

**FRONTNICHE**

**12G - 6G - 3G**

**4K HDR**  
HIGH DYNAMIC RANGE

# Enigma UHD Scaling Cross Converter for supporting HDR



# Product Introduction

- 1 12G SDI Input and Output (Optional 4 x 3G / 2 x 6G Version)
- 2 HDMI 2.0 a/b Input and Output
- 3 Dual Scaler Included
- 4 Signal Conversion
- 5 LCD Preview and Touch Control
- 6 Built-in Web Server

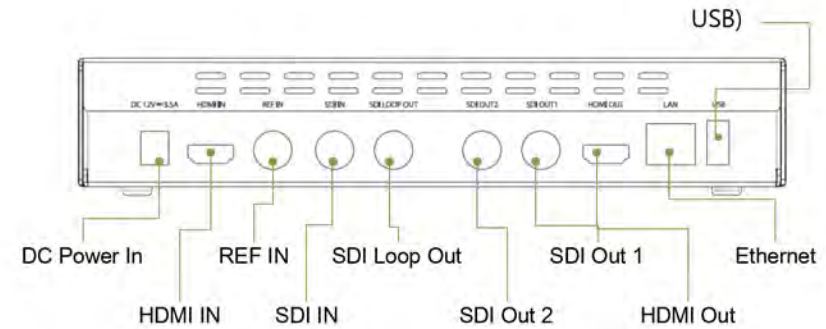
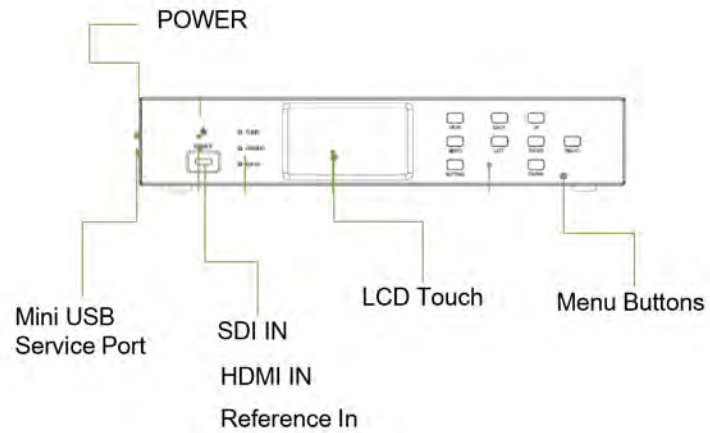
# Product View

## ▪ UHD Scaling Cross Converter

FRONT



REAR



# Specification

## ▪ H/W Specification

Item		Type	Q'ty	Spec
Input	SDI	BNC	1	12G SDI
	HDMI	A	1	HDMI 2.0a
Output	SDI	BNC	2	12G SDI
	SDI Loop Out	BNC	1	12G SDI
	HDMI	A	1	HDMI 2.0a
UI	LCD + Touch		1	2.7" LCD + Capacitive Touch
	Buttons		9	View, Video, Settings, Right, Left, Up, Down, Select, Back
Network	Ethernet RJ45		1	10/100Mbps
Power	DC-Jack		1	12V / 3.5A (TBD) Locking Type

## ▪ S/W Specification

Item	Spec	Notes
Resolutions	720p, 1080i, 1080p, 2160p	
Frame Rate	23.98, 24, 25, 29.97, 30, 50, 59.94, 60	
Up/Down Scaling	Any Resolution -> Any Resolution	
Frame Rate Conversion	Any Rate -> Any Rate	
Firmware Upgrade	Yes	Built-in Web Server using Ethernet
Preview Monitoring	Yes	Front 2.7" LCD
Status Monitoring	Yes	- Built-in Web Server - Front LCD
Control	Yes	- Built-in Web Server - Front LCD GUI

# Standard

	Interface	Q'ty	Resolution	Spec
Input	HDMI	1EA	2160p60/59.94 2160p50 2160p30/29.97 2160p25 2160p24/23.98 1080p60/59.94 1080p50 1080p30/29.97 1080p25 1080p24/23.98 720p60/59.94 720p50	HDMI 2.0b
	SDI	1EA	2160p60/59.94 2160p50 2160p30/29.97 2160p25 2160p24/23.98 1080p60/59.94 1080p50 1080p30/29.97 1080p25 1080p24/23.98 720p60/59.94 720p50	SMPTE ST 2082-1 SMPTE ST 424 SMPTE ST 372 SMPTE ST 292

	Interface	Q'ty	Resolution	Spec
Output	HDMI	1EA	2160p60/59.94 2160p50 2160p30/29.97 2160p25 2160p24/23.98 1080p60/59.94 1080p50 1080p30/29.97 1080p25 1080p24/23.98 720p60/59.94 720p50	HDMI 2.0b
	SDI	2EA	2160p60/59.94 2160p50 2160p30/29.97 2160p25 2160p24/23.98 1080p60/59.94 1080p50 1080p30/29.97 1080p25 1080p24/23.98 720p60/59.94 720p50	SMPTE ST 2082-1 SMPTE ST 424 SMPTE ST 372 SMPTE ST 292

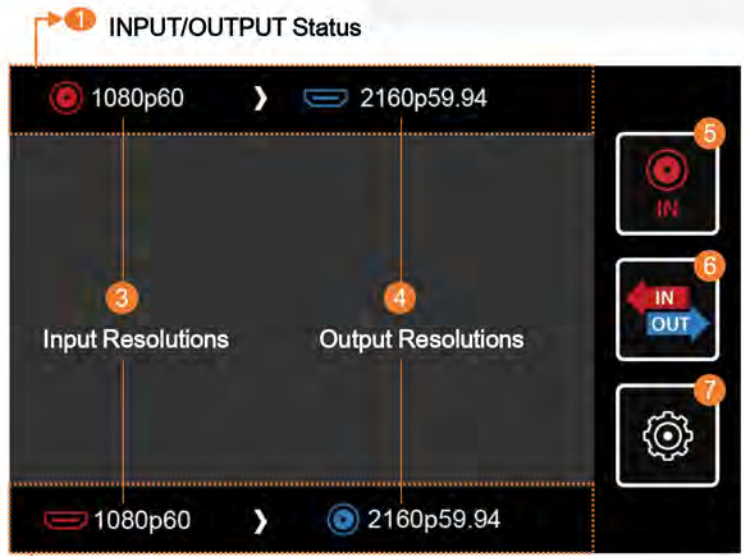
# Product & Package

Front	Rear	Contents	
		 <p data-bbox="1651 561 1870 625">UHD Scaling Cross Converter</p>	 <p data-bbox="1982 561 2142 661">Adapter &amp; Power Code (Option)</p>  <p data-bbox="2211 575 2313 639">User Manual</p>
Product Information		Package Size Information	
 <p data-bbox="1154 803 1332 832">Weight 1.7KG</p>	 <p data-bbox="2097 811 2313 846">Weight: 2.5 KG</p> <p data-bbox="2084 911 2173 939">210mm</p> <p data-bbox="2147 1110 2237 1139">135mm</p> <p data-bbox="1753 1253 1842 1282">290mm</p>		

# Supporting 12G SDI and HDMI2.0a/b

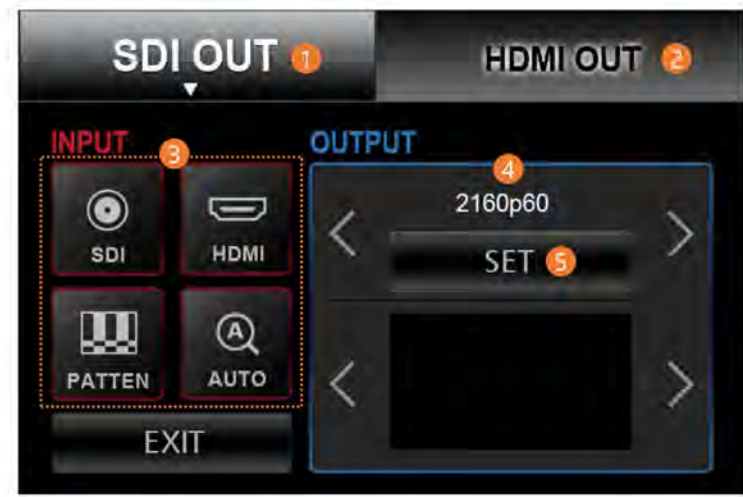
- 12G SDI Input & Output
  - ✓ Support HD, 3G Level A/B, 6G, 12G
- HDMI2.0a Input & Output
  - ✓ Support up to 3840 x 2160@60p
- Dual Scaler included
  - ✓ Support SDI and HDMI outputs with independent resolutions
  - ✓ Convert resolutions and frame rates
- Cross Conversion
  - ✓ SDI to HDMI and HDMI to SDI
- LCD Preview and Touch Control
  - ✓ Monitor inputs and outputs
  - ✓ Graphic User Interface and Touch Control
- Built-in Web Server
  - ✓ Monitor and Control inputs and outputs settings
  - ✓ Firmware update

# LCD Preview and Touch Control



2 INPUT/OUTPUT Status

- |                             |   |
|-----------------------------|---|
| 1. INPUT/OUTPUT Status      | Top GUI shows HDMI Output related settings  |
| 2. INPUT/OUTPUT Status      | Top GUI shows SDIOutput related settings  |
| 3. Input Resolutions        | Show the resolutions of input signals   |
| 4. Output Resolutions       | Show the resolutions of output signals  |
| 5. IN/OUT Preview Selection | Rotate source of preview video from [SDI IN], [HDMI IN], [SDI OUT] and [HDMI OUT] |
| 6. IN/OUT Setup             | Show IN/OUT setup GUI   |
| 7. System Settings          | Show System-wide settings GUI   |





# Built in Web-server

VIDEO IN/OUT page shows input status and controls out resolutions.

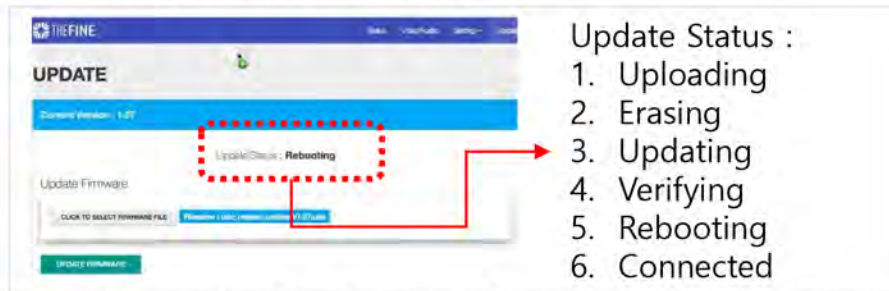


1. If you want to change SDI and HDMI output resolution or select Source, then move to the Video/Audio menu.
2. If you change Setting value or check the value, then move to the Setting menu.

How to upgrade firmware



1. Press [Update].
2. Press [CLICK TO SELECT FIRMWARE FILE] button.
3. Firmware files extension should be uda.
4. Press [UPDATE FIRMWARE] button.



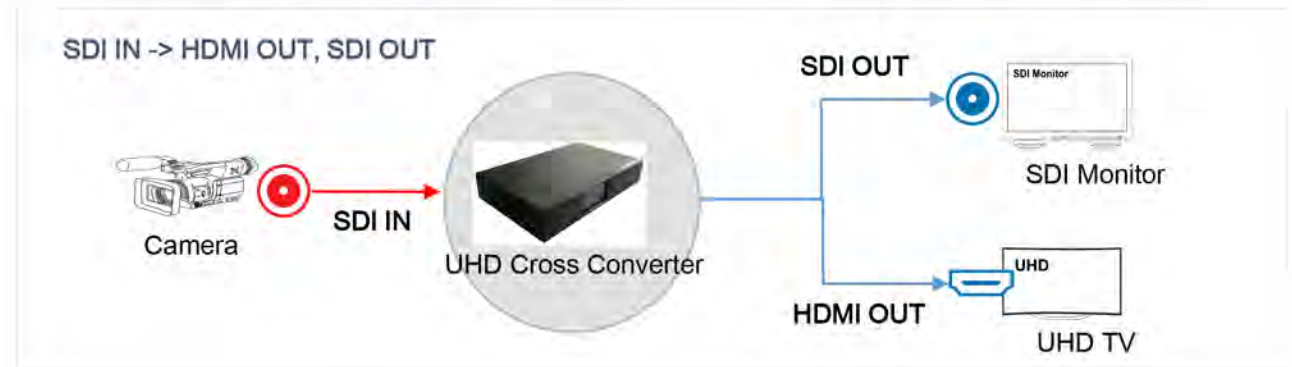
- Update Status :
1. Uploading
  2. Erasing
  3. Updating
  4. Verifying
  5. Rebooting
  6. Connected

5. After uploading firmware, Converter performs Erasing, Updating, Verifying and Reboot system.. You can see the status on LCD Screen.

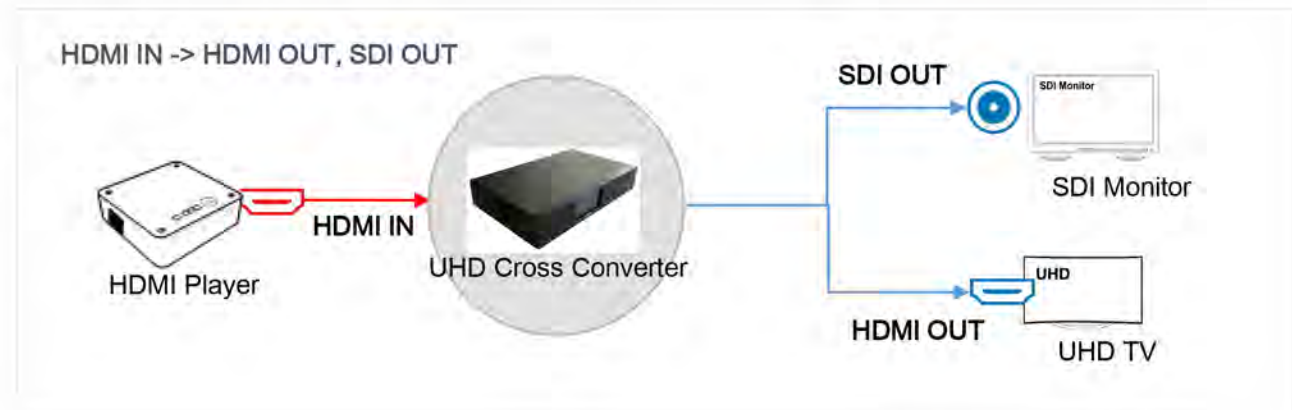


# Operation Mode

SDI signal can be converted to HDMI and SDI signals.  
Input SDI signals can be up or down scaled to outputs.  
Output resolutions for HDMI and SDI can be set independently.



HDMI signal can be converted to HDMI and SDI signals.  
Input HDMI signals can be up or down scaled to outputs.  
Output resolutions for HDMI and SDI can be set independently.



# Operation Mode

This mode works as a two separate scaler.  
HDMI input signal can be up or down scaled to HDMI output.  
SDI input signal can be up or down scaled to SDI output. SDI and HDMI paths are working independently.

HDMI IN, SDI IN -> HDMI OUT, SDI OUT



This mode works as a two separate scaler. Signal paths are crossed.

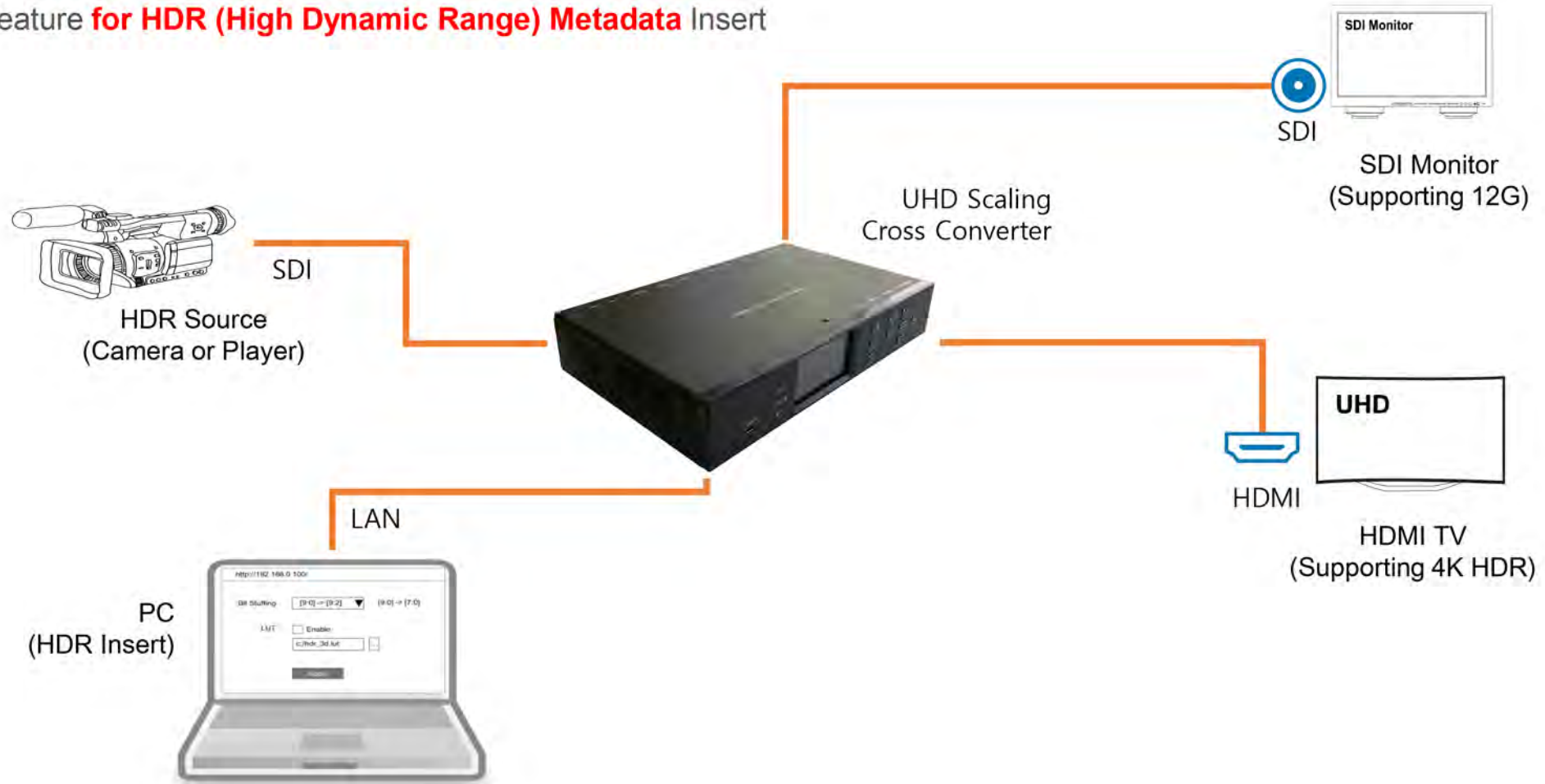
HDMI input signal can be up or down scaled to SDI output.  
SDI input signal can be up or down scaled to HDMI output. Two separate video paths are working independently.

SDI IN, HDMI IN -> HDMI OUT, SDI OUT



# Special Features For HDR

- Feature for HDR (High Dynamic Range) Metadata Insert





## Contact

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