-50%)*</li> <li>• 2.5Hz (U-50% : L-50%)*</li> </ul> <p>*default occlusion rate is set during change of frequency</p>
	<p>DOWN</p> <p>decrease frequency</p>	

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 0 (continued)</p> <p style="text-align: center;">● ● (both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of Alternately Occluding Rectangle</p>	<p>Alternately Occluding Rectangle Occlusion Rate (occlusions per Upper and Lower part of the screen)</p> <p>LEFT less occlusion of upper part</p>	<p>Available occlusion rates depend on current frequency:</p> <ul style="list-style-type: none"> <li>• 15Hz <ul style="list-style-type: none"> <li>○ U-0% : L-100%</li> <li>○ U-25% : L-75%</li> <li>○ <u>U-50% : L-50%</u></li> <li>○ U-75% : L-25%</li> <li>○ U-100% : L-0%</li> </ul> </li> <li>• 12Hz <ul style="list-style-type: none"> <li>○ U-0% : L-100%</li> <li>○ U-20% : L-80%</li> <li>○ U-40% : L-60%</li> <li>○ <u>U-60% : L-40%</u></li> <li>○ U-80% : L-20%</li> <li>○ U-100% : L-0%</li> </ul> </li> <li>• 10Hz <ul style="list-style-type: none"> <li>○ U-0% : L-100%</li> <li>○ U-16.7% : L-83.3%</li> <li>○ U-33.3% : L-66.7%</li> <li>○ <u>U-50% : L-50%</u></li> <li>○ U-66.7% : L-33.3%</li> <li>○ U-83.3% : L-16.7%</li> <li>○ U-100% : L-0%</li> </ul> </li> <li>• 7.5Hz <ul style="list-style-type: none"> <li>○ U-0% : L-100%</li> <li>○ U-12.5% : L-87.5%</li> <li>○ U-25% : L-75%</li> <li>○ U-37.5% : L-62.5%</li> <li>○ <u>U-50% : L-50%</u></li> <li>○ U-62.5% : L-37.5%</li> <li>○ U-75% : L-25%</li> <li>○ U-87.5% : L-12.5%</li> <li>○ U-100% : L-0%</li> </ul> </li> <li>• 5.0Hz &amp; 2.5Hz <ul style="list-style-type: none"> <li>○ U-0% : L-100%</li> <li>○ U-8.3% : L-91.7%</li> <li>○ U-16.7% : L-83.3%</li> <li>○ U-25% : L-75%</li> <li>○ U-33.3% : L-66.7%</li> <li>○ U-41.7% : L-58.3%</li> <li>○ <u>U-50% : L-50%</u></li> <li>○ U-58.3% : L-41.7%</li> <li>○ U-66.7% : L-33.3%</li> <li>○ U-75% : L-25%</li> <li>○ U-83.3% : L-16.7%</li> <li>○ U-91.7% : L-8.3%</li> <li>○ U-100% : L-0%</li> </ul> </li> </ul>
	<p>RIGHT more occlusion of upper part</p>	


PAGE	BUTTONS	DE
<p style="text-align: center;">PAGE 0 (continued)</p> <p style="text-align: center;">● ● (both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of Alternately Occluding Rectangle</p>	Alternately Occluding Rectangle ON/OFF	
	SHIFT + LEFT SHIFT + RIGHT toggle <u>on</u> /off state of rectangle	Alternately Occluding Rectangle can be completely turned off and not being visible on screen.
	Alternately Occluding Rectangle Gap	
	SHIFT + UP increase gap	Gap is the distance between two positions of alternately occluding rectangle. By default it is <u>0</u> . Increasing gap decreases vertical size of alternately occluding rectangle (so that upper edge of rectangle in upper position and lower edge of rectangle in lower position stays in the same place).
	SHIFT + DOWN decrease gap	
	Restoring default settings	
	UP + DOWN set default frequency	Default alternately occluding rectangle frequency is <u>5.0Hz</u> (U-50% : L-50%)* *default occlusion rate is set during change of frequency
	LEFT + RIGHT set default occlusion rate	Default occlusion rates for different frequencies : <ul style="list-style-type: none"> <li>• 15Hz (<u>U-50% : L-50%</u>)</li> <li>• 12Hz (<u>U-60% : L-40%</u>)</li> <li>• 10Hz (<u>U-50% : L-50%</u>)</li> <li>• 7.5Hz (<u>U-50% : L-50%</u>)</li> <li>• 5.0Hz (<u>U-50% : L-50%</u>)</li> <li>• 2.5Hz (<u>U-50% : L-50%</u>)</li> </ul>
	SHIFT + LEFT + RIGHT set default on/off state of rectangle	Default state is <u>ON</u>
	SHIFT + UP + DOWN set default gap	Default alternately occluding rectangle gap is <u>0</u>
UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 0	<ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> </ul>	
SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 1	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dihoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>	

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 1</p> <p style="text-align: center;">   (right PAGE LED is turned on) </p> <p>This PAGE contains position settings of Alternately Occluding Rectangle</p>	Position of Alternately Occluding Rectangle	
	UP	position rectangle higher up on screen
	SHIFT + UP	position rectangle higher up on screen at increased speed
	DOWN	position rectangle lower down on screen
	SHIFT + DOWN	position rectangle lower down on screen at increased speed
	LEFT	position rectangle more to the left
	SHIFT + LEFT	position rectangle more to the left at increased speed
	RIGHT	position rectangle more to the right
	SHIFT + RIGHT	position rectangle more to the right at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical position of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal position of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 1	restore both vertical and horizontal position of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 1	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dihoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>




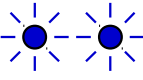
PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 2</p> <p style="text-align: center;">             (left PAGE LED is turned on)         </p> <p>This PAGE contains size settings of Alternately Occluding Rectangle</p>	Size of Alternately Occluding Rectangle	
	UP	decrease vertical size of a rectangle
	SHIFT + UP	decrease vertical size of a rectangle at increased speed
	DOWN	increase vertical size of a rectangle
	SHIFT + DOWN	increase vertical size of a rectangle at increased speed
	LEFT	decrease horizontal size of a rectangle
	SHIFT + LEFT	decrease horizontal size of a rectangle at increased speed
	RIGHT	increase horizontal size of a rectangle
	SHIFT + RIGHT	increase horizontal size of a rectangle at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical size of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal size of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 2	restore both vertical and horizontal size of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 1	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dihoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 3</p> <p style="text-align: center;">●   ●</p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p style="text-align: center;">This PAGE contains general settings of Dichoptic Rectangle</p>	Dichoptic Rectangle Period	
	UP decrease period	<p>Available periods are:</p> <ul style="list-style-type: none"> <li>• 0.67s (U-50% : L-50%)*</li> <li>• 1.33s (U-50% : L-50%)*</li> <li>• 2s (U-50% : L-50%)*</li> <li>• 3.33s (U-50% : L-50%)*</li> <li>• <u>4.67s</u> (U-50% : L-50%)*</li> <li>• 8s (U-50% : L-50%)*</li> </ul>
	DOWN increase period	<p>*default occlusion rate is set during change of period</p>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 3 (continued)</p> <p style="text-align: center;"></p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p style="text-align: center;">This PAGE contains general settings of Dichoptic Rectangle</p>	<p style="text-align: center;">Dichoptic Rectangle Occlusion Rate (occlusions per Upper and Lower part of the screen)</p> <hr/> <p style="text-align: center;">LEFT less occlusion of upper part</p> <hr/> <p style="text-align: center;">RIGHT more occlusion of upper part</p>	<p>Available occlusion rates depend on current period:</p> <ul style="list-style-type: none"> <li>• 0.67s &amp; 1.33s <ul style="list-style-type: none"> <li>◦ U-0% : L-100%</li> <li>◦ U-25% : L-75%</li> <li>◦ <u>U-50% : L-50%</u></li> <li>◦ U-75% : L-25%</li> <li>◦ U-100% : L-0%</li> </ul> </li> <li>• 2s <ul style="list-style-type: none"> <li>◦ U-0% : L-100%</li> <li>◦ U-16.7% : L-83.3%</li> <li>◦ U-33.3% : L-66.7%</li> <li>◦ <u>U-50% : L-50%</u></li> <li>◦ U-66.7% : L-33.3%</li> <li>◦ U-83.3% : L-16.7%</li> <li>◦ U-100% : L-0%</li> </ul> </li> <li>• 3.33s <ul style="list-style-type: none"> <li>◦ U-0% : L-100%</li> <li>◦ U-10% : L-90%</li> <li>◦ U-20% : L-80%</li> <li>◦ U-30% : L-70%</li> <li>◦ U-40% : L-60%</li> <li>◦ <u>U-50% : L-50%</u></li> <li>◦ U-60% : L-40%</li> <li>◦ U-70% : L-30%</li> <li>◦ U-80% : L-20%</li> <li>◦ U-90% : L-10%</li> <li>◦ U-100% : L-0%</li> </ul> </li> <li>• 4.67s <ul style="list-style-type: none"> <li>◦ U-0% : L-100%</li> <li>◦ U-7.1% : L-92.9%</li> <li>◦ U-14.3% : L-85.7%</li> <li>◦ U-21.4% : L-78.6%</li> <li>◦ U-28.6% : L-71.4%</li> <li>◦ U-35.7% : L-64.3%</li> <li>◦ U-42.9% : L-57.1%</li> <li>◦ <u>U-50% : L-50%</u></li> <li>◦ U-57.1% : L-42.9%</li> <li>◦ U-64.3% : L-35.7%</li> <li>◦ U-71.4% : L-28.6%</li> <li>◦ U-78.6% : L-21.4%</li> <li>◦ U-85.7% : L-14.3%</li> <li>◦ U-92.9% : L-7.1%</li> <li>◦ U-100% : L-0%</li> </ul> </li> <li>• 8s <ul style="list-style-type: none"> <li>◦ U-0% : L-100%</li> <li>◦ U-8.3% : L-91.7%</li> <li>◦ U-16.7% : L-83.3%</li> <li>◦ U-25% : L-75%</li> <li>◦ U-33.3% : L-66.7%</li> <li>◦ U-41.7% : L-58.3%</li> <li>◦ <u>U-50% : L-50%</u></li> <li>◦ U-58.3% : L-41.7%</li> <li>◦ U-66.7% : L-33.3%</li> <li>◦ U-75% : L-25%</li> <li>◦ U-83.3% : L-16.7%</li> <li>◦ U-91.7% : L-8.3%</li> <li>◦ U-100% : L-0%</li> </ul> </li> </ul>

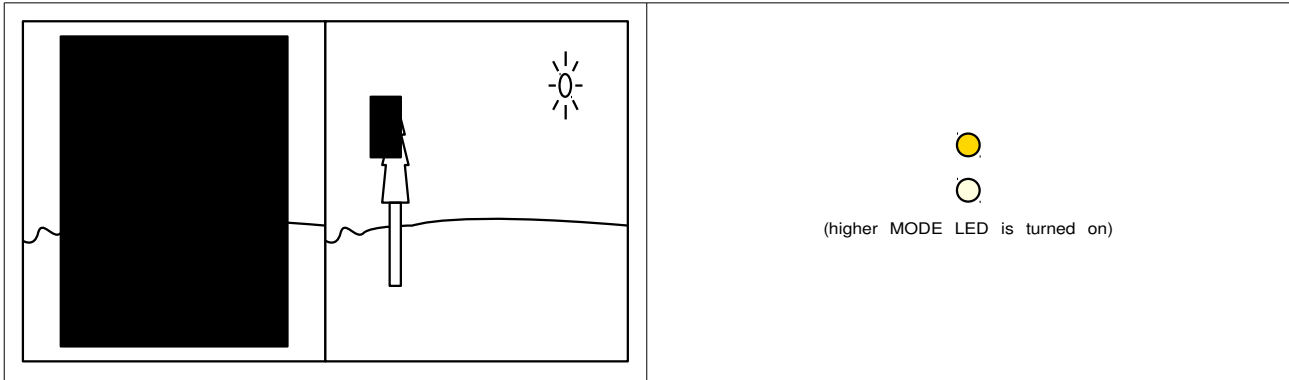
PAGE	BUTTONS	DE
<p style="text-align: center;">PAGE 3 (continued)</p> <p style="text-align: center;">● ●</p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p style="text-align: center;">This PAGE contains general settings of Dichoptic Rectangle</p>	Dichoptic Rectangle ON/OFF	
	SHIFT + UP toggle <u>on</u> /off state of rectangle	Dichoptic Rectangle can be completely turned off and not being visible on screen.
	Dichoptic Rectangle Offset	
	SHIFT + LEFT lower rectangle more to the left	When offset is <u>0</u> , rectangles upper position is directly above the lower one. When offset is different than <u>0</u> , lower rectangle is positioned more to the left or right compared to its default position. This should make rectangle appear in front or behind the screen.
	SHIFT + RIGHT lower rectangle more to the right	
	Dichoptic Rectangle Break	
	SHIFT + DOWN increase break	Break adds time between rectangle appearing on upper and lower part of the screen during which rectangle is not visible. When break is increased at maximum value, it is set to <u>0s</u> .
	Restoring default settings	
	UP + DOWN set default period	Default dichoptic rectangle period is <u>4.67s</u> (U-50% : L-50%)* *default occlusion rate is set during change of period
	LEFT + RIGHT set default occlusion rate	Default occlusion rate is <u>U-50% : L-50%</u>
	SHIFT + LEFT + RIGHT set default offset	Default dichoptic rectangle offset is <u>0</u> .
	SHIFT + UP + DOWN set default on/off state of rectangle set default break	Default state is <u>ON</u> . Default break is <u>0s</u> .
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 3	<ul style="list-style-type: none"> <li>• Period: <u>4.67s</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> </ul>
SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 1	<p>Alternately Occluding Rectangle:</p> <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> <p>Dihoptic Rectangle:</p> <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>	

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 4</p>  <p>(PAGE LEDs are flashing at low frequency)</p> <p>This PAGE contains position settings of Dichoptic Rectangle</p>	Position of Dichoptic Rectangle	
	UP	position rectangle higher up on screen
	SHIFT + UP	position rectangle higher up on screen at increased speed
	DOWN	position rectangle lower down on screen
	SHIFT + DOWN	position rectangle lower down on screen at increased speed
	LEFT	position rectangle more to the left
	SHIFT + LEFT	position rectangle more to the left at increased speed
	RIGHT	position rectangle more to the right
	SHIFT + RIGHT	position rectangle more to the right at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical position of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal position of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 4	restore both vertical and horizontal position of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 1	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dichoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 5</p>  <p style="text-align: center;">(PAGE LEDs are flashing at high frequency)</p> <p>This PAGE contains size settings of Dichoptic Rectangle</p>	Size of Dichoptic Rectangle	
	UP	decrease vertical size of a rectangle
	SHIFT + UP	decrease vertical size of a rectangle at increased speed
	DOWN	increase vertical size of a rectangle
	SHIFT + DOWN	increase vertical size of a rectangle at increased speed
	LEFT	decrease horizontal size of a rectangle
	SHIFT + LEFT	decrease horizontal size of a rectangle at increased speed
	RIGHT	increase horizontal size of a rectangle
	SHIFT + RIGHT	increase horizontal size of a rectangle at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical size of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal size of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 5	restore both vertical and horizontal size of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 1	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dihoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>U-50% : L-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>

Numbers that are in italics and are underlined are the default values

## MODE 2: SIDE BY SIDE



In MODE 2 AODMoST draws two rectangles that alternate between occupying left and right part of the screen. Larger one, alternately occluding rectangle, after correct adjustment of settings, should take half or almost half of the screen. The smaller one, dihoptic rectangle, always stays within the confines of alternately occluding rectangle. Alternations between parts of the screen done by both rectangles are independent. When both rectangles occupy the same part of the screen, alternately occluding rectangle is the one visible.

When video source starts sending proper 3D material in Side By Side format (left half of video is supposed to be shown to the one eye, usually the left one, right part to the other eye), make adjustments of MODE 2 settings, so that alternately occluding rectangles occupy all or almost all area of the screen and dihoptic rectangle occludes chosen part of the screen. You may change frequency of alternations and which eye is occluded more (percentage of alternation cycle period by which each eye is occluded). When this is done you should instruct your 3D display to generate 3D image that can be viewed through 3D glasses (you most likely need to do it from your 3D display settings, they should be accessible by pressing MENU button on the remote control).

MODE 2 uses different, less precise, method of drawing rectangles. When it is possible, you should use MODE 1.


MODE 2 settings:


PAGE	BUTTONS	DESCRIPTION
<p>PAGE 0</p> <p>(both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of Alternately Occluding Rectangle</p>	Alternately Occluding Rectangle Frequency	
	UP increase frequency	<p>Available frequencies are:</p> <ul style="list-style-type: none"> <li>• 15Hz (L-50% : R-50%)*</li> <li>• 12Hz (L-60% : R-40%)*</li> <li>• 10Hz (L-50% : R-50%)*</li> <li>• 7.5Hz (L-50% : R-50%)*</li> <li>• <u>5.0Hz</u> (L-50% : R-50%)*</li> <li>• 2.5Hz (L-50% : R-50%)*</li> </ul> <p>*default occlusion rate is set during change of frequency</p>
	DOWN decrease frequency	

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 0 (continued)</p> <p style="text-align: center;">● ● (both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of Alternately Occluding Rectangle</p>	<p>Alternately Occluding Rectangle Occlusion Rate (occlusions per Left and Right part of the screen)</p> <p>LEFT less occlusion of left part</p>	<p>Available occlusion rates depend on current frequency:</p> <ul style="list-style-type: none"> <li>• 15Hz <ul style="list-style-type: none"> <li>◦ L-0% : R-100%</li> <li>◦ L-25% : R-75%</li> <li>◦ <u>L-50% : R-50%</u></li> <li>◦ L-75% : R-25%</li> <li>◦ L-100% : R-0%</li> </ul> </li> <li>• 12Hz <ul style="list-style-type: none"> <li>◦ L-0% : R-100%</li> <li>◦ L-20% : R-80%</li> <li>◦ L-40% : R-60%</li> <li>◦ <u>L-60% : R-40%</u></li> <li>◦ L-80% : R-20%</li> <li>◦ L-100% : R-0%</li> </ul> </li> <li>• 10Hz <ul style="list-style-type: none"> <li>◦ L-0% : R-100%</li> <li>◦ L-16.7% : R-83.3%</li> <li>◦ L-33.3% : R-66.7%</li> <li>◦ <u>L-50% : R-50%</u></li> <li>◦ L-66.7% : R-33.3%</li> <li>◦ L-83.3% : R-16.7%</li> <li>◦ L-100% : R-0%</li> </ul> </li> </ul>
	<p>RIGHT more occlusion of left part</p>	<ul style="list-style-type: none"> <li>• 7.5Hz <ul style="list-style-type: none"> <li>◦ L-0% : R-100%</li> <li>◦ L-12.5% : R-87.5%</li> <li>◦ L-25% : R-75%</li> <li>◦ L-37.5% : R-62.5%</li> <li>◦ <u>L-50% : R-50%</u></li> <li>◦ L-62.5% : R-37.5%</li> <li>◦ L-75% : R-25%</li> <li>◦ L-87.5% : R-12.5%</li> <li>◦ L-100% : R-0%</li> </ul> </li> <li>• 5.0Hz &amp; 2.5Hz <ul style="list-style-type: none"> <li>◦ L-0% : R-100%</li> <li>◦ L-8.3% : R-91.7%</li> <li>◦ L-16.7% : R-83.3%</li> <li>◦ L-25% : R-75%</li> <li>◦ L-33.3% : R-66.7%</li> <li>◦ L-41.7% : R-58.3%</li> <li>◦ <u>L-50% : R-50%</u></li> <li>◦ L-58.3% : R-41.7%</li> <li>◦ L-66.7% : R-33.3%</li> <li>◦ L-75% : R-25%</li> <li>◦ L-83.3% : R-16.7%</li> <li>◦ L-91.7% : R-8.3%</li> <li>◦ L-100% : R-0%</li> </ul> </li> </ul>



PAGE	BUTTONS	DE
<p style="text-align: center;">PAGE 0 (continued)</p> <p style="text-align: center;">● ● (both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of Alternately Occluding Rectangle</p>	Alternately Occluding Rectangle ON/OFF	
	SHIFT + LEFT SHIFT + RIGHT toggle <u>on</u> /off state of rectangle	Alternately Occluding Rectangle can be completely turned off and not being visible on screen.
	Alternately Occluding Rectangle Gap	
	SHIFT + UP increase gap	Gap is the distance between two positions of alternately occluding rectangle. By default it is <u>0</u> . Increasing gap decreases horizontal size of alternately occluding rectangle (so that left edge of rectangle in left position and right edge of rectangle in right position stays in the same place).
	SHIFT + DOWN decrease gap	
	Restoring default settings	
	UP + DOWN set default frequency	Default alternately occluding rectangle frequency is <u>5.0Hz</u> (L-50% : R-50%)* *default occlusion rate is set during change of frequency
	LEFT + RIGHT set default occlusion rate	Default occlusion rates for different frequencies : <ul style="list-style-type: none"> <li>• 15Hz (<u>L-50%</u> : <u>R-50%</u>)</li> <li>• 12Hz (<u>L-60%</u> : <u>R-40%</u>)</li> <li>• 10Hz (<u>L-50%</u> : <u>R-50%</u>)</li> <li>• 7.5Hz (<u>L-50%</u> : <u>R-50%</u>)</li> <li>• 5.0Hz (<u>L-50%</u> : <u>R-50%</u>)</li> <li>• 2.5Hz (<u>L-50%</u> : <u>R-50%</u>)</li> </ul>
	SHIFT + LEFT + RIGHT set default on/off state of rectangle	Default state is <u>ON</u>
	SHIFT + UP + DOWN set default gap	Default alternately occluding rectangle gap is <u>0</u>
UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 0	<ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>L-50%</u> : <u>R-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> </ul>	
SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 2	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>L-50%</u> : <u>R-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dihoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>L-50%</u> : <u>R-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>	


PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 1</p> <p style="text-align: center;">   (right PAGE LED is turned on) </p> <p>This PAGE contains position settings of Alternately Occluding Rectangle</p>	Position of Alternately Occluding Rectangle	
	UP	position rectangle higher up on screen
	SHIFT + UP	position rectangle higher up on screen at increased speed
	DOWN	position rectangle lower down on screen
	SHIFT + DOWN	position rectangle lower down on screen at increased speed
	LEFT	position rectangle more to the left
	SHIFT + LEFT	position rectangle more to the left at increased speed
	RIGHT	position rectangle more to the right
	SHIFT + RIGHT	position rectangle more to the right at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical position of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal position of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 1	restore both vertical and horizontal position of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 2	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dihoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>

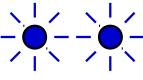
PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 2</p> <p style="text-align: center;">             (left PAGE LED is turned on)         </p> <p>This PAGE contains size settings of Alternately Occluding Rectangle</p>	Size of Alternately Occluding Rectangle	
	UP	decrease vertical size of a rectangle
	SHIFT + UP	decrease vertical size of a rectangle at increased speed
	DOWN	increase vertical size of a rectangle
	SHIFT + DOWN	increase vertical size of a rectangle at increased speed
	LEFT	decrease horizontal size of a rectangle
	SHIFT + LEFT	decrease horizontal size of a rectangle at increased speed
	RIGHT	increase horizontal size of a rectangle
	SHIFT + RIGHT	increase horizontal size of a rectangle at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical size of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal size of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 2	restore both vertical and horizontal size of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 2	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dihoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 3</p> <p style="text-align: center;">●   ●</p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p style="text-align: center;">This PAGE contains general settings of Dichoptic Rectangle</p>	Dichoptic Rectangle Period	
	UP decrease period	<p>Available periods are:</p> <ul style="list-style-type: none"> <li>• 0.67s (L-50% : R-50%)*</li> <li>• 1.33s (L-50% : R-50%)*</li> <li>• 2s (L-50% : R-50%)*</li> <li>• 3.33s (L-50% : R-50%)*</li> <li>• <u>4.67s</u> (L-50% : R-50%)*</li> <li>• 8s (L-50% : R-50%)*</li> </ul> <p>*default occlusion rate is set during change of period</p>
	DOWN increase period	



PAGE	BUTTONS	DE
<p style="text-align: center;">PAGE 3 (continued)</p> <p style="text-align: center;">● ●</p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p>This PAGE contains general settings of Dichoptic Rectangle</p>	Dichoptic Rectangle ON/OFF	
	SHIFT + UP toggle <u>on</u> /off state of rectangle	Dichoptic Rectangle can be completely turned off and not being visible on screen.
	Dichoptic Rectangle Offset	
	SHIFT + LEFT lower rectangle more to the left	When offset is <u>0</u> , dichoptic rectangle left and right positions are the same, compared to the corresponding positions of alternately occluding rectangle. When offset is different than <u>0</u> , right rectangle is positioned more to the left or right compared to its default position. This should make rectangle appear in front or behind the screen.
	SHIFT + RIGHT lower rectangle more to the right	
	Dichoptic Rectangle Break	
	SHIFT + DOWN increase break	Break adds time between rectangle appearing on left and right part of the screen during which rectangle is not visible. When break is increased at maximum value, it is set to <u>0s</u> .
	Restoring default settings	
	UP + DOWN set default period	Default dichoptic rectangle period is <u>4.67s</u> (L-50% : R-50%)* *default occlusion rate is set during change of period
	LEFT + RIGHT set default occlusion rate	Default occlusion rate is <u>L-50% : R-50%</u>
	SHIFT + LEFT + RIGHT set default offset	Default dichoptic rectangle offset is <u>0</u> .
	SHIFT + UP + DOWN set default on/off state of rectangle set default break	Default state is <u>ON</u> . Default break is <u>0s</u> .
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 3	<ul style="list-style-type: none"> <li>• Period: <u>4.67s</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> </ul>
SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 2	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size Dihoptic Rectangle:</li> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>	

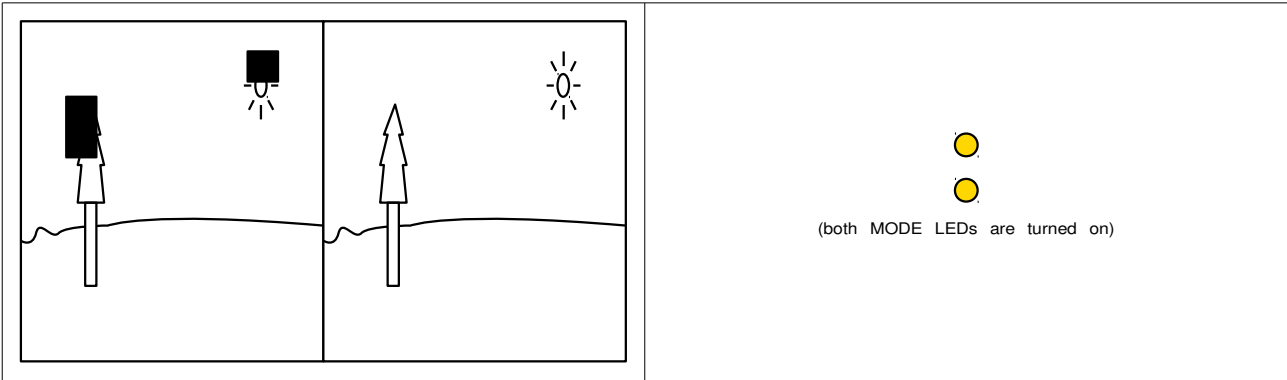
PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 4</p>  <p>(PAGE LEDs are flashing at low frequency)</p> <p>This PAGE contains position settings of Dichoptic Rectangle</p>	Position of Dichoptic Rectangle	
	UP	position rectangle higher up on screen
	SHIFT + UP	position rectangle higher up on screen at increased speed
	DOWN	position rectangle lower down on screen
	SHIFT + DOWN	position rectangle lower down on screen at increased speed
	LEFT	position rectangle more to the left
	SHIFT + LEFT	position rectangle more to the left at increased speed
	RIGHT	position rectangle more to the right
	SHIFT + RIGHT	position rectangle more to the right at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical position of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal position of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 4	restore both vertical and horizontal position of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 2	Alternately Occluding Rectangle: <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> Dichoptic Rectangle: <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p>PAGE 5</p>  <p>(PAGE LEDs are flashing at high frequency)</p> <p>This PAGE contains size settings of Dichoptic Rectangle</p>	Size of Dichoptic Rectangle	
	UP	decrease vertical size of a rectangle
	SHIFT + UP	decrease vertical size of a rectangle at increased speed
	DOWN	increase vertical size of a rectangle
	SHIFT + DOWN	increase vertical size of a rectangle at increased speed
	LEFT	decrease horizontal size of a rectangle
	SHIFT + LEFT	decrease horizontal size of a rectangle at increased speed
	RIGHT	increase horizontal size of a rectangle
	SHIFT + RIGHT	increase horizontal size of a rectangle at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical size of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal size of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 5	restore both vertical and horizontal size of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 2	<p>Alternately Occluding Rectangle:</p> <ul style="list-style-type: none"> <li>• frequency: <u>5.0Hz</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• gap: <u>0</u></li> <li>• default position and size</li> </ul> <p>Dihoptic Rectangle:</p> <ul style="list-style-type: none"> <li>• period: <u>4.67s</u></li> <li>• occlusion rate: <u>L-50% : R-50%</u></li> <li>• state: <u>ON</u></li> <li>• offset: <u>0</u></li> <li>• break: <u>0s</u></li> <li>• default position and size</li> </ul>

Numbers that are in italics and are underlined are the default values



### MODE 3: FREE FLOATING RECTANGLES




In MODE 3 AODMoST draws two rectangles. They can be independently positioned and they can have different sizes, periods and occlusion rates.

Rectangles can not occupy same lines, when user changes position of one rectangle so it uses lines already occupied by other rectangle, rectangles switch their places.

When video source starts sending proper 3D material in Top – Bottom or Side By Side format position rectangles so they occlude chosen part of the screen and chosen eye. You may change frequency of alternations and occlusion rate (percentage of occlusion cycle period during which part of the screen occupied by rectangle is occluded). When this is done you should instruct your 3D display to generate 3D image that can be viewed through 3D glasses (you most likely need to do it from your 3D display settings, they should be accessible by pressing MENU button on the remote control).


#### MODE 3 settings:


PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 0</p> <p style="text-align: center;">                       (both PAGE LEDs are turned off)                 </p> <p>This PAGE contains general settings of First Rectangle</p>	First Rectangle Period	
	<p>UP</p> <p>decrease period</p>	<p>Available periods are:</p> <ul style="list-style-type: none"> <li>• 66ms [15Hz] (V-50% : N-50%)*</li> <li>• 83ms [12Hz] (V-60% : N-40%)*</li> <li>• 100ms [10Hz] (V-50% : N-50%)*</li> <li>• 133ms [7.5Hz] (V-50% : N-50%)*</li> <li>• <u>0.2s</u> [<u>5.0Hz</u>] (V-50% : N-50%)*</li> <li>• 0.4s [2.5Hz] (V-50% : N-50%)*</li> <li>• 0.67s (V-50% : N-50%)*</li> <li>• 1.33s (V-50% : N-50%)*</li> <li>• 2s (V-50% : N-50%)*</li> <li>• 4.67s (V-50% : N-50%)*</li> </ul> <p>*default occlusion rate is set during change of period</p>
	<p>DOWN</p> <p>increase period</p>	

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 0 (continued)</p> <p style="text-align: center;">● ● (both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of First Rectangle</p>	<p>First Rectangle Occlusion Rate (percentage of period during which rectangle is Visible and is Not)</p> <p>LEFT rectangle visible for shorter time</p>	<p>Available occlusion rates depend on current period:</p> <ul style="list-style-type: none"> <li>• 66ms [15Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-25% : N-75%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-75% : N-25%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 83ms [12Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-20% : N-80%</li> <li>◦ V-40% : N-60%</li> <li>◦ <u>V-60% : N-40%</u></li> <li>◦ V-80% : N-20%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 100ms [10Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-16.7% : N-83.3%</li> <li>◦ V-33.3% : N-66.7%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-66.7% : N-33.3%</li> <li>◦ V-83.3% : N-16.7%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>
	<p>RIGHT rectangle visible longer</p>	<ul style="list-style-type: none"> <li>• 133ms [7.5Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-12.5% : N-87.5%</li> <li>◦ V-25% : N-75%</li> <li>◦ V-37.5% : N-62.5%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-62.5% : N-37.5%</li> <li>◦ V-75% : N-25%</li> <li>◦ V-87.5% : N-12.5%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 0.2s [5.0Hz] &amp; 0.4s [2.5Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-8.3% : N-91.7%</li> <li>◦ V-16.7% : N-83.3%</li> <li>◦ V-25% : N-75%</li> <li>◦ V-33.3% : N-66.7%</li> <li>◦ V-41.7% : N-58.3%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-58.3% : N-41.7%</li> <li>◦ V-66.7% : N-33.3%</li> <li>◦ V-75% : N-25%</li> <li>◦ V-83.3% : N-16.7%</li> <li>◦ V-91.7% : N-8.3%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>


PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 0 (continued)</p> <p style="text-align: center;">● ● (both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of First Rectangle</p>	<p>First Rectangle Occlusion Rate (continued) (percentage of period during which rectangle is Visible and is Not)</p>	
	<p>LEFT rectangle visible for shorter time</p>	<p>Available occlusion rates depend on current period (continued):</p> <ul style="list-style-type: none"> <li>• 0.67s &amp; 1.33s <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-25% : N-75%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-75% : N-25%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 2s <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-16.7% : N-83.3%</li> <li>◦ V-33.3% : N-66.7%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-66.7% : N-33.3%</li> <li>◦ V-83.3% : N-16.7%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>
	<p>RIGHT rectangle visible longer</p>	<ul style="list-style-type: none"> <li>• 4.67s <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-7.1% : N-92.9%</li> <li>◦ V-14.3% : N-85.7%</li> <li>◦ V-21.4% : N-78.6%</li> <li>◦ V-28.6% : N-71.4%</li> <li>◦ V-35.7% : N-64.3%</li> <li>◦ V-42.9% : N-57.1%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-57.1% : N-42.9%</li> <li>◦ V-64.3% : N-35.7%</li> <li>◦ V-71.4% : N-28.6%</li> <li>◦ V-78.6% : N-21.4%</li> <li>◦ V-85.7% : N-14.3%</li> <li>◦ V-92.9% : N-7.1%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 0 (continued)</p> <p style="text-align: center;">● ● (both PAGE LEDs are turned off)</p> <p>This PAGE contains general settings of First Rectangle</p>	First Rectangle ON/OFF	
	SHIFT + UP SHIFT + DOWN SHIFT + LEFT SHIFT + RIGHT toggle <u>on</u> /off state of rectangle	First Rectangle can be completely turned off and not being visible on screen.
	Restoring default settings	
	UP + DOWN set default period	Default period is <u>0.2s [5.0Hz]</u> (V-50% : N-50%)* *default occlusion rate is set during change of period
	LEFT + RIGHT set default occlusion rate	Default occlusion rates for different periods : <ul style="list-style-type: none"> <li>• 66ms [15Hz] (V-50% : N-50%)</li> <li>• 83ms [12Hz] (V-60% : N-40%)</li> <li>• 100ms [10Hz] (V-50% : N-50%)</li> <li>• 133ms [7.5Hz] (V-50% : N-50%)</li> <li>• 0.2s [5.0Hz] (V-50% : N-50%)</li> <li>• 0.4s [2.5Hz] (V-50% : N-50%)</li> <li>• 0.67s (V-50% : N-50%)</li> <li>• 1.33s (V-50% : N-50%)</li> <li>• 2s (V-50% : N-50%)</li> <li>• 4.67s (V-50% : N-50%)</li> </ul>
	SHIFT + UP + DOWN SHIFT + LEFT + RIGHT set default on/off state of rectangle	Default state is <u>ON</u>
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 0	<ul style="list-style-type: none"> <li>• period: <u>0.2s [5.0Hz]</u></li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> </ul>
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 3	First Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s [5.0Hz]</u></li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul> Second Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s [5.0Hz]</u></li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 1</p> <p style="text-align: center;">   (right PAGE LED is turned on) </p> <p>This PAGE contains position settings of First Rectangle</p>	Position of First Rectangle	
	UP	position rectangle higher up on screen
	SHIFT + UP	position rectangle higher up on screen at increased speed
	DOWN	position rectangle lower down on screen
	SHIFT + DOWN	position rectangle lower down on screen at increased speed
	LEFT	position rectangle more to the left
	SHIFT + LEFT	position rectangle more to the left at increased speed
	RIGHT	position rectangle more to the right
	SHIFT + RIGHT	position rectangle more to the right at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical position of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal position of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 1	restore both vertical and horizontal position of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 3	First Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [<u>5.0Hz</u>]</li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul> Second Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [<u>5.0Hz</u>]</li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 2</p> <p style="text-align: center;">             (left PAGE LED is turned on)         </p> <p>This PAGE contains size settings of First Rectangle</p>	Size of First Rectangle	
	UP	decrease vertical size of a rectangle
	SHIFT + UP	decrease vertical size of a rectangle at increased speed
	DOWN	increase vertical size of a rectangle
	SHIFT + DOWN	increase vertical size of a rectangle at increased speed
	LEFT	decrease horizontal size of a rectangle
	SHIFT + LEFT	decrease horizontal size of a rectangle at increased speed
	RIGHT	increase horizontal size of a rectangle
	SHIFT + RIGHT	increase horizontal size of a rectangle at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical size of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal size of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 2	restore both vertical and horizontal size of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 3	First Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [5.0Hz]</li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul> Second Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [5.0Hz]</li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul>

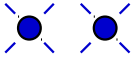
PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 3</p> <p style="text-align: center;">●   ●</p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p style="text-align: center;">This PAGE contains general settings of Second Rectangle</p>	Second Rectangle Period	
	UP decrease period	<p style="text-align: center;">Available periods are:</p> <ul style="list-style-type: none"> <li>• 66ms [15Hz] (V-50% : N-50%)*</li> <li>• 83ms [12Hz] (V-60% : N-40%)*</li> <li>• 100ms [10Hz] (V-50% : N-50%)*</li> <li>• 133ms [7.5Hz] (V-50% : N-50%)*</li> <li>• <u>0.2s</u> [<u>5.0Hz</u>] (V-50% : N-50%)*</li> <li>• 0.4s [2.5Hz] (V-50% : N-50%)*</li> <li>• 0.67s (V-50% : N-50%)*</li> <li>• 1.33s (V-50% : N-50%)*</li> <li>• 2s (V-50% : N-50%)*</li> <li>• 4.67s (V-50% : N-50%)*</li> </ul> <p style="text-align: center;">*default occlusion rate is set during change of period</p>
	DOWN increase period	

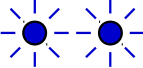
PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 3 (continued)</p> <p style="text-align: center;"></p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p>This PAGE contains general settings of Second Rectangle</p>	<p>Second Rectangle Occlusion Rate (percentage of period during which rectangle is Visible and is Not)</p> <p>LEFT rectangle visible for shorter time</p>	<p>Available occlusion rates depend on current period:</p> <ul style="list-style-type: none"> <li>• 66ms [15Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-25% : N-75%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-75% : N-25%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 83ms [12Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-20% : N-80%</li> <li>◦ V-40% : N-60%</li> <li>◦ <u>V-60% : N-40%</u></li> <li>◦ V-80% : N-20%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 100ms [10Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-16.7% : N-83.3%</li> <li>◦ V-33.3% : N-66.7%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-66.7% : N-33.3%</li> <li>◦ V-83.3% : N-16.7%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>
	<p>RIGHT rectangle visible longer</p>	<ul style="list-style-type: none"> <li>• 133ms [7.5Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-12.5% : N-87.5%</li> <li>◦ V-25% : N-75%</li> <li>◦ V-37.5% : N-62.5%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-62.5% : N-37.5%</li> <li>◦ V-75% : N-25%</li> <li>◦ V-87.5% : N-12.5%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 0.2s [5.0Hz] &amp; 0.4s [2.5Hz] <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-8.3% : N-91.7%</li> <li>◦ V-16.7% : N-83.3%</li> <li>◦ V-25% : N-75%</li> <li>◦ V-33.3% : N-66.7%</li> <li>◦ V-41.7% : N-58.3%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-58.3% : N-41.7%</li> <li>◦ V-66.7% : N-33.3%</li> <li>◦ V-75% : N-25%</li> <li>◦ V-83.3% : N-16.7%</li> <li>◦ V-91.7% : N-8.3%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>



PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 3 (continued)</p> <p style="text-align: center;">● ●</p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p style="text-align: center;">This PAGE contains general settings of Second Rectangle</p>	<p>Second Rectangle Occlusion Rate (continued) (percentage of period during which rectangle is Visible and is Not)</p>	
	<p>LEFT rectangle visible for shorter time</p>	<p>Available occlusion rates depend on current period (continued):</p> <ul style="list-style-type: none"> <li>• 0.67s &amp; 1.33s <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-25% : N-75%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-75% : N-25%</li> <li>◦ V-100% : N-0%</li> </ul> </li> <li>• 2s <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-16.7% : N-83.3%</li> <li>◦ V-33.3% : N-66.7%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-66.7% : N-33.3%</li> <li>◦ V-83.3% : N-16.7%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>
	<p>RIGHT rectangle visible longer</p>	<ul style="list-style-type: none"> <li>• 4.67s <ul style="list-style-type: none"> <li>◦ V-0% : N-100%</li> <li>◦ V-7.1% : N-92.9%</li> <li>◦ V-14.3% : N-85.7%</li> <li>◦ V-21.4% : N-78.6%</li> <li>◦ V-28.6% : N-71.4%</li> <li>◦ V-35.7% : N-64.3%</li> <li>◦ V-42.9% : N-57.1%</li> <li>◦ <u>V-50% : N-50%</u></li> <li>◦ V-57.1% : N-42.9%</li> <li>◦ V-64.3% : N-35.7%</li> <li>◦ V-71.4% : N-28.6%</li> <li>◦ V-78.6% : N-21.4%</li> <li>◦ V-85.7% : N-14.3%</li> <li>◦ V-92.9% : N-7.1%</li> <li>◦ V-100% : N-0%</li> </ul> </li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 3 (continued)</p> <p style="text-align: center;">● ●</p> <p style="text-align: center;">(both PAGE LEDs are turned on)</p> <p>This PAGE contains general settings of Second Rectangle</p>	Second Rectangle ON/OFF	
	SHIFT + UP SHIFT + DOWN SHIFT + LEFT SHIFT + RIGHT toggle <u>on</u> /off state of rectangle	Second Rectangle can be completely turned off and not being visible on screen.
	Restoring default settings	
	UP + DOWN set default period	Default period is <u>0.2s [5.0Hz]</u> (V-50% : N-50%)* *default occlusion rate is set during change of period
	LEFT + RIGHT set default occlusion rate	Default occlusion rates for different periods : <ul style="list-style-type: none"> <li>• 66ms [15Hz] (V-50% : N-50%)</li> <li>• 83ms [12Hz] (V-60% : N-40%)</li> <li>• 100ms [10Hz] (V-50% : N-50%)</li> <li>• 133ms [7.5Hz] (V-50% : N-50%)</li> <li>• 0.2s [5.0Hz] (V-50% : N-50%)</li> <li>• 0.4s [2.5Hz] (V-50% : N-50%)</li> <li>• 0.67s (V-50% : N-50%)</li> <li>• 1.33s (V-50% : N-50%)</li> <li>• 2s (V-50% : N-50%)</li> <li>• 4.67s (V-50% : N-50%)</li> </ul>
	SHIFT + UP + DOWN SHIFT + LEFT + RIGHT set default on/off state of rectangle	Default state is <u>ON</u>
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 3	<ul style="list-style-type: none"> <li>• period: <u>0.2s [5.0Hz]</u></li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> </ul>
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 3	First Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s [5.0Hz]</u></li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul> Second Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s [5.0Hz]</u></li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 4</p>  <p>(PAGE LEDs are flashing at low frequency)</p> <p>This PAGE contains position settings of Second Rectangle</p>	Position of Second Rectangle	
	UP	position rectangle higher up on screen
	SHIFT + UP	position rectangle higher up on screen at increased speed
	DOWN	position rectangle lower down on screen
	SHIFT + DOWN	position rectangle lower down on screen at increased speed
	LEFT	position rectangle more to the left
	SHIFT + LEFT	position rectangle more to the left at increased speed
	RIGHT	position rectangle more to the right
	SHIFT + RIGHT	position rectangle more to the right at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical position of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal position of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 4	restore both vertical and horizontal position of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 3	First Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [5.0Hz]</li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul> Second Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [5.0Hz]</li> <li>• occlusion rate: <u>V-50% : N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul>

PAGE	BUTTONS	DESCRIPTION
<p style="text-align: center;">PAGE 5</p>  <p>(PAGE LEDs are flashing at high frequency)</p> <p>This PAGE contains size settings of Second Rectangle</p>	Size of Second Rectangle	
	UP	decrease vertical size of a rectangle
	SHIFT + UP	decrease vertical size of a rectangle at increased speed
	DOWN	increase vertical size of a rectangle
	SHIFT + DOWN	increase vertical size of a rectangle at increased speed
	LEFT	decrease horizontal size of a rectangle
	SHIFT + LEFT	decrease horizontal size of a rectangle at increased speed
	RIGHT	increase horizontal size of a rectangle
	SHIFT + RIGHT	increase horizontal size of a rectangle at increased speed
	Restoring default settings	
	UP + DOWN SHIFT + UP + DOWN	restore default vertical size of a rectangle
	LEFT + RIGHT SHIFT + LEFT + RIGHT	restore default horizontal size of a rectangle
	UP + DOWN + LEFT + RIGHT restore default values for all settings from PAGE 5	restore both vertical and horizontal size of a rectangle
	SHIFT + UP + DOWN + LEFT + RIGHT restore default values for all settings from MODE 3	First Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [<u>5.0Hz</u>]</li> <li>• occlusion rate: <u>V-50%</u> : <u>N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul> Second Rectangle: <ul style="list-style-type: none"> <li>• period: <u>0.2s</u> [<u>5.0Hz</u>]</li> <li>• occlusion rate: <u>V-50%</u> : <u>N-50%</u></li> <li>• state: <u>ON</u></li> <li>• default position and size</li> </ul>

Numbers that are in italics and are underlined are the default values