RGBlink® Video {processing} for any scale

M2 Quick Start

- Integrated Vision Mixer & Scaler

- 5 mega pixel capacity

- Three output option modes – Dual 2K, 4Kx1K & 4K

- Select or set output resolutions to any requirement

- Dedicated source Preview output with Multiview

- Wide range of transition effects built in

- Up to 3 video layers including background for presentation Program to Preview applications

- Position, Scale, Crop video layers freely

- DSK/Key on foreground video layers

- Wide range of Masks can be applied to any foreground video layer

- Variable edge blending on foreground layers

- Additional 3 independent layers for OSD, LOGO and STILL

- Tally support built-in

- Genlock support built-in

- Modular construction

CONTENT

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Product Introduction

All-in-one scaling and mixing just got even better.

Now you choose input options, now you configure output operations, now control transitions from the t-bar, now apply layer masks, now do more.

M2 redefines modern hands on scaling and mixing for any environment.

Totally modular and flexible in configuration, M2 is packed with standard features to impress and present with ease.

System Connection

RGBlink offers solutions to demanding

technical problems. Any application

questions, or required further

information, please contact with our

customer Support Engineers.
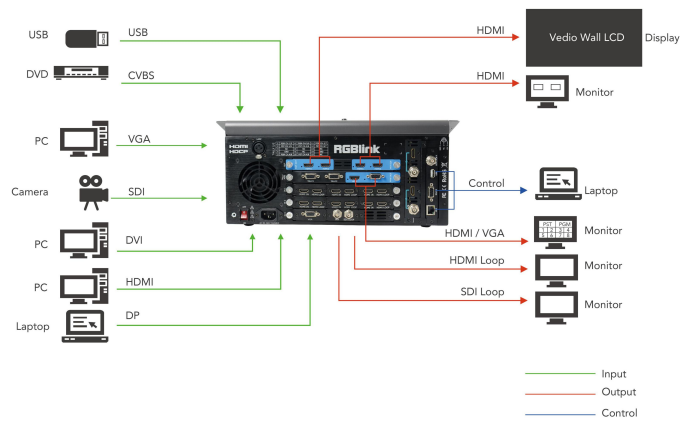
M2 System Connection Diagram

Packing Configuration

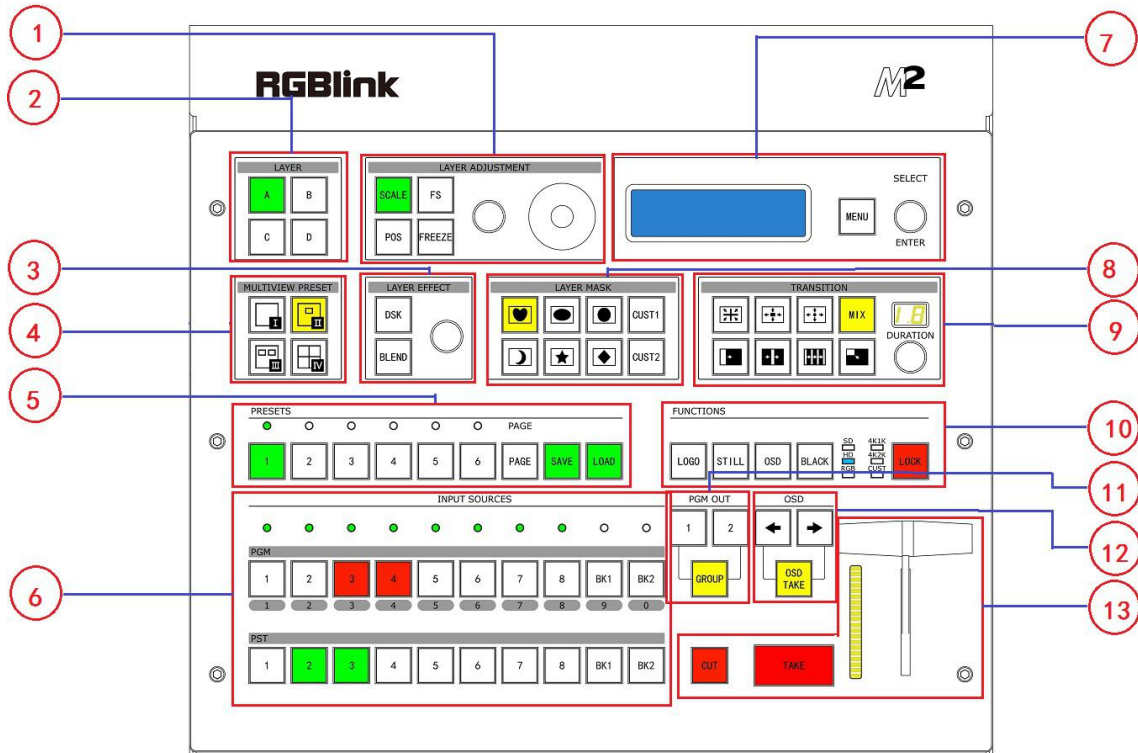| Power Cord	Network Cable	HDMI to DVI Cable	Antistatic Bag

Screw Driver

Note:

AC Power Cable supplied as standard according to destination market.

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Hardware Orientation

Front Panel

Panel Instruction			
1	Layer adjustment area	8	Layer mask area
2	Layer selection area	9	Transition area
3	Layer effect area	10	Functions area
4	Multiview presets area	11	Independent effects switching area
5	Stored presets area	12	OSD edit area
6	Input sources area	13	Switch modes area
7	Menu and OLED display area		

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Layer Adjustment Area

1	**SCALE** This button used for size and crop adjusting. If image quality distorts by improper operation, it can be recover by reset. **POS** This button used for position adjusting. If image quality distorts by improper operation, it can be recover by reset. **FS** Screen parameters setting button. Push the button, its LED light turns on, user can choose full size or screen size. **FREEZE** Freeze the image or video. **Rotary Knob** For size and position adjustment and confirmation. Push SCALE and control the rotary knob will active the display window to be ready for size down. Push POS and control the rotary knob will active the display window to be ready for change position. **Joystick** For size and position adjustment. Push SCALE and control the joystick will activate the display window to be ready for size down. Push POS and control the joystick will activate the display window to be ready for change position.

Layer Selection Area

2	**A/B/C/D** For adding or deleting the layer, the button light is lit when add the layer, off when delete the layer, and flash when select the layer.

Layer Effect Area

3	**DSK** DSK effect editing button. User can select the layer and set the position in DSK menus. **BLEND** BLEND effect editing button. User can select the layer and set the blending width in BLEND menus. **Rotary Knob** Adjust the alpha of DSK layer. For DSK and BLEND adjustment and confirmation.

Multiview Presets Area

4	**Multiview Presets** Multiview mode selection, the button light is lit when selected, mainly for layout setting quickly in multiview. : 1P : PIP CENT : 3P. :4p,under Presentation 2K1K mode

Stored Presets Area

5	**SAVE** Support 36 saving modes. **LOAD** Load saving views 1 to 36. **PAGE** For save or load, total 6 pages, and 6 banks for each page. **1/2/3/4/5/6** The button is lit when select PAGE or BANK.

Input Sources Area

6	**LED Indicator** The button 1/2/3/4/5/6/7/8 is lit when the signal or background input is selected for use. **PGM Area** For indicating, user can not change the channel or set the size or position in PGM area. **BK1/2** For indicating, the button is lit when enable background function. **1/2/3/4/5/6/7/8** Each button is numbered and can be used as direct number entry when values such as resolution and size. **PST Area** For indicating, the button is lit when output the signal in PST channel. For selecting, push any button to switch the PST signal.

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	For editing, (button light is lit -- the channel is used but can not be edited, button light is flashing -- the channel can be edited, button light is off -- the channel is not selected.

Menu and OLED Display Area

	MENU
	Menu and exit reuse button.
	SELECT/ENTER
7	Confirmation button.
	OLED Display
	Displays current status of the product, and for feature selections provides interactive choices in conjunction with buttons on the front panel.

Layer Mask Area

	Layer Mask Selection
	Layer mask selection button are shown as follows:
	: Heart
	: Oval
	: Round
	: Crescent left
8	: Star
	: Diamond
	CUS1/CUS2
	Layer mask custom button.
	Push any layer mask button, it will enter to the layer mask setting menus. Select the layer, and set the Mask&PIC pos X and Y, or set Pos X, Y of Mask or PIC separately. User can also load file from UDisk.

Transition Area

9	: ←+→
	: ←□→

	⊕ : ←O→
	MIX : Mix
	▮◄ : L→R
	◄▮► : L→M→R
	▥▥▥ : III→
	◣ : LT→RB

Double Digital Display Tube

Display the transition time.

DURATION Knob

Adjust transition time. The adjustment range is between 0S~9.9S.

Functions Area

10	**LOGO**
	Enable or disable the LOGO function. If select "ON", user can set the X and Y, or load file from UDisk.
	STILL
	Enable or disable the STILL function. If select "ON", user can set the X and Y, or load file from UDisk.
	OSD
	Enable or disable the OSD function. If select "ON", user can delete the OSD, or load file from UDisk.
	BK
	The button is lit when enable black function. Black is available for PGM channel.
	LOCK
	Lock top panel button. The button is lit when the buttons in top panel are locked. Push the button again, the button light is off, and unlock the top panel.
	Indicator
	The indicator is on when the output format is SD, HD, RGB, 4K1K, 4K2K or CUST.

Independent Effects Switching Area

11	**PGM OUT**
	1/2 button: Independent effects switching for PGM1 or PGM2.
	GROUP: Effects switching for PGM1 or PGM2 at the same time under the **Presentation Group** mode.

OSD Edit Area

12	**OSD** ![left arrow icon]: Subtitle rows back button. ![right arrow icon]: Subtitle rows forward button. **OSD TAKE** Subtitles switch button.

Switch Mode Area

13	**CUT** Seamless switching. **TAKE** Seamless switching with effect. **T-BAR** WIPE and mix switching.

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Back Panel

Input Slots

Optional Input Module	1	3 input card slots support for 9 single modules, including DVI, VGA, HDMI, USB, CVBS, DP and SDI. Each DVI module supports 1 DVI-I input. Each VGA module supports 1 DB15 input. Each HDMI module supports 1 HDMI-A input and 1 HDMI loop out. Each USB module supports 1 USB-A input and 1 USB backup. Each CVBS module supports 1 BNC input and 1 BNC backup. Each DP module supports 1 DP input. Each SDI module supports 1 SDI input and 1 SDI loop out.

Output

PGM Output	2.3	HDMIx2
PST Output	4.5	HDMIx2
PVW Output	8	HDMIx1
	9	VGAx1

Communication

6. 7	TALLY light DB15x2
12	Genlock - BNC x1
13	USB x1
14	Serial port RS-232x1
15	LAN port RJ-45x1

Power

10	Power Switch
11	AC 85-264V Max 65W, IEC-3

Menu Structure

The menu structure is shown in the figure below:

INPUT	OUTPUT	Background	Advance	Language	System	Factory Reset
Ch.1	Format	Background 1	LOGO	EN	Version	Factory Reset
Ch.2	Custom Format	Background 2	OSD	CN	Ethernet	Factory Reset, Save IP
Ch.3	System Mode		Mask		T-BAR Calibration	
Ch.4	Color Space/Sample/Bit		Still		Key Board Test	
Ch.5	External Sync		Blending		Fan Control	
Ch.6	Test Pattern		DSK		Take Mode	
Ch.7						
Ch.8						

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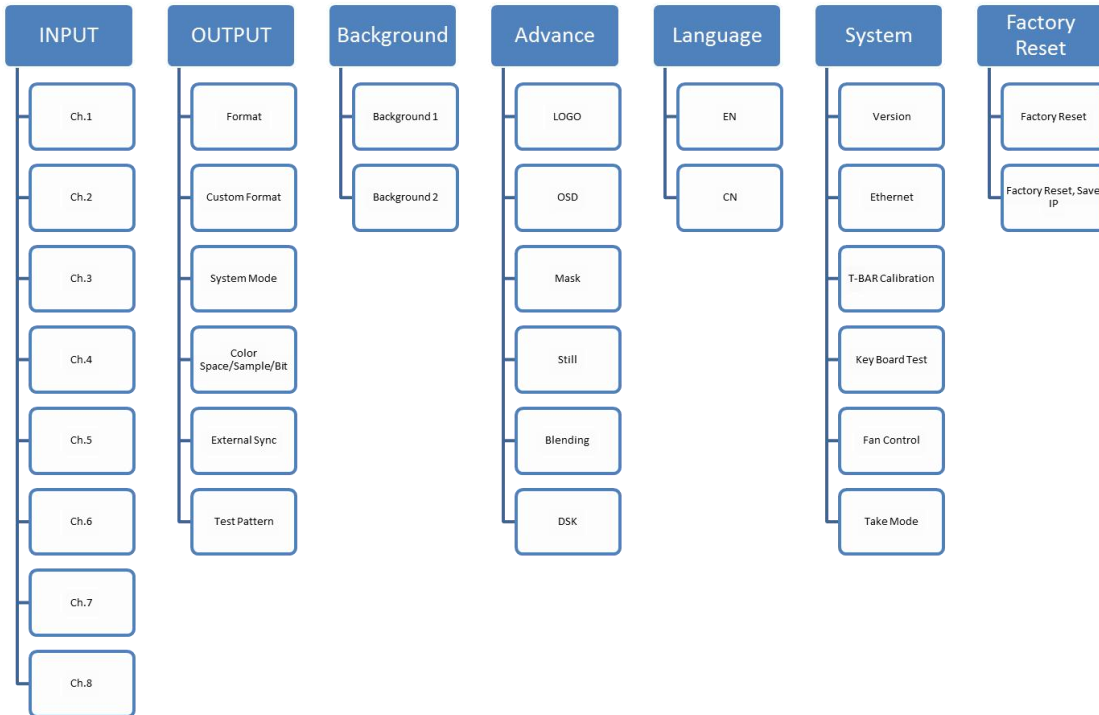
PST Mode

M2 supports 2 HDMI preview output, and it supports the functions as below:

Signal Selection

Push any button in Input Sources Area, for example, push the button [5], the border of signal 5 will change to yellow, and the signal in PGM monitor will be changed to signal 5.

Add or Delete Layer

Push any button of [A] to [D] in Layer Selection Area to add or delete the layer.
Add layer: The light is lit.
Select layer: The light is flashing.
Delete layer: The light is off.

Freeze the Layer

Push the [FREEZE] button in Layer Adjustment Area, the layer will be freeze, push the button again, the layer is live.

Multiview Presets

1. Push any button in Multiview Presets Area to select multiview layouts, including 1P, PIP CENT and 3P.
2. User can adjust the position, size for the selected layer, and set DSK, BLEND and MASK.

Set the Position

1. Push any button of [A] to [D] in Layer Selection Area, the light is flashing when the layer is selected.
2. Push the [POS] button in Layer Adjustment Area, and enter to the menus as follows:

```
->H Pos                          120
  V Pos                          329
  Reset                           >>
```

Use the rotary knob or joystick to adjust the position of the layer.
When swing the joystick to the left or right, the horizontal position will be changed.
When swing the joystick up or down, the vertical position will be changed.

Scale and Crop the Layer

1. Push any button of [A] to [D] in Layer Selection Area, the light is flashing when the layer is selected.
2. Push the [SCALE] button in Layer Adjustment Area, and enter to the menus as follows:

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```
->H Size                          1920
  V Size                          1080
  Reset                             >>
  Crop                              >>
```

Use the rotary knob or joystick to adjust the size of the layer.

When swing the joystick to the left or right, the horizontal size will be changed.

When swing the joystick up or down, the vertical size will be changed.

If select <Crop>, it will enter to the menus as follows:

Crop H Pos: Crop the horizontal position.

Crop V Pos: Crop the vertical position.

Crop H Size: Crop the horizontal size.

Crop V Size: Crop the vertical size.

Crop Reset: Reset crop if image quality distorts by improper operation.

DSK Setting

1. Firstly, enable the multiview function.
2. Push [MENU] button, and enter to the menu items. Turn the rotary knob, and select <DSK> option in <Advance>, push the knob to confirm. (Or push the [DSK] button to enter to the DSK menu items)

```
->Layer                        Layer 1
  Preset              Black BackGround
  Mode                          Key In
  Alpha                            128
```

```
->Red Min                          0
  Red Max                        208
  Green Min                        0
  Green Max                      208
```

```
->Blue Min                         0
  Blue Max                       208
  DSK                             ON
```

Layer: Select the layer that will DSK.

Preset: Can select user, black background, green background, blue background, red background and white background.

Mode: Select Key In or Key Out.

Alpha: The adjustment range is between 0~128.

Red Min: The adjustment range is between 0~255.

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Red max: The adjustment range is between 0~255.

Green Min: The adjustment range is between 0~255.

Green Max: The adjustment range is between 0~255.

Blue Min: The adjustment range is between 0~255.

Blue Max: The adjustment range is between 0~255.

DSK: Can select enable or disable the DSK function.

BLEND Setting

1. Firstly, enable the multiview function.

2. Push [MENU] button, and enter to the menu items. Turn the rotary knob, and select <Blending> option in <Advance>, push the knob to confirm. (Or push the [BLEND] button to enter to the BLEND menu items)

```
->Layer                    Layer 1
  Blending Width              50
  ON/OFF                      ON
```

Layer: Select the layer that will blending.

Blending Width: Blending width setting, the adjustment range is between 1~90.

ON/OFF: Enable or disable the blending function.

Mask Setting

1. Push the [MENU] button, and enter to the menu items.

2. Turn the rotary knob, and select <Mask> option in <Advance>, push the knob to confirm:

```
->Mask                      Heart
  Layer                    Layer 1
  ON/OFF                      ON
  Mask&PIC Pox X              50
```

```
->Mask&PIC Pox Y              50
  Mask Pox X                  50
  Mask Pox Y                  50
  PIC Pox X                   50
```

```
->PIC Pox Y                   50
  Load File From UDisk        No
```

Enable the mask function:

Turn the rotary knob, select <ON/OFF>, and set "ON" to enable the mask function.

Select mask:

Turn the rotary knob, and select <Mask>, push the knob to confirm. Turn the rotary knob, and select the effects, diamond, round, heart, star, triangle, oval, hexagons, pentagon, 4 point star, 6 point star, lighting, crescent left and crescent right.

User can also push the layer mask selection button in Layer Mask Area to select the mask.

Mask setting:

M2 supports load file from UDisk, and set the selected layer, including effect & PIC Pos X, Y, effect X, Y and PIC Pos X, Y.

Custom the mask:

There are 2 custom buttons in Layer Mask Area, push [CUST1] or [CUST2], for example, push [CUST1], it will enter to the menus as follows:

```
->Custom 1                        Heart
   Layer                        Layer 1
   ON/OFF                            ON
   Mask&PIC Pox X                    50
```

Turn the rotary knob, and select <Custom 1>, push the knob to confirm. Turn the rotary knob again, and select the mask, for example, select <Star>, push the knob to confirm.

Then push the [CUST1] button, the custom will change to the mask that set, as shown below:

```
->Custom 1                         Star
   Layer                        Layer 1
   ON/OFF                            ON
   Mask&PIC Pox X                    50
```

Transitions Setting

1. Push the transition buttons in Transition Area, M2 supports 8 kinds of wipe modes:

Push the transition button ⊞, user can select ←＋→.

Push the transition button ⊡, user can select ←□→.

Push the transition button ⊡, user can select ←O→.

Push the transition button MIX, can select fade.

Push the transition button ▣, can select L→R.

Push the transition button ◫, user can select L←M→R.

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Push the transition button [HHH], user can select III→.

Push the transition button [▪], user can select LT→RB.

2. Push the [TAKE] button, or use T-bar switcher to switch the image to program with selected wipe.

Custom LOGO

Push [MENU] button, and enter to the menu items. Turn the rotary knob, and select <LOGO> option in <Advance>, push the knob to confirm, (Or push the [LOGO] button in Functions Area) it will enter to the LOGO menus as below:

```
->LOGO                          1
  ON/OFF                      OFF
  X                          1600
  Y                           952
```

```
->Delete                        1
  Load File From UDisk    No UDisk
```

Enable the LOGO function:
Turn the rotary knob, select <ON/OFF>, and set "ON" to enable the logo function.
LOGO Setting:
1. Turn the rotary knob, and select <LOGO>, push the knob to confirm.
2. Turn the rotary knob, and select the LOGO that to custom, push the knob to confirm.
3. Turn the rotary knob, select <X> or <Y>, and set the position of LOGO.
Additionally, M2 supports load file from UDisk.

Custom OSD

Push [MENU] button, and enter to the menu items. Turn the rotary knob, and select <OSD> option in <Advance>, push the knob to confirm, it will enter to the OSD menus as below:

```
->ON/OFF                      OFF
  Delete                       No
  Load File From UDisk         No
```

1. Turn the rotary knob, select <ON/OFF>, and select "ON" to enable the OSD function.
2. Turn the rotary knob, select <Delete>, and select "Yes" to delete the OSD.
3. Turn the rotary knob, select <Load File From UDisk>, and select "Yes" to load the OSD file from UDisk.

Custom STILL

Push [MENU] button, and enter to the menu items. Turn the rotary knob, and select <Still> option in <Advance>, push the knob to confirm, (Or push the [STILL] button in Functions Area) it will enter to the STILL menus as below:

```
->Still                          3
   ON/OFF                      OFF
   X                            0
   Y                            0
```

```
->Delete                         1
   Load File From UDisk    No UDisk
```

Enable the STILL function:

Turn the rotary knob, select <ON/OFF>, and set "ON" to enable the logo function.

STILL Setting:

1. Turn the rotary knob, and select <Still>, push the knob to confirm.

2. Turn the rotary knob, and select the Still that to custom, push the knob to confirm.

3. Turn the rotary knob, select <X> or <Y>, and set the position of Still.

Additionally, M2 supports load file from UDisk.

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PGM Mode

1. Switch the edited PST image to program by pushing the [CUT], [TAKE] button or T-bar, and then the PGM image will return to PST state, which can be edited.
2. There are 2 HDMI outputs for program, and realize 4Kx1K output.

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4K1K Mode

1. Push the [MENU] button, and enter to the menu items, turn the rotary knob, and select <Output>.

```
   Input                        >>
->Output                        >>
   Background                   >>
   Advance                      >>
```

2. Push the knob to confirm. Turn the rotary knob, and select <4K1K>, push the knob to confirm:

```
   Format            1920×1080×60
   Custom Format                >>
->4K1K                          >>
   Color Space/Sample/Bit       >>
```

3. Turn the rotary knob, select <4K1K>, and set "ON":

```
->4K1K                         ON
   H Total                    3600
   V Total                    1080
   PGM1 H Size                1920
```

```
->Set                          No
```

4. Turn the rotary knob, and set H Total as 3840, then it realizes the 4K1K mode.

```
   4K1K                        ON
->H Total                    3840
   V Total                    1080
   PGM1 H Size                1920
```
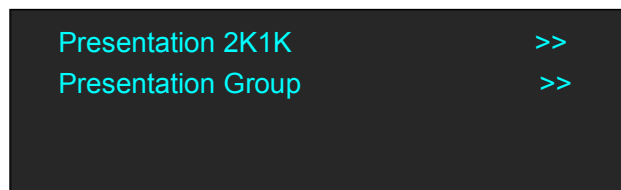
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Presentation Mode

(1) Press the MENU button, enter to the main menu. Turn the knob and select <Output>:

(2) Press the knob to confirm. Turn the knob, select <Presentation> under <System Mode>, press the knob to confirm:

4K1K	>>
4K2K	>>
Matrix	>>
->Presentation	>>

(3)Under Presentation, users can choose Presentation 2K1K and Presentation Group. OLED will show as follow:

Presentation 2K1K	>>
Presentation Group	>>

(3) Presentation 2K1K mode allows 1 output displays 4 layers as the following example.
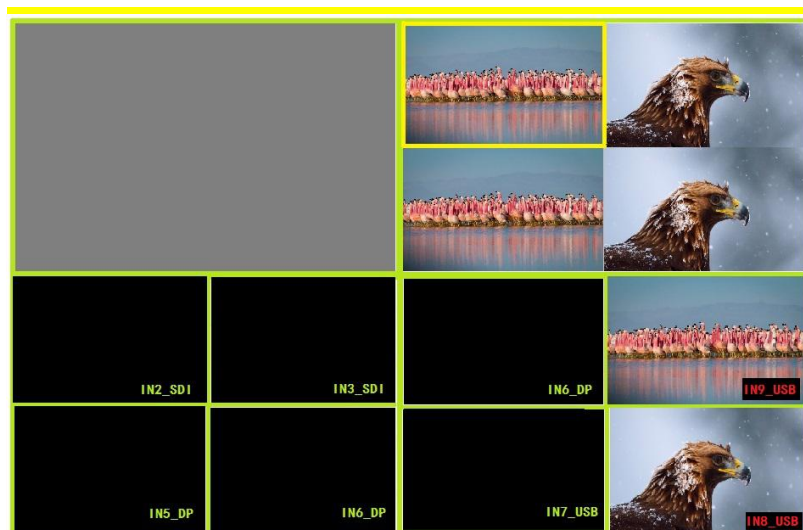
(5)Presentation Group mode allows PGM1 and PGM2 to be switched at the same time.

Layers A,B,C are on PST1 and Layer D on PST2. When PST1 is selected, users can change the input source and layout of Layer A,B,C and switch to PGM1 by **TAKE** button or **T-Bar**. When PST2 is selected, users can change input source and layout of Layer D and switch to PGM2 by **TAKE** or **T-Bar** .Under the Presentation Group mode, PST1 and PST2 are switched to PGM1 and PGM2 by **TAKE** button at the same time. Please note that T-Bar doesn't work under Presentation Group mode.
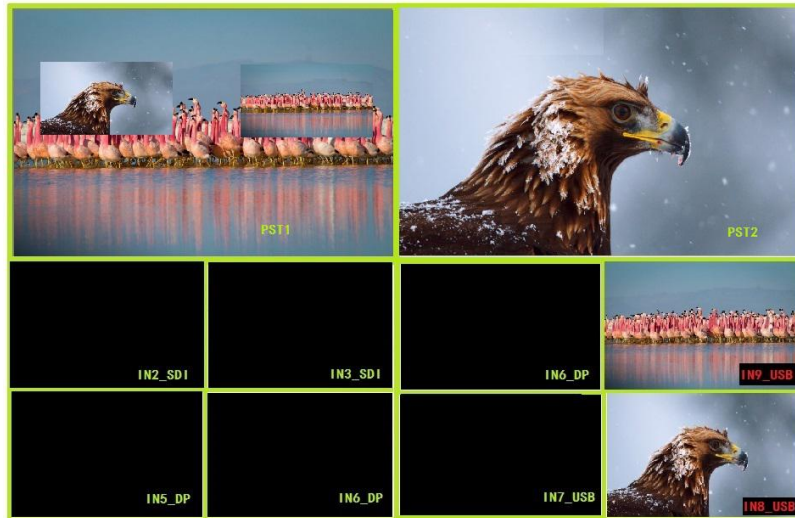
Switching Mode

1. T-BAR switch: Switch the PST image to program with wipe and fade by T-bar.

2. CUT switch: Seamless switch the PST image to program by pushing [CUT] button.

3. TAKE switch: Switch the PST image to program with wipe and fade by pushing [TAKE] button.

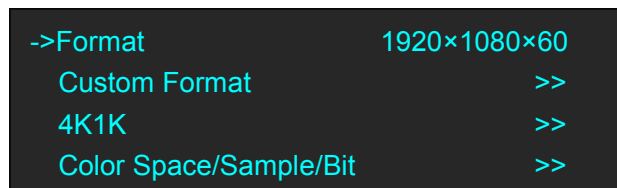4. TRANSITION DURATION: Transition duration setting, the adjustment range is between 0~9.9S.

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Set the Output Resolution

Select the Output Resolution

1. Push the [MENU] button, and enter to the menu items, turn the rotary knob and select <Output>:

```
   Input                          >>
->Output                          >>
   Background                     >>
   Advance                        >>
```

2. Push the rotary knob to confirm, and enter to the menus as below:

```
->Format                1920×1080×60
   Custom Format                  >>
   4K1K                           >>
   Color Space/Sample/Bit         >>
```
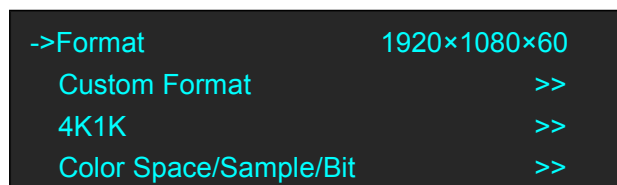
3. <Format> is the default option, push the rotary to confirm. Turn the rotary knob, select the output resolution according to actual need.

Custom the Output Resolution

1. Push the [MENU] button, and enter to the menu items, turn the rotary knob and select <Output>:

```
   Input                          >>
->Output                          >>
   Background                     >>
   Advance                        >>
```

2. Push the rotary knob to confirm, and enter to the menus as below:

```
->Format                1920×1080×60
   Custom Format                  >>
   4K1K                           >>
   Color Space/Sample/Bit         >>
```

3. Turn the rotary knob, and select <Custom Format>, push the rotary knob to confirm.

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Format	1920×1080×60
->Custom Format	>>
4K1K	>>
Color Space/Sample/Bit	>>

->HActive	1024
VActive	768
Freq	60
Set	No

4. Set H Active, V Active and Fred according to actual need, then select <Set> and set "Yes", push the rotary knob to confirm.

Adjust R,G,B of SDI,VGA,CVBS,USB input

M2 of Version 2.13 allows users to adjust the value of RGB of SDI,VGA,CVBS,USB input.

```
PST Input       :VGA
Output Format:1920x1080@60
System Mode : Normal
SN:0229         Version:2.13
```

Here are the operation.

Enter Menu of **Input**

```
->Input                          >>
  Output                         >>
  Background                     >>
  Advance                        >>
```

Find the Chanel of SDI,VGA,CVBS or USB. Users can preview the input from the output display. For example, SDI input in Chanel 8.

```
  Ch.5                      IN5_DVI
  Ch.6                      IN6_HDMI
  Ch.7                      IN7_HDMI
->Ch.8                      IN8_SDI
```

Enter Chanel 8 and find Ch.8 Control

```
  Ch.8                      IN8_SDI
  Input Format         1280x720@60
->Ch.8 Control                    >>
```

Enter Ch.8 Control menu, there are items to adjust R,G,B

```
BRIGHTNESS RED              50
BRIGHTNESS GREEN            50
BRIGHTNESS BLUE            50
CONTRAST                   50
```

```
SATURATION                 50
  SHARPNESS                50
  COLOR TEMP RED           50
  COLOR TEMP GRN           50
```

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```
COLOR TEMP BLUE                    50
Reset
```

Brightness R,G,B value range from 0 to 100

Contrast range from 0 to 100

Saturation rang from 0 to 100

Sharpness range from 0 to100

Color Temp R,G,B value range from 0 to 255
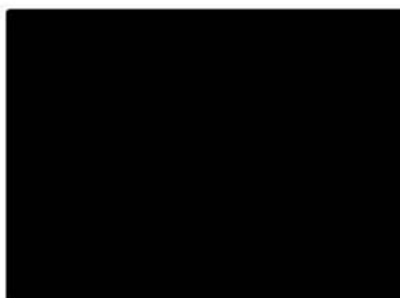
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Using Black Out

Black out description:

Black signal realizes one-key-touch to a black screen.

M2 provides black effect processing for program output and preview output, with cut black effect. Operation is as below:

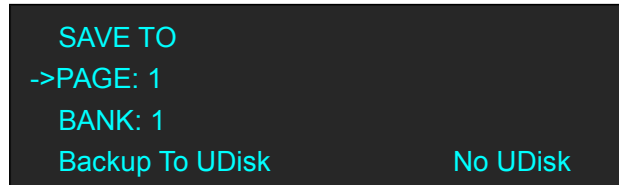Push the [BLACK] button, the button light is lit, then the program output is cut to black.
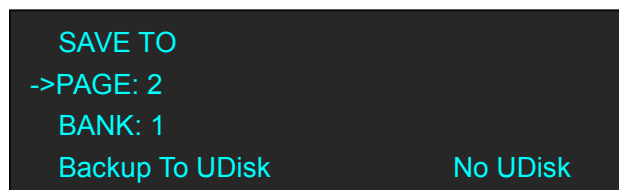
The effect is shown as below:

Saving Views

M2 provides 36 positions for saving or recording parameters. To save current parameters and settings:
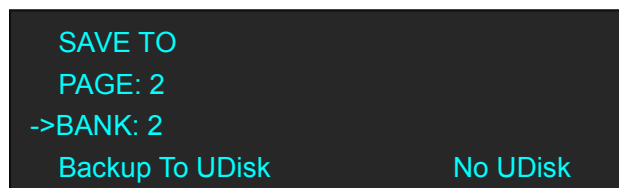
1. Push the [SAVE] button in Stored Presets Area, the button [SAVE] and [PAGE] lights are lit, and some of buttons 1~6 are lit and some are flashing. The button lit can be saved and flash will be overwrite, push the button lit to save.

```
SAVE TO
->PAGE: 1
   BANK: 1
   Backup To UDisk          No UDisk
```

2. Select PAGE, for example, the button [2] is lit, push the button [2].

```
SAVE TO
->PAGE: 2
   BANK: 1
   Backup To UDisk          No UDisk
```

3. After set the PAGE, it will jump to BANK option, or example, the button [2] is lit, push the button [2]:

```
SAVE TO
   PAGE: 2
->BANK: 2
   Backup To UDisk          No UDisk
```

4. Push the [SAVE] button again, the button light is off, and exit the save function.
5. Select <Backup To UDisk>, user can save the parameters to the UDisk.

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Recall Saved Settings

M2 provides 36 positions for saving or recording parameters. To recall saved settings:

1. Push the [LOAD] button in Stored Presets Area, the button [LOAD] and [PAGE] lights are lit, and some of buttons 1~6 are lit and some are flashing. The button lit is ready for recall and flash means just recall, push the button lit to recall.

```
    LOAD FROM
->PAGE: 1
    BANK: 1
    Load From UDisk          No UDisk
```

2. Select PAGE, for example, the button [2] is lit, push the button [2].

```
    LOAD FROM
->PAGE: 2
    BANK: 1
    Load From UDisk          No UDisk
```

3. After set the PAGE, it will jump to BANK option, or example, the button [2] is lit, push the button [2]:

```
    LOAD FROM
    PAGE: 2
->BANK: 2
    Load From UDisk          No UDisk
```

4. Push the [LOAD] button again, the button light is off, and exit the load function.
5. Select <Load From UDisk>, user can load the saved parameters from the UDisk.

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Warranty:

All video products are designed and tested to the highest quality standard and backed by full 3 years parts and labor warranty. Warranties are effective upon delivery date to customer and are non-transferable. RGBlink warranties are only valid to the original purchase/owner. Warranty related repairs include parts and labor, but do not include faults resulting from user negligence, special modification, lighting strikes, abuse(drop/crush), and/or other unusual damages.
The customer shall pay shipping charges when unit is returned for repair.

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