

SP-5004RZ

1x4 HDMI 2.0a Splitter with Built-in &
User Adjustable EDID Management

User Manual



7.1 CH
AUDIO



x.v.Color

rev: 170203
Made in Taiwan



Safety and Notice

The **SP-5004RZ 1x4 HDMI 2.0a Splitter with Built-in & User Adjustable EDID Management** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **SP-5004RZ** should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



TABLE OF CONTENTS

INTRODUCTION.....	1
FEATURES.....	1
PACKAGE CONTENTS	1
SPECIFICATIONS	2
PANEL DESCRIPTIONS.....	3
HARDWARE INSTALLATION	4
CONNECTION DIAGRAM.....	4
NOTICE.....	5
WARRANTY.....	6

INTRODUCTION

The **SP-5004RZ 1x4 HDMI 2.0a Splitter with Built-in & User Adjustable EDID Management** provides the most cost effective and advanced HDMI splitter solution on the market, by which the high definition video and high quality audio can be transmitted to 4 different locations without losing quality. **SP-5004RZ** supports HDR and the true 4K2K video!

With built-in USB firmware update mechanism, the compatibility among countless HDMI sources and receivers can be further guaranteed. With the upmost HDR/4K2K@60 4:4:4 8bits and high definition audio support, SP-5004RZ is suitable for high quality HDMI broadcasting, digital signage and education applications!

FEATURES

- HDMI 2.0a compliant
- Supports 4K2K@60 4:4:4 8bits
- Supports HDR*, which is 4K2K@60 4:2:0 10bits**
- HDCP 2.2 and 1.4 compliant
- Wide frequency range: 25MHz~600MHz
- Video bandwidth: 18Gbps
- Supports default EDID and EDID learning from display
- Supports xvYCC, x.v.Color & Deep Color
- Mini-USB firmware update for expanding compatibility
- Supports Dolby Digital, DTS-HD and Dolby TrueHD audio
- Easy installation



* HDR = High Dynamic Range.

** The video bandwidth of 4K2K@60 4:2:0 10bits (HDR) is 384 MHz, and the 4K2K@60 4:4:4 8bits is 594MHz.

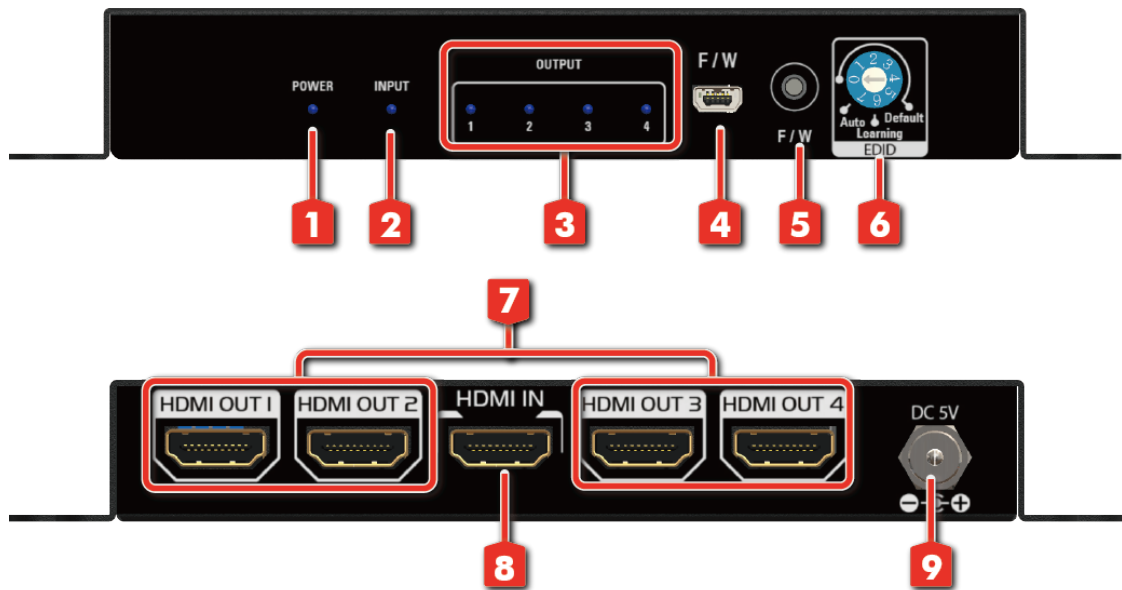
PACKAGE CONTENTS

- 1x SP-5004RZ
- 1x DC 5V2A wall wart
- 1x User Manual

SPECIFICATIONS

Model Name		SP-5004RZ
Technical		
Role of usage	1x4 Distribution Amplifier (Splitter)	
HDMI compliance	HDMI 2.0a	
HDCP compliance	HDCP 2.2 / 1.4	
Video bandwidth	Single-link 600MHz [18Gbps]	
Video support	HDR 4K2K@60 (4:2:0 10bits) / 4K2K@60 (4:4:4 8bits)	
Audio support	DTS-HD Master Audio, Dolby TrueHD Dolby Digital, DTS, DVD-Audio, LPCM, SACD, MPCM	
ESD protection	Human body model — ±15kV [air-gap discharge] & ±8kV [contact discharge]	
PCB stack-up	4-layer board [impedance control — differential 100Ω; single 50Ω]	
Firmware update	Feasible via Mini-USB port	
Input	1x HDMI	
Output	4x HDMI	
HDMI connector	Type A [19-pin female]	
Rotary control switch	EDID Mode selection	
Mechanical		
Housing	Metal enclosure	
Dimensions [L x W x H]	Model	135 x 62 x 20mm [5.3" x 2.4" x 0.8"]
	Package	264 x 170 x 77mm [10.4" x 6.7" x 3."]
	Carton	430 x 358 x 291mm [16.9" x 14.1" x 11.5"]
Weight	Model	230g [8.1 oz]
	Package	773g [1.7 lbs]
Fixedness	Wall-mounting case	
Power supply	5V 2A DC	
Power consumption	10 Watts [max]	
Operation temperature	0~40°C [32~104°F]	
Storage temperature	-20~60°C [-4~140°F]	
Relative humidity	20~90% RH [no condensation]	

PANEL DESCRIPTIONS



- 1. Power LED:** Lights on when device is ready
- 2. Signal LED:** Input signal LED indicator
- 3. Signal LED:** Output 1-4 signal LED indicator
- 4. Mini-USB:** For technical support only [firmware update]
- 5. Function Button:** For F/W update (**please refer to “Notice” about the FW update**)
- 6. EDID MODE:**
 - 0 - Ultra HD(4K2K@60) – 8/10/12bit 3D HDR video & 7.1ch audio
 - 1 - Ultra HD(4K2K@60) – 8/10/12bit 3D HDR video & 2ch audio
 - 2 - Ultra HD(4K2K@30)(4K2K@60 420) – 8bit 3D HDR video & 7.1ch audio
 - 3 - Ultra HD(4K2K@30)(4K2K@60 420) – 8bit 3D HDR video & 2ch audio
 - 4 - Full-HD(1080p@60) – 12bit 3D video & 7.1ch audio
 - 5 - Full HD(1080p@60) – 8bit 2D video & 2ch audio
 - 6 - Learning EDID from output 1
 - 7 - Auto EDID analysis learning mode*
- 7. HDMI OUT1-4:** HDMI outputs to HDMI displays
- 8. HDMI IN:** Connect to a HDMI input source
- 9. +5V DC:** Connect to the +5V DC 2A power supply unit



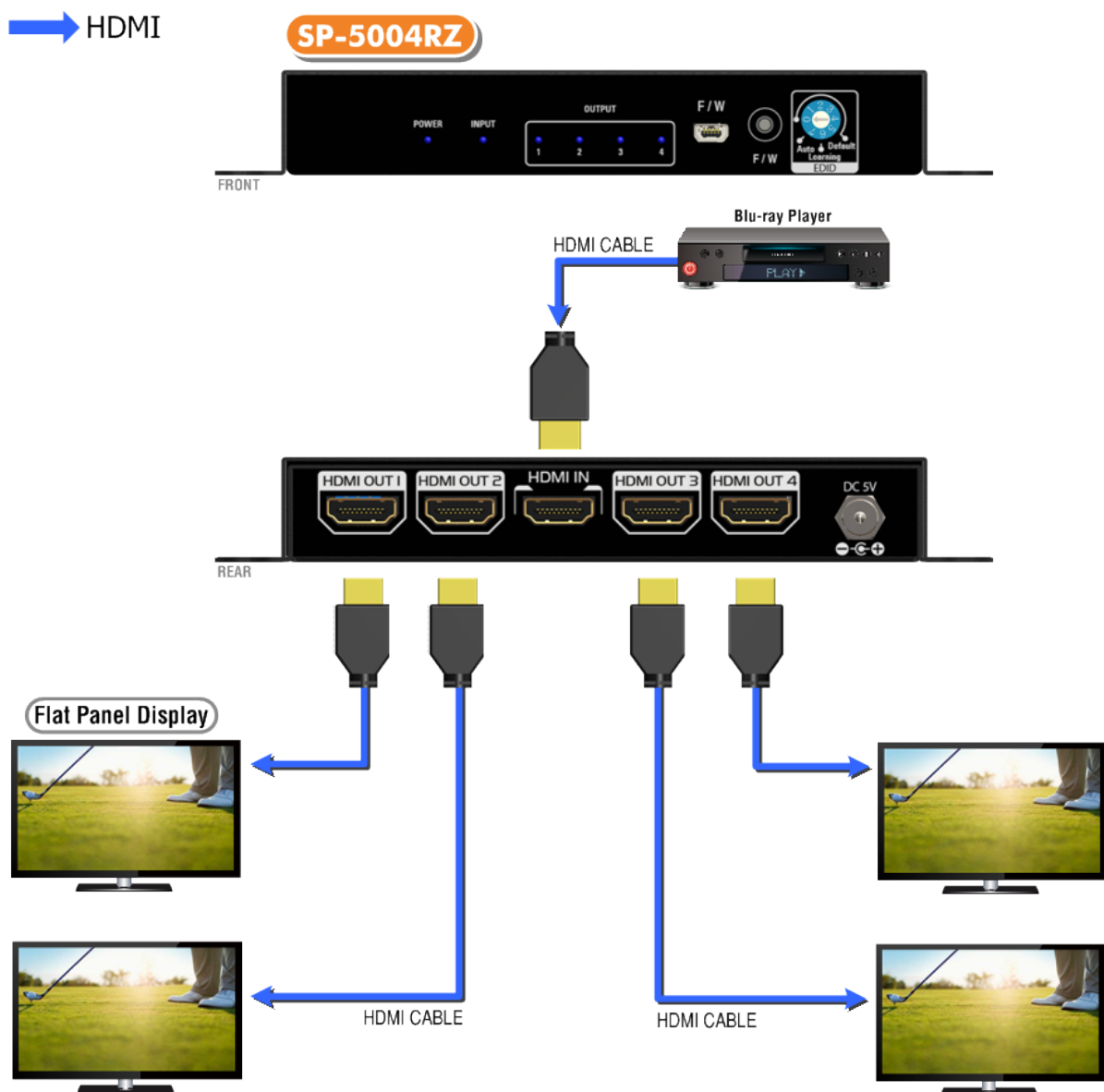
*Automatic EDID learning will detect all the connected HDMI equipped monitors and analyze all the content of EDID. The EDID with minimal resolution support will be the reference EDID for incoming HDMI source players.

HARDWARE INSTALLATION

Broadcasts HDMI signal to 4 HDMI displays!

1. Switch off all devices, including monitors.
2. Connect to the displays.
3. Connect an HDMI source (such as a Blu-ray Disc player) to the HDMI In.
4. Plug in 5V DC power supply.
5. Power on the HDMI monitors.
6. Power on the HDMI source.

CONNECTION DIAGRAM



NOTICE

1. If somehow user cannot get video output, please try to adjust EDID rotary switch to Mode 5 or 6 for trouble shooting. Under Mode 5, there will be video output. The only requirement is that the display has to support at least Full HD. If default Full-HD EDID still cannot work, user can switch to Mode 6 to learn the EDID from output 1 to customize the EDID information. **(Please note that the display with lowest resolution must be connected to output 1)**

Select to Mode 5 - Full-HD(1080p@60) – 8bit 2D video & 2ch audio

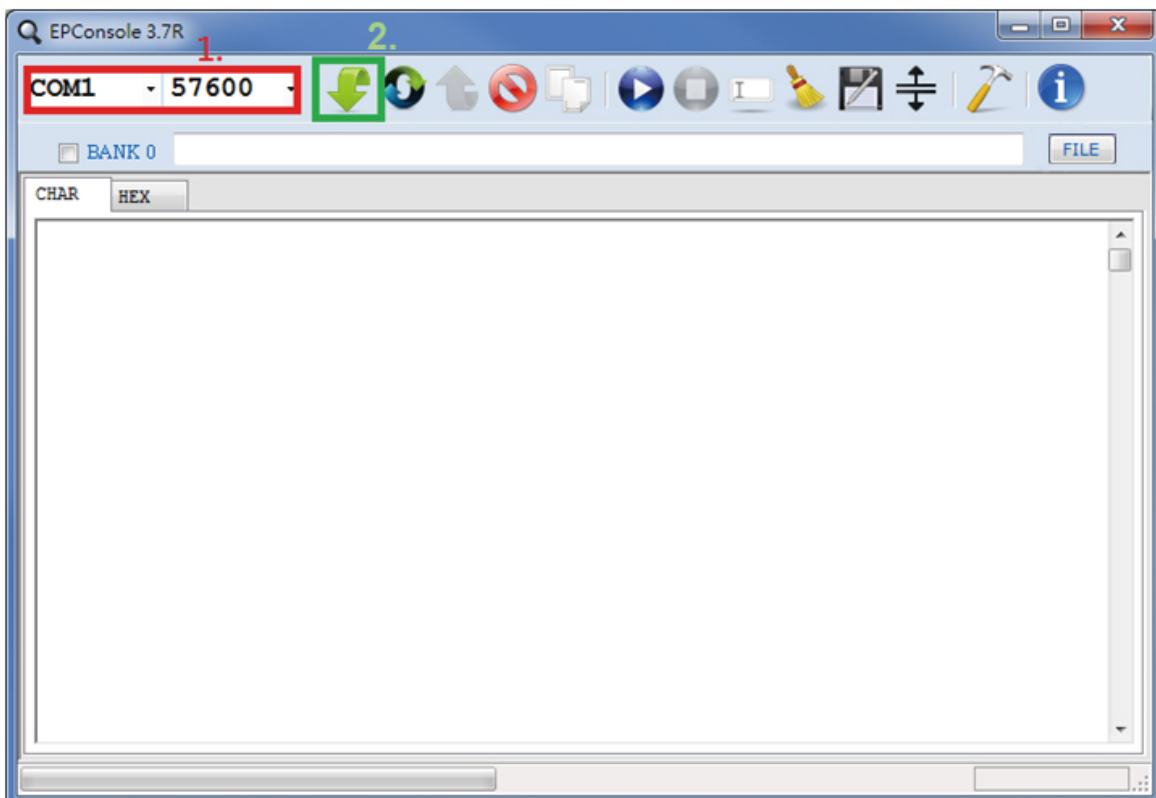
- 1) Power on the device
- 2) Set the rotary switch to “5”

Select to Mode 6 – Learning EDID from output 1

- 1) Power on the device
- 2) Set the rotary switch to “6”
- 3) It will automatically learn EDID from output 1

[NOTE]

- a. If the user wants to re-learn EDID from output1, please set the rotary switch to other mode and then come back to “6” to trigger the Learning Mode.
2. While connecting a new monitor to the splitter under mode 7 (under auto EDID analysis learning mode), experiencing a short period of time without displaying might be expected. The splitter will do Automatic EDID learning and generate the best EDID among all connected monitors
 3. Firmware update is proceeded through Mini-USB. User MUST remove power adaptor and keep pressing “FUNCTION BUTTON” until plug in the power supply and see the power LED lights. After that, please connecting the Mini-USB cable between PC and device. Opening the firmware update software, [1] set the correct com port and baud rate (57600 is recommended), [2] click the “File” button to direct to the firmware HEX or BIN file and press “Program MCU” symbol to firmware update. Once update process is done, please power off the device.



WARRANTY

The SELLER warrants the **SP-5004RZ 1x4 HDMI 2.0a Splitter with Built-in & User Adjustable EDID Management** free from defects in the material and workmanship for 1 year from the date of purchase from the SELLER or an authorized dealer. Should this product fail to be in good working order within 1 year warranty period, The SELLER, at its option, repair or replace the unit, provided that the unit has not been subjected to accident, disaster, abuse or any unauthorized modifications including static discharge and power surge. This warranty is offered by the SELLER for its BUYER with direct transaction only. This warranty is void if the warranty seal on the metal housing is broken.

Unit that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for 90 days from the day of reshipment to the BUYER. If the unit is delivered by mail, customers agree to insure the unit or assume the risk of loss or damage in transit. Under no circumstances will a unit be accepted without a return authorization number.

The warranty is in lieu of all other warranties expressed or implied, including without limitations, any other implied warranty or fitness or merchantability for any particular purpose, all of which are expressly disclaimed.

Proof of sale may be required in order to claim warranty. Customers outside Taiwan are responsible for shipping charges to and from the SELLER. Cables and power adapters are limited to a 30 day warranty and must be free from any markings, scratches, and neatly coiled.

The content of this manual has been carefully checked and is believed to be accurate. However, The SELLER assumes no responsibility for any inaccuracies that may be contained in this manual. The SELLER will NOT be liable for direct, indirect, incidental, special, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. **Also, the technical information contained herein regarding the SP-5004RZ features and specifications is subject to change without further notice.**