RGBlink® Video {processing} for any scale

D4
Quick Start

- Internal YUV4:4:4 processing
- 12 Bit processing
- HDMI 2.0 compatible
- HDCP 2.X compliance
- DisplayPort 1.2 Compatible
- HDR Compatible
- 12G/6G/3G/HD/SD SDI input compatible
- 4K@60 outputs including HDMI 2.0, DisplayPort 1.2
- EDID management
- Up to 8K2K output splicing
- Independent PST,multiple pictures seamless switching
- Multiple operation mode
- Support for flip image
- Support multiple cascade control

CONTENTS

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Product Introduction

With standard any in and any out, D4 is so much more than 4K scale.

With multiple output modes, D4 is a very flexible solution across a range of applications whether for scaling, presentation switching, 4K distribution or broadcast.

Truly an All-In-One solution, D4 accept a wide range of input signals in a huge array of formats. Inputs can be converted, scaled, transcoded to standard to HDMI 2.0outputs or output to optional ports including DP1.2,12G/6G/3G/HD/SD SDI, Fiber port and HDBaseT.

With a built-in dual channel 4k scaler, D4 provides 12bit interface connection, with EDID management,HDCP2.X compliant and YUV4:4:4 10 bit color reproduce. Based on the flexible modular structure, D4 can be expanded to more connection or any connection in need, but not features only as a standard unit, besides its embedded and de-embeded audio processing capacity.

System Connection Diagram

This is the typical diagram for switcher and presentation application with multiple 4K/2K connection.
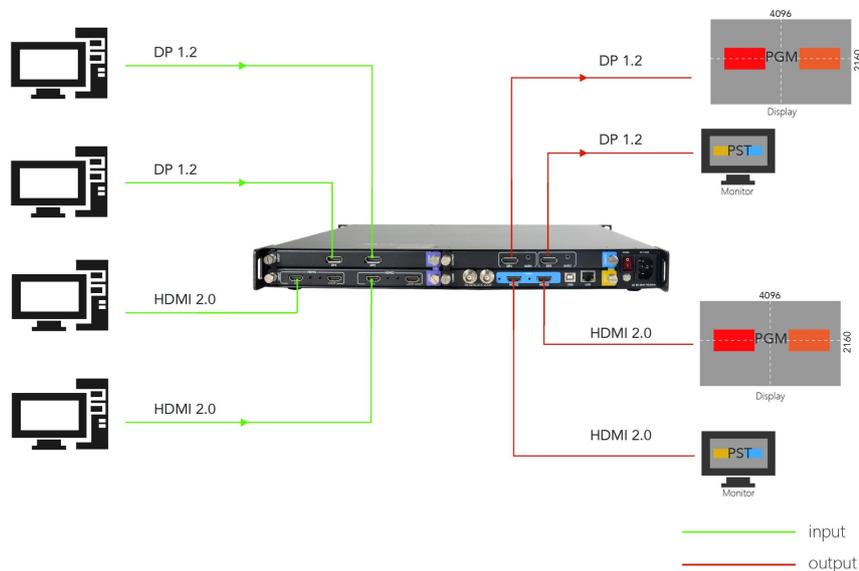
D4 System Connection Diagram

Packing Configuration

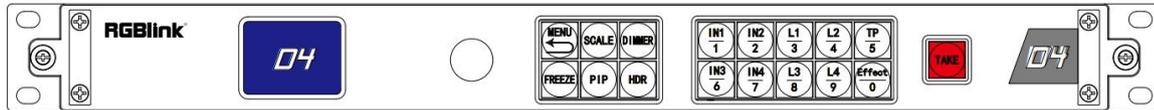| AC Power Cord	HDMI Cable*2	USB Cable	USB Disk

Anti-Static Bag

Note:

AC Power Cable supplied as standard according to destination market.

Upgrade tool package and user manual are stored in the USB disk, please keep it.

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Front Panel

Button Instruction

	Number button 0~9, use for scale, crop, zoom and custom setting		Input signal source button
	Show operation menu items		Test pattern button
	Layer selection button		Short cut button to open Effect menu
	Confirm and adjust OLED menu		Scale button
	Menu and back button		Dimmer button
	Picture in Picture Button		Freeze Current Image
	High Dynamic Rang Image button		Switch from preset to program with transition effect

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Rear Panel
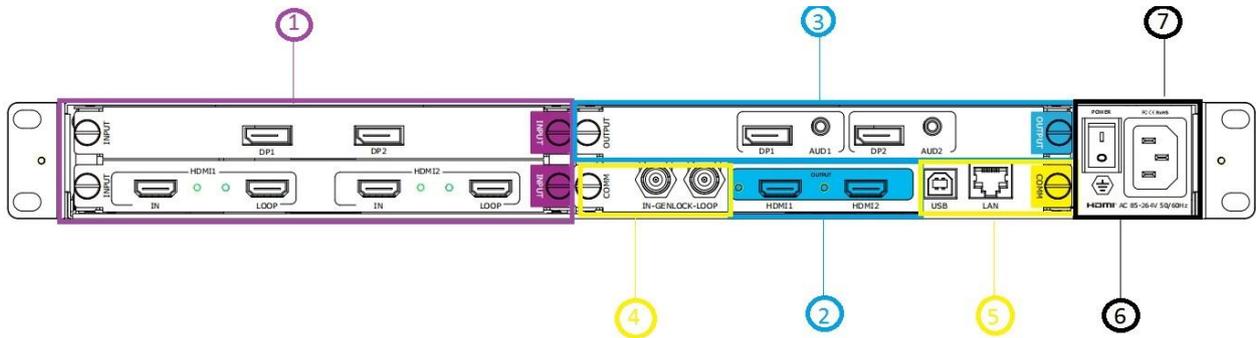
Chassis Module Structure				
1	2 input module slots, support DP1.2,12G SDI HDMI 2.0 and 3G SDI Input Module (The bottom slot support HDR)	4		Genlock In/Loop
2	2 standard HDMI output (HDR Supported)	5		Communication connectors including:1 LAN port, and 1 USB-B
3	1 output module slot, support 4K HDMI,DP 12G SDI and 3G SDI output modules	6		Power switch
		7		Power socket

Menu Structure

Input	Output	Customize Format	View	Transition	System	Test Pattern	Tech Support	Factory Reset
Input Info	Output Info	Customize Format	Save To	Mode	System Info	Type		Factory Reset
Sizing Adjust	Output Format		Load From	Duration	System Mode	Red		
EDID Management	Genlock				Language	Green		
	Effects				Lock Front Panel	Blue		
	Output Adjust							
	Audio							

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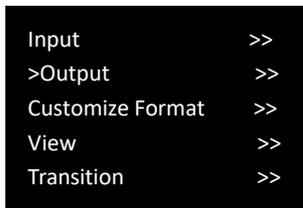Ph: +86 592 5771197 | support@rgblink.com | www.rgblink.com
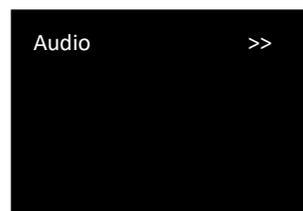
Use Your Product

Output Setting

D4 system is default in English, after Initializing, the device will enter the main interface.

Press MENU button and enter the the menu item. Rotate the knob and select Output

Input	>>
>Output	>>
Customize Format	>>
View	>>
Transition	>>

In Output sub-menu, there are items as follows:

Output Info	>>
Output Format	>>
Genlock	>>
Effects	>>
Output Adjust	>>

Audio	>>
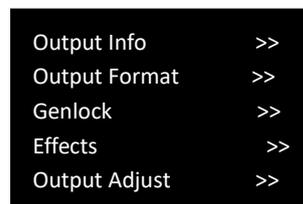
1. **Output Info**: output resolution,signal type, greyscale,color space etc

Output 1:	HDMI 2.0
3840x2160@50	
HDMI Mode	HDMI
Bits	8Bits>>
Color Space	YUV

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```
No HDR Support
_____
Output 2:        HDMI2.0
3840x2160@50
HDMI Mode        HDMI
```

```
Bits             8Bits>>
Color Space      YUV
No HDR
_____
Output 3:        DP 1.2
```

```
3840x2160@50      I
Bits             8Bits>>
Color Space      YUV
```

2. **Output Format:** users can rotate the knob to choose desired output resolution from 60 types of normal resolutions up to 4096x2160@60

```
Output Format
         3840x2160@50
```

3. Custom Format

In the first page of MENU items, there is **Customize Format** available.

```
Input                >>
Output               >>
>Customize Format    >>
View                 >>
Transition           >>
```

Users can custom output resolution by input numbers on the front panel.

```
Customize Format:
>3840x2160@24
```

Turn the knob to resolution line and press the knob ">" (arrow)change to "*" (star)   put in the numbers for width value, then press the knob to confirm the number.

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Put in the numbers for height and frame rate in the same way. For example setting resolution 2560x1152@60, here are the steps:

```
Customize Format:

*3840x2160@24
```

```
Customize Format:

*2560x0000@00
```

```
Customize Format:

*2560x1152@00
```

```
Customize Format:

*2560x1152@60
```
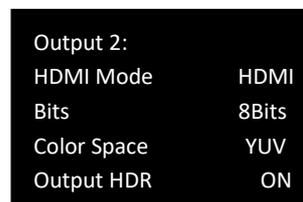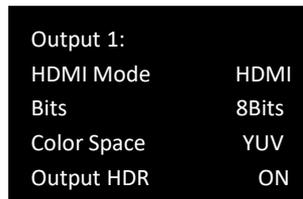
Note: The number buttons turning green indicate that users can use button to key in numbers.

4. **Genlock:** users can turn on or off Genlock and set Genlock Format.

```
>Genlock          OFF
Genlock Format
    3840x2160@50
```

Users can turn the knob to choose Genlock Y or Frame lock and choose Genlock Resolutions.

5. **Output Adjust:** users can turn on HDR adjust here.

```
Output 1:
HDMI Mode          HDMI
Bits               8Bits
Color Space        YUV
Output HDR          ON
```

```
Output 2:
HDMI Mode          HDMI
Bits               8Bits
Color Space        YUV
Output HDR          ON
```

Note: HDR require input source device and processing device and display device, all need to support HDR otherwise the HDR adjust cannot work.

Here is contrast example of before and after HDR adjust

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Before HDR ON   **After HDR ON**

6. **Effects:** users can set output image effects here. To open up Effect menu, just press Effect button on the front panel.

```
Layer              N/A
Brightness         >>
Contrast           >>
Chroma             >>
Black&White        OFF
```

Layer: to choose Layer A or Layer B as the main picture for PIP and to swap layer.

Brightness: ranging from -1024 to 1024, users can not only adjust the overall brightness but also the brightness of R,G,B, each ranging from -1024 to 1024

```
>Brightness        1024
Brightness R       1024
Brightness G       1024
Brightness B       1024
```

Contrast: range from 0-399
Chroma: range from 0-399
Black&White: On/Off

```
Hue                180
Color Temp         6500K
Gamma         Gamma 1.0
H Sharpness          0
V Sharpness          0
```

Hue: rang from -180 to 180
Color Temp: rang from 6500K to 9300K
Gamma: select from Gama 1.0, Gamma 1.8, Gamma 2.2, Gamma 2.6
H Sharpness: adjust horizontal sharpness, rang from -10 to 10
V Sharpness: adjust vertical sharpness, rang from -10 to 10

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```
Noise Reduction        >>
Flip V                 OFF
Flip H                 OFF
Reset                  OFF
```

Noise Reduction: 6 noise reduction made available.Each rang from 0 to 3.

```
Horizontal NR          0
Vertical NR            0
Temporal               0
Block NR               0
Mosquito NR            0
```

```
Combing NR             0
```

Flip V: vertical flip On or Off

Flip H: horizontal flip, on or Off

Reset: On or Off, select on to reset all above parameter.

7. Audio: select the output port for audio, users can choose Auto or output from Port 1 to Port 4.

```
*Audio                 Port 2
```

Input Setting

1. **Input Info**: shows the input info of each input port as input resolution, Color Space(RGB/YUV) and HDR.

```
Input 1:
No Input
No HDR
RGB
```

2.Sizing Adjust:

1)adjust input size and position.

```
H Size          1408
V Size           832
H Pos              0
V Pos              0
Reset Size       OFF
```

2)Crop input source.

```
MASK TOP          >>
MASK BOTTOM       >>
MASK LEFT         >>
MASK RIGHT        >>
RESET MASK
```

3.EDID Management: Select EDID destination port and source. Custom EDID is available.

```
Destination       Port 1
>Source:          RGB4K
```

Destination Port: select from 1 to 4

Source:RGB4K,FOLLOW,CUSTOM,RESET

Choose CUSTOM to Customize Format for input.

```
Customize Format:
*3840x2160@60
```

Transition Setting

1. **Mode:** to select the transition mode for for switching. Cut or Fade available.
2. **Duration**: the duration time of transition. If under Fade Mode, duration time range from 0.0-2.0s

```
Mode                Cut
Duration        Invalid
```

Test Pattern

1. Type: Users can choose OFF to disable test Pattern, or choose Pure Color or Color Bar as test pattern
2. Red,Green,Blue:RGB value for test pattern, each one range from 0 to 255

```
*Type         Color Bar
Red                 255
Green               255
Blue                255
```
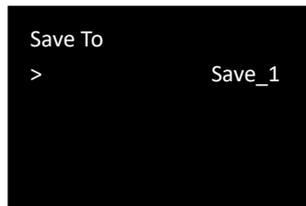
TP button ⬚TP/5 on the front panel is the short cut button to open Test Pattern menu.

View (Save&Load)

```
Save To             >>
Load From           >>
```

1. **Save To:** save settings made above to Save_1,2,3...16, use knob to choose SAVE 1,2,3...16

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```
Save To
>                Save_1
```

2. **Load From:** load saved settings from Save_1,2,3...16, use knob to choose Load 1,2,3...16

```
Load From
>                Save_1
```

System

```
System Info          >>
System Mode     Standard
Language 语言        ENG
Lock Front Panel     >>
```

1. **System Info:** show MCU version,Serial Number, and IP address of the device.

```
MCU Version          1.8
SN                   0504
192.168.000.058
```

2. **System Mode:** PIP, Switch, Standard, Presentation,

3. Language 语言：To select English or Chinese .To quick switch language between Chinese and English, long

pressing **MENU+SCALE** [MENU] [SCALE] buttons for 3S.

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4. Lock Front Panel

```
Lock Front Panel
Yes <OK>, No <Menu>
```

Tech Support

show the contact info of RGBlink

```
Sales Hotline:
   4008-592-114
After-Sale Service:
   4008-592-315
sales@rgblink.com
```

Factory Reset

```
Factory Reset
YES<OK>,NO<MENU>
```

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Scale Button

Press Scale Button SCALE on the front panel to enter scale setting menu as follows:

```
Channel          CH.1
H Size           3840
V Size           2160
Ratio            3840
H Pos               0
```

```
V POS               0
Reset             OFF
```

1. **Channel:** choose from CH.1/CH.2/CH.3/CH.4

2. **H SIZE:** set the horizontal pixels of output image

3. **V SIZE:** set the vertical pixels of output image

4. **Ratio:** Set the scale ratio by putting in the horizontal width, the vertical height will be auto adjusted according to the ratio of new width/old width.e.g. Set ratio as 1920 and the first width is 3840, the height will be automatically adjusted to 1080.

5. **H POS:** set the horizontal position of image

6. **V POS**: set the vertical position of image

7. **RESET:** If operation is not proper, turn knob to <RESET> and start over.

PIP Button

Press PIP Button PIP on the front panel to picture in picture setting menu as follows:

```
>PIP                ON
Layer          Layer B
```

1. **PIP:** select On or Off
2. **Layer:** select layer A or B as main picture.

DIMMER Button

Press Dimmer Button [DIMMER] on the front panel to set Dimmer value or long pressing Dimmer button the value

can immediately skip from 0 to 128.

```
>Dimmer            128
```

Dimmer range:0-128

HDR Button

Press HDR button [HDR] on the front panel to activate HDR feature:

```
>Input Port         Port2
In HDR Support      ON
Output Port         Ch.1
Out HDR Support     ON
```

Input Port:select from Port1 , Port 2, Port 3, Port 4
In (input) HDR Support On or Off
Output Port:select from Ch.1 or Ch.2
Out(input) HDR Support On or Off

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CONTACT INFORMATION

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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- **E-mail:** support@rgblink.com