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
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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 2.0 outputs 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-embedded 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

**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.
## Hardware Orientation

### Front Panel

![Front Panel Diagram]

### Button Instruction

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

![Rear Panel Diagram]

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 input module slots, support DP1.2, 12G SDI HDMI 2.0 and 3G SDI Input Module (The bottom slot support HDR)</td>
</tr>
<tr>
<td>2</td>
<td>2 standard HDMI output (HDR Supported)</td>
</tr>
<tr>
<td>3</td>
<td>1 output module slot, support 4K HDMI, DP 12G SDI and 3G SDI output modules</td>
</tr>
<tr>
<td>4</td>
<td>Genlock In/Loop</td>
</tr>
<tr>
<td>5</td>
<td>Communication connectors including: 1 LAN port, and 1 USB-B</td>
</tr>
<tr>
<td>6</td>
<td>Power switch</td>
</tr>
<tr>
<td>7</td>
<td>Power socket</td>
</tr>
</tbody>
</table>
Menu Structure

- Input:
  - Input Info
  - Sizing Adjust
  - EDID Management

- Output:
  - Output Info
  - Output Format
  - Genlock
  - Effects
  - Output Adjust
  - Audio

- Customize Format:
  - Customize Format

- View:
  - Save To
  - Load From

- Transition:
  - Mode
  - Duration

- System:
  - System Info
  - System Mode
  - Language
  - Lock Front Panel

- Test Pattern:
  - Type
  - Red
  - Green
  - Blue

- Tech Support:
  - Support

- Factory Reset:
  - Factory Reset
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

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

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

<table>
<thead>
<tr>
<th>Output 1: HDMI 2.0 3840x2160@50</th>
<th>HDMI Mode</th>
<th>HDMI</th>
<th>Bits</th>
<th>88bits&gt;&gt;</th>
<th>Color Space</th>
<th>YUV</th>
</tr>
</thead>
</table>
2. **Output Format**: Users can rotate the knob to choose desired output resolution from 60 types of normal resolutions up to 4096x2160@60

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

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

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

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

   - 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.

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

- **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
- **Contrast:** range from 0-399
- **Chroma:** range from 0-399
- **Black&White:** On/Off
- **Hue:** range from -180 to 180
- **Color Temp:** range from 6500K to 9300K
- **Gamma:** select from Gama 1.0, Gamma 1.8, Gamma 2.2, Gamma 2.6
- **H Sharpness:** adjust horizontal sharpness, range from -10 to 10
- **V Sharpness:** adjust vertical sharpness, range from -10 to 10
Noise Reduction: 6 noise reduction made available. Each range from 0 to 3.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal NR</td>
<td>0</td>
</tr>
<tr>
<td>Vertical NR</td>
<td>0</td>
</tr>
<tr>
<td>Temporal</td>
<td>0</td>
</tr>
<tr>
<td>Block NR</td>
<td>0</td>
</tr>
<tr>
<td>Mosquito NR</td>
<td>0</td>
</tr>
<tr>
<td>Combing NR</td>
<td>0</td>
</tr>
</tbody>
</table>

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.
Input Setting

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

   ![Input Info](image)

   - Input 1:
     - No Input
     - No HDR
     - RGB

2. **Sizing Adjust**:
   1) adjust input size and position.

   ![Size Adjust](image)

   - H Size: 1408
   - V Size: 832
   - H Pos: 0
   - V Pos: 0
   - Reset Size: OFF

   2) Crop input source.

   ![Crop Source](image)

   - MASK TOP: >>
   - MASK BOTTOM: >>
   - MASK LEFT: >>
   - MASK RIGHT: >>
   - RESET MASK

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

   ![EDID Management](image)

   - Destination Port: select from 1 to 4
   - Source: RGB4K, FOLLOW, CUSTOM, RESET
   - Choose CUSTOM to Customize Format for input.

   Custom Format:
   *3840x2160@60
Transition Setting

1. **Mode:** to select the transition mode 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

<table>
<thead>
<tr>
<th>Mode</th>
<th>Duration</th>
<th>Cut</th>
<th>Invalid</th>
</tr>
</thead>
</table>

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

<table>
<thead>
<tr>
<th>*Type</th>
<th>Color Bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>255</td>
</tr>
<tr>
<td>Green</td>
<td>255</td>
</tr>
<tr>
<td>Blue</td>
<td>255</td>
</tr>
</tbody>
</table>

TP button on the front panel is the short cut button to open Test Pattern menu.

View (Save&Load)

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

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## System

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

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

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

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

3. **Language:** To select English or Chinese. To quick switch language between Chinese and English, long pressing **MENU+SCALE** buttons for 3S.
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>
Scale Button

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

<table>
<thead>
<tr>
<th>Channel</th>
<th>CH.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H Size</td>
<td>3840</td>
</tr>
<tr>
<td>V Size</td>
<td>2160</td>
</tr>
<tr>
<td>Ratio</td>
<td>3840</td>
</tr>
<tr>
<td>H Pos</td>
<td>0</td>
</tr>
</tbody>
</table>

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

>PIP Layer
Layer: Layer B

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

### DIMMER Button

Press Dimmer Button on the front panel to set Dimmer value or long pressing Dimmer button the value can immediately skip from 0 to 128.

![Dimmer Button](image)

Dimmer range: 0-128

### HDR Button

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

![HDR Button](image)

- **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
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.

Headquarter: Room 601A, No. 37-3 Banshang community, Building 3, Xinke Plaza, Torch Hi-Tech Industrial Development Zone, Xiamen, China

- Tel: +86-592-5771197
- Fax: +86-592-5788216
- Customer Hotline: 4008-592-315
- Web:
  ~ http://www.rgblink.com
  ~ http://www.rgblink.cn
- E-mail: support@rgblink.com