MSP 405

HDMI/SDI/Fiber Convertor

User Manual

RGBlink®

Article No: RGB-RD-UM-MSP 405 E000
Version No: V1.0

Content

Thank you for choosing our product!

This User Manual is designed to show you how to use this convertor quickly and make use of all the features. Please read all directions and instructions carefully before using this product.

Declarations

FCC/Warranty

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference, in which case the user will be responsible for correcting any interference.

Guarantee and Compensation

RGBlink provides a guarantee relating to perfect manufacturing as part of the legally stipulated terms of guarantee. On receipt, the purchaser must immediately inspect all delivered goods for damage incurred during transport, as well as for material and manufacturing faults. RGBlink must be informed immediately in writing of any complains.

The period of guarantee begins on the date of transfer of risks, in the case of special systems and software on the date of commissioning, at latest 30 days after the transfer of risks. In the event of justified notice of compliant, RGBlink can repair the fault or provide a replacement at its own discretion within an appropriate period. If this measure proves to be impossible or unsuccessful, the purchaser can demand a reduction in the purchase price or cancellation of the contract. All other claims, in particular those relating to compensation for direct or indirect damage, and also damage attributed to the operation of software as well as to other service provided by RGBlink, being a component of the system or independent service, will be deemed invalid provided the damage is not proven to be attributed to the absence of properties guaranteed in writing or due to the intent or gross negligence or part of RGBlink.

If the purchaser or a third party carries out modifications or repairs on goods delivered by RGBlink, or if the goods are handled incorrectly, in particular if the systems are commissioned operated incorrectly or if, after the transfer of risks, the goods are subject to influences not agreed upon in the contract, all guarantee claims of the purchaser will be rendered invalid. Not included in the guarantee coverage are system failures which are attributed to programs or special electronic circuitry provided by the purchaser, e.g. interfaces. Normal wear as well as normal maintenance are not subject to the guarantee provided by RGBlink either.

The environmental conditions as well as the servicing and maintenance regulations specified in this manual must be complied with by the customer.

Operators Safety Summary

The general safety information in this summary is for operating personnel.

Do Not Remove Covers or Panels

There are no user-serviceable parts within the unit. Removal of the top cover will expose dangerous voltages. To avoid personal injury, do not remove the top cover. Do not operate the unit without the cover installed.

Power Source

This product is intended to operate from a power source that will not apply more than 230 volts rms between the supply conductors or between both supply conductor and ground. A protective ground connection by way of grounding conductor in the power cord is essential for safe operation.

Grounding the Product

This product is grounded through the grounding conductor of the power cord. To avoid electrical shock, plug the power cord into a properly wired receptacle before connecting to the product input or output terminals. A protective-ground connection by way of the grounding conductor in the power cord is essential for safe operation.

Use the Proper Power Cord

Use only the power cord and connector specified for your product. Use only a power cord that is in good condition. Refer cord and connector changes to qualified service personnel.

Use the Proper Fuse

To avoid fire hazard, use only the fuse having identical type, voltage rating, and current rating characteristics. Refer fuse replacement to qualified service personnel.

Do Not Operate in Explosive Atmospheres

To avoid explosion, do not operate this product in an explosive atmosphere.

Installation Safety Summary

Safety Precautions

For all MSP 405 installation procedures, please observe the following important safety and handling rules to avoid damage to yourself and the equipment.
To protect users from electric shock, ensure that the chassis connects to earth via the ground wire provided in the AC power Cord.
The AC Socket-outlet should be installed near the equipment and be easily accessible.

Unpacking and Inspection

Before opening MSP 405 shipping box, inspect it for damage. If you find any damage, notify the shipping carrier immediately for all claims adjustments. As you open the box, compare its contents against the packing slip. If you find any shortages, contact your sales representative. Once you have removed all the components from their packaging and checked that all the listed components are present, visually inspect the system to ensure there was no damage during shipping. If there is damage, notify the shipping carrier immediately for all claims adjustments.

Site Preparation

The environment in which you install your MSP 405 should be clean, properly lit, free from static, and have adequate power, ventilation, and space for all components.

Chapter 1 About Your Product

1.1 Product Overview

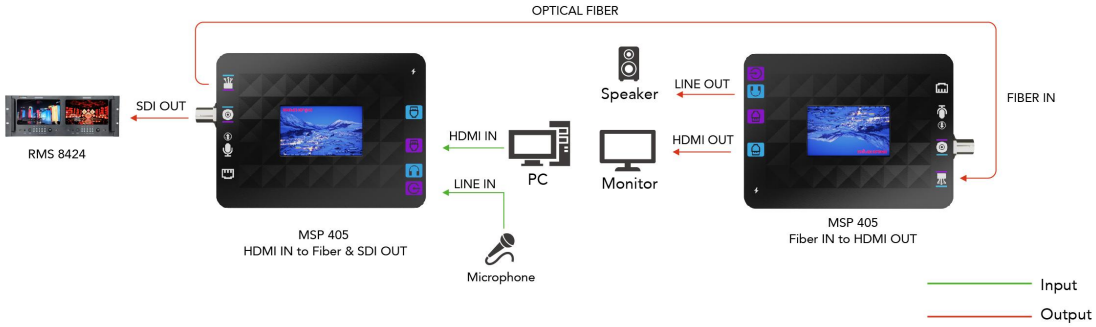
MSP 405, a versatile converter supporting HDMI, SDI, and fiber signals.

It accommodates inputs and outputs for HDMI, SDI, fiber signals, and features 3.5mm analog audio input and output ports. Designed for 2160p Ultra HD resolution transmission, it supports conversions such as SDI to HDMI + fiber, HDMI to SDI + fiber, and fiber to SDI + HDMI.

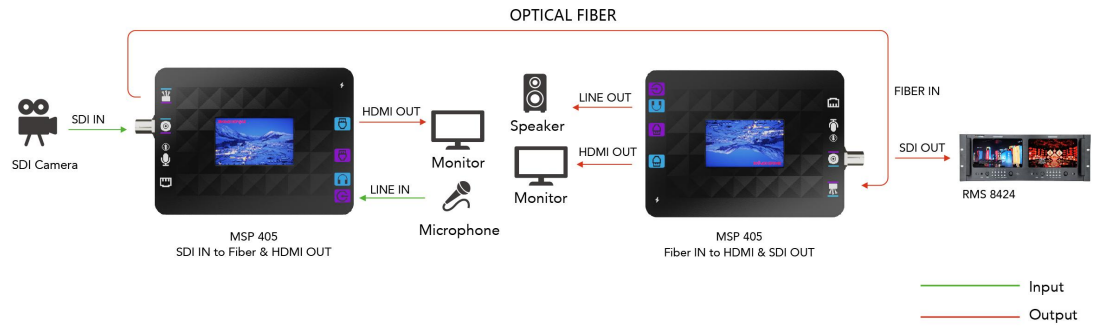
Known for its robust interference resistance, high security, compact size, and lightweight build, this plug-and-play device is perfect for transforming 12G-SDI, HDMI 2.0, and fiber signal formats with ease.

The key features are as follows:

- Support 12G-SDI,HDMI 2.0 and fiber
- UHD resolution transmission up to 2160p
- Support SDI to HDMI + fiber, HDMI to SDI + fiber, fiber to SDI + HDMI
- LCD input preview
- Test pattern output
- Upgrade via Ethernet interface

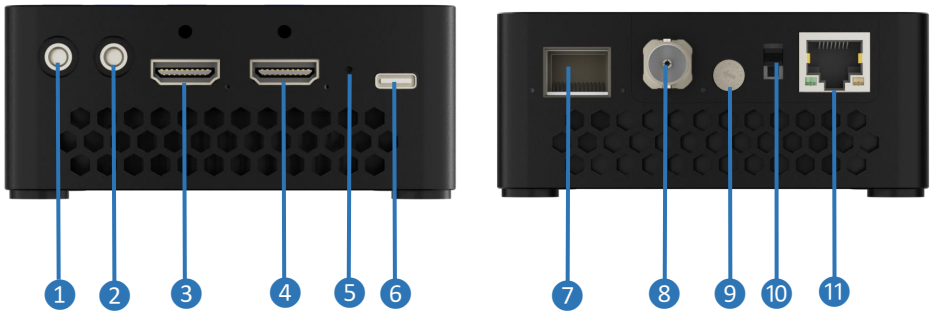


MSP 405 System Connection Diagram 1



MSP 405 System Connection Diagram 2

1.2.1 Panel Description

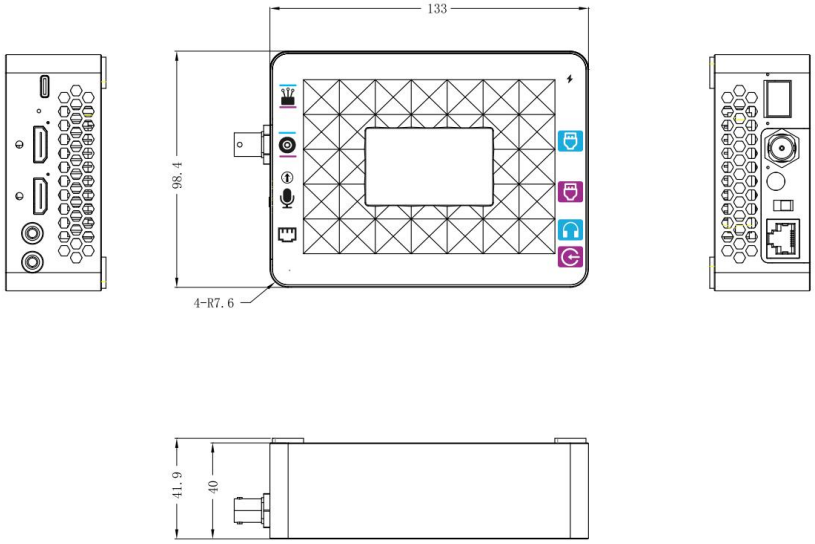


No.	Item	Description
1	LINE IN	Line-in audio socket to input the audio signals. Connect it to audio mixer, CD player, or other such audio equipment.
2	LINE OUT	Line-out audio socket to output the results of audio mixing. Connect it to recorder, amplifier, speaker, or other such equipment.
3	HDMI IN	HDMI input port. Connect it to camera, DVD, PC or other such HDMI signals.
4	HDMI OUT	HDMI output port. Connect it to projector or external display.
5	IP Reset	Insert the SIM card pin into the hole to reset the device IP. (default IP address: 192.168.0.199)
6	Power Socket	USB-C power socket supports 12V/1.5A.
7	Fiber	Fiber input/output port. Connect to the optical fiber module, and transmit signals to another MSP 405 via an optical fiber cable.
8	SDI	SDI input/output port. Connect it to SDI sources, such as camera.
9	Dial Switch	Dial the switch to achieve signal conversion. More details please refer to 5.2 Dial Switch Function.
10	DIP Switch	To switch betweenembedded audio and external audio. Dial up for external audio and dial down for embedded audio.
11	LAN	Ethernet port for decive upgrade.

1.2.2 Dimension

Following is the dimension of MSP 405 for your reference:

133mm × 98.4mm × 41.9mm



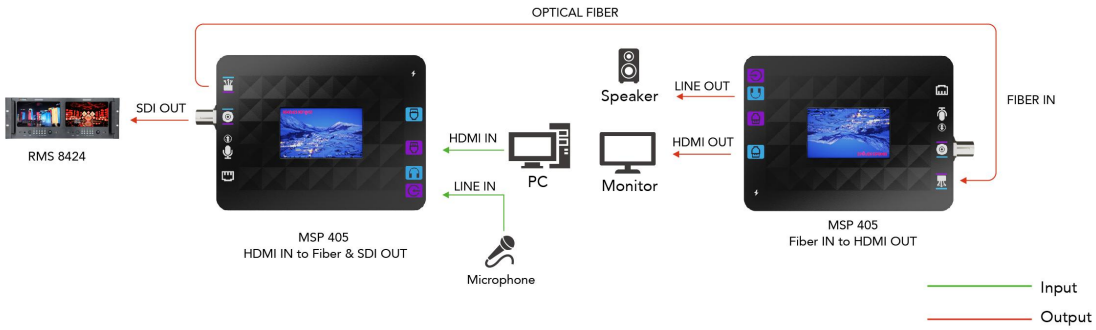
Chapter 2 Use Your Product

2.1 Product Connection

MSP 405, a device that functions as both a transmitter and receiver. Designed for flexibility, it supports signal transmission cross various interfaces: SDI to HDMI + optical fiber, HDMI to SDI + optical fiber, and optical fiber to SDI + HDMI when paired with another MSP 405 unit.

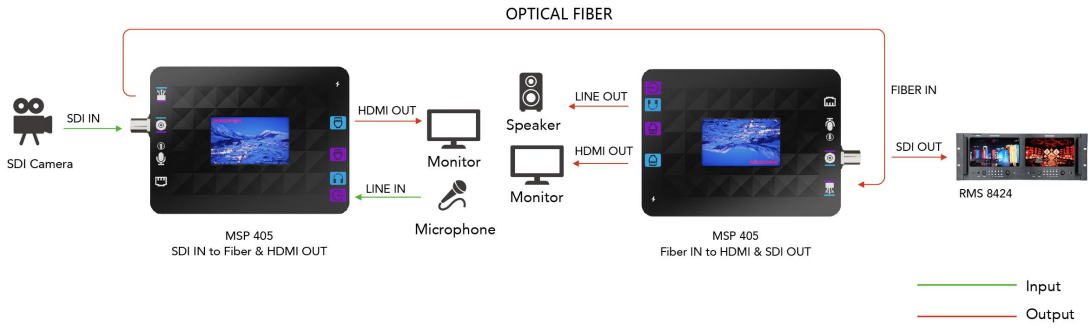
HDMI to Fiber and SDI

1. Use HDMI cable to connect HDMI output port of PC or other such equipment to HDMI input port on MSP 405;
2. Connect SDI output port on MSP 405 to SDI input port on display or projector via SDI cable. Use fiber cable to connect two MSP 405 units.
3. Connect the HDMI output interface of the MSP 405, which receives optical fiber signal, to your terminal display device so as to enable conversion between optical fiber and HDMI signals.



SDI to Fiber and HDMI

1. Use SDI cable to connect SDI output port of camera or other such equipment to SDI input port on MSP 405;
2. Connect HDMI output port on MSP 405 to HDMI input port on display or projector via HDMI cable so as to check the SDI input signal from camera in real time.
3. Use fiber cable to connect two MSP 405 units.
4. Connect the HDMI or SDI output interface of the MSP 405, which receives optical fiber signal, to your terminal display device so as to enable conversion between optical fiber, HDMI and SDI signals.



Chapter 3 Order Code

3.1 Product Code

Order Code	Item
601-0405-02-0	MSP 405

Chapter 4 Support

4.1 Contact Us

www.rgblink.com

Inquiries

+86-592-577-1197
info@rgblink.com
rgblink.com/contact-us

Global Support

support@rgblink.com
rgblink.com/support-me

@RGBLINK /rgblink +rgblink /rgblink rgblink rgblink

RGBlink Headquarters
Xiamen, China

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

+86-592-577-1197

China Regional Sales & Support
Shenzhen, China

705, 7th Floor, South District, Building 2B, Skyworth Innovation Valley, No. 1 Tangtou Road, Shiyan Street, Baoan District, Shenzhen City, Guangdong Province

+86-755 2153 5149

Beijing Region Office
Beijing, China

Building 8, 25 Qixiao Road Shahe Town Changping

+010- 8577 7286

Europe Regional Sales & Support
Eindhoven, Holland

Flight Forum Eindhoven 5657 DW

+31 (040) 202 71 83

Chapter 5 Appendix

5.1 Specification

Interface	Input	HDMI	1×HDMI-A
		SDI	1×BNC
		Fiber	1×LC
	Output	HDMI	1×HDMI-A
		SDI	1×BNC
		Fiber	1×LC
	Audio	Line In	1×3.5mm Audio Socket
		Line Out	1×3.5mm Audio Socket
	Power	Power	1×Type-C Power Jack
	Control	LAN	1×RJ45
		Reset	1×IP Reset Button
		Switch	1×Dial Switch
			1×DIP Switch (embedded/external audio)
Performance	Resolution	HDMI/SDI	720p@50/59.94/60
		/Fiber	1080i@50/59.94/60
			1080p@25/29.97/30/50/59.94/60
			2160p@25/29.97/30/50/59.94/60
	Supported Standards	HDMI	2.0b
		SDI	HD/3G/6G/12G
		Fiber	SFF8431(SFP+)
	Fan	1×built-in fan (speed auto adjusted)	
Power	Input Voltage	Type-C 12V/1.5A	
Physical	Net Weight	501g	
	Net Dimension	133mm × 98.4mm × 41.9mm	

5.2 Dial Switch Function

Position	Function	Description
0	Power Off	Entire device/system powered off.
1	SDI→HDMI	1. Direct HDMI conversion output, YCbCr4:2:2, no delay.
		2. SDI to Optical Fiber, with clock recovery, loop output, no delay.
2	HDMI→SDI	1. HDMI to SDI.
		2. HDMI to Optical Fiber.
3	SDI→HDMI	1. SDI to HDMI, with format conversion,1920x1080P@60Hz output, RGB.
		2. SDI to Optical Fiber, with clock recovery, loop output, no delay.
4	SDI→HDMI	1. SDI to HDMI, with format conversion, 3840x2160P@60Hz output, RGB.
		2. SDI to Optical Fiber, with clock recovery, loop output, no delay.

5	HDMI→SDI	1. HDMI to HD-SDI, with format conversion, 1920x1080P@30Hz output.
		2. Optical port synchronized with SDI output.
6	HDMI→SDI	1. HDMI to 3G-SDI, with format conversion, 1920x1080P@60Hz output.
		2. Optical port synchronized with SDI output.
7	HDMI→SDI	1. HDMI to 6G-SDI, with format conversion, 3840x2160P@30Hz output.
		2. Optical port synchronized with SDI output.
8	HDMI→SDI	1. HDMI to 12G-SDI, with format conversion, 3840x2160P@60Hz output.
		2. Optical port synchronized with SDI output.
9	OPT→SDI	1. Optical Fiber to SDI, with clock recovery, loop output, no delay.
		2. HDMI synchronized output.
		3. Optical port synchronized with SDI output.
A	OPT→SDI	1. Optical Fiber to 3G-SDI, with format conversion, 1920x1080P@60Hz output.
		2. HDMI synchronized with SDI output.
		3. Optical port synchronized with SDI output.
B	OPT→SDI	1. Optical Fiber to 12G-SDI, with format conversion, 3840x2160P@60Hz output.
		2. HDMI synchronized with SDI output.
		3. Optical port synchronized with SDI output.
C	ColorBar_2K	Color bar output, 1920x1080P@60Hz output forHDMI.
D	ColorBar_2K	Color bar output, 1920x1080P@60Hz output for HDM, Optical Fiber and SDI.
E	ColorBar_4K	Color bar output, 3840x2160P@60Hz output forHDMI.
F	ColorBar_4K	Color bar output, 3840x2160P@60Hz output for HDM, Optical Fiber and SDI.

5.3 Revision History

The table below lists the changes of MSP 405 User Manual.

Format	Time	ECO#	Description	Principal
V1.0	2024-05-15	0000#	First Release	Aster