

SP-5022V

**1x2 HDMI Splitter/Repeater
over Cat.X with HDBaseT-Lite, 4K2K
& local Out**

User Manual



rev: 140212
Made in Taiwan



Safety and Notice

The **SP-5022V 1x2 HDMI Splitter/Repeater over Cat.X with HDBaseT-Lite, 4K2K & local Outh** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the **SP-5022V** 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.....	2
NOTICE	4
CONNECTION DIAGRAM	4
PIN DEFINITION	5
WARRANTY	6

INTRODUCTION

The **SP-5022V 1x2 HDMI Splitter/Repeater over Cat.X with HDBaseT-Lite, 4K2K & local Out** allows you to distribute one of the two HDMI/DVI video sources 2 separate HDTV displays including one remotely cascade output via Cat-5/5e cost effective cable. This splitter offers the most flexible solution by which the high definition video and high quality audio can be transmitted to different local locations through HDMI cables and also to the next stage over a long distance without degrading the quality. The cascade ability allows pure digital video and audio broadcast station by station and therefore make extending HDMI compliant video and audio anywhere feasible.

FEATURES

- Support HDMI Deep Color & full 3D & 4K2K@30 (HDBaseT technology)
- Extend the transmission up to 60m (198ft) from the HDMI source at Full HD 1080p 48-bit and 40m (132ft) at 4K2K@30
- HDCP & EDID Bypass
- Auto equalization
- Support full frequency IR signal from 20KHz to 60KHz
- Bi-directional IR path
- Regenerates the HDMI signal
- DTS-HD Master Audio and Dolby TrueHD high bit rate audio support
- Pure unaltered uncompressed 7.1ch digital HDMI over Cat.X cable transmission
- Allows cascading
- Wall mounting housing design for easy and robust installation

PACKAGE CONTENTS

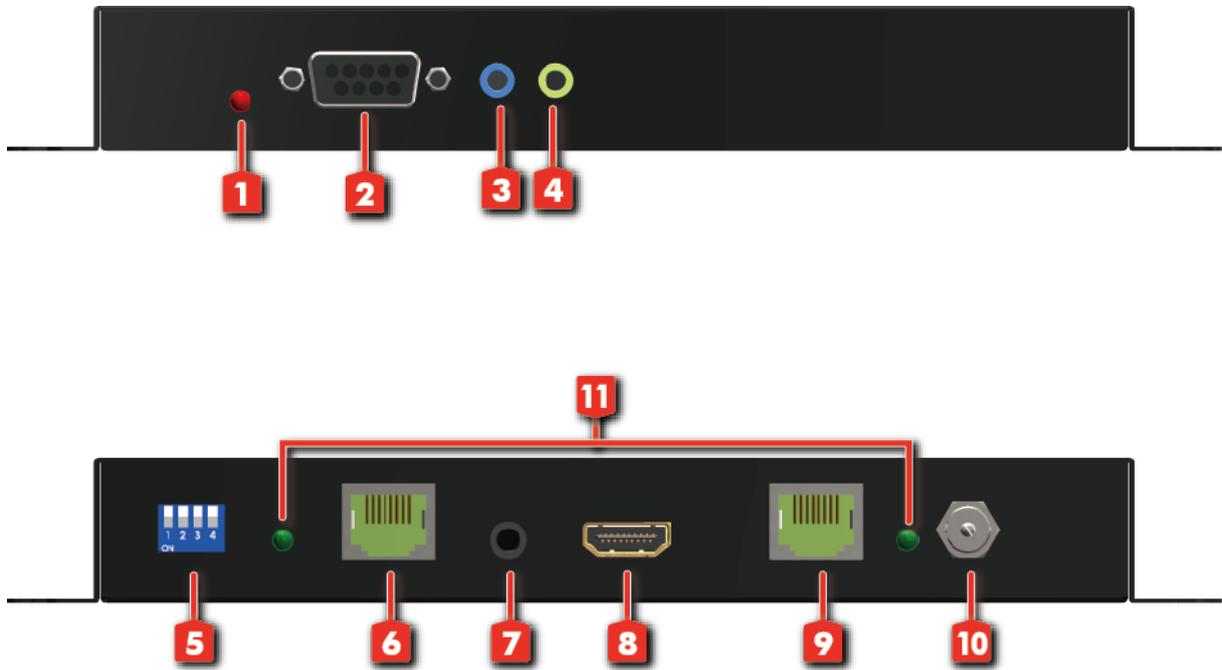
- 1x SP-5022V
- 1x DC 5V 4A
- 1x User Manual

SPECIFICATIONS

Model Name	SP-5022V
Technical	
Role of usage	1x2 Distribution Amplifier Transmitter [TX]
HDMI compliance	HDMI Deep Color, full 3D & 4K2K@30
HDCP compliance	Yes
Video bandwidth	Single-link 340MHz [10.2Gbps]
Video support	480i / 480p / 720p / 1080i / 1080p60 up to 36-bit color
Transmission over UTP cable (48-bit)	1080p@60 60m (198ft) [CAT.X]
Audio support	Surround sound (up to 7.1ch) or stereo digital audio
Signal equalization	Auto
Input TMDS signal	1.2 Volts [peak-to-peak]
Input DDC signal	5 Volts [peak-to-peak, TTL]
ESD protection	[1] Human body model — ±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset — ±8kV
PCB stack-up	6-layer board [impedance control — differential 100Ω; single 50Ω]
Input	1x RJ-45[HDBaseT]+ 1x 3.5mm
Output	1x HDMI + 1x RJ-45[HDBaseT] + 1x 3.5mm
IN/ OUT	RS-232
HDMI connector	Type A [19-pin female]
RJ-45 connector	WE/SS 8P8C(Reverse Mode)
DIP switch	Yes
Rotary control switch	None
Mechanical	
Housing	Metal enclosure
Fixedness	Wall-mounting case
Power supply	5V 4A DC
Power consumption	TBA
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

Rear Panel



Power LED

RS-232

IR blaster

IR receiver

Dip Switch

HDMI Signal IN

Stereo audio ou

HDMI OUT

HDMI Signal OUT

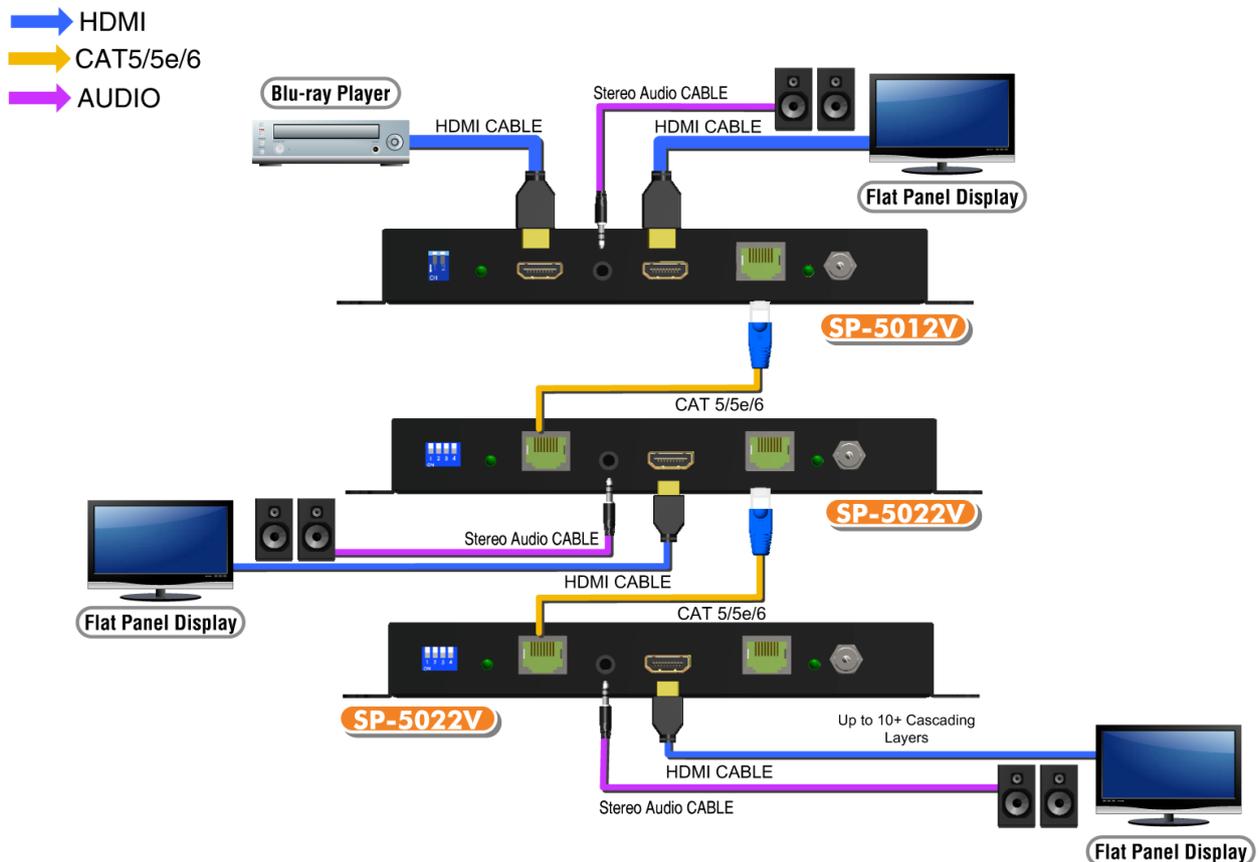
+5V DC

Link LED

NOTICE

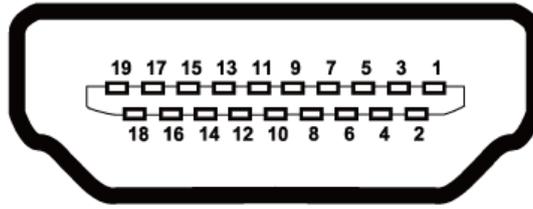
1. If the DVI or HDMI device requires the EDID information, please use EDID Reader/Writer to retrieve and provide DVI or HDMI display EDID information.
2. All HDMI over Cat.X transmission distances are measured using Belden 1583A CAT5e 125MHz UTP cable and ASTRODESIGN Video Signal Generator VG-859C & VG-870B.
3. The transmission length is largely affected by the type of Cat-5/5e/6 cables, the type of HDMI sources, and the type of HDMI display. The testing result shows solid UTP cables (usually in the form of 330m bulk cables) can transmit a lot longer signals than stranded UTP cables (usually in the form of fixed length patch cords). Shielded STP cables are better suited than unshielded UTP cables. A solid UTP Cat-5e cable shows longer transmission range than stranded STP Cat-6 cable. For long extension applications, solid UTP/STP cables are the only viable choice.
4. EIA/TIA-568-B termination (T568B) for category cables is recommended.
5. To reduce the interference among the unshielded twisted pairs of wires in Cat-5/5e/6 cable, one can use double shielded STP cables to improve EMI problems, which is worsen in long transmission.
6. Because the quality of the CAT5/6 cables has the major effect on how long the transmission limit can achieve and how good is the received picture quality, the actual transmission range is subject to one's choice of Cat-5/5e/6 cables. For desired resolutions greater than 1080i or 1280x1024, a Cat-6 cable is recommended.
7. If your HDMI display has multiple HDMI inputs, it is found that the first HDMI input [HDMI input 1] generally can produce better transmission performance among all HDMI inputs.

CONNECTION DIAGRAM



PIN DEFINITION

HDMI

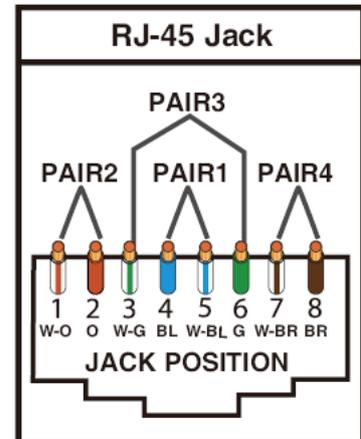


Type A (Receptacle) HDMI

Pin 1	TMDS Data2+	Pin 8	TMDS Data0 Shield	Pin 15	SCL
Pin 2	TMDS Data2 Shield	Pin 9	TMDS Data0-	Pin 16	SDA
Pin 3	TMDS Data2-	Pin 10	TMDS Clock+	Pin 17	DDC/CEC Ground
Pin 4	TMDS Data1+	Pin 11	TMDS Clock Shield	Pin 18	+5V Power
Pin 5	TMDS Data1 Shield	Pin 12	TMDS Clock-	Pin 19	Hot Plug Detect
Pin 6	TMDS Data1-	Pin 13	NC		
Pin 7	TMDS Data0+	Pin 14	Reserved (N.C. on device)		

RJ45 / Cat.X

Data Link TIA/EIA-568-B		
PIN	Color	Function
1	W-O	TX0-
2	O	TX0+
3	W-G	TX1-
4	BL	TX2-
5	W-BL	TX2+
6	G	TX1+
7	W-BR	TXC-
8	BR	TXC+



Performance Guide for HDMI over Category Cable Transmission

Performance rating		Type of category cable		
Wiring	Shielding	CAT5	CAT5e	CAT6
Solid	Unshielded (UTP)	★★★	★★★★★	★★★★★
	Shielded (STP)	★★★	★★★	★★★★★
Stranded	Unshielded (UTP)	★	★★	★★
	Shielded (STP)	★	★	★★
Termination		Please use EIA/TIA-568-B termination (T568B) at any time		

WARRANTY

The SELLER warrants the **SP-5022V 1x2 HDMI Splitter/Repeater over Cat.X with HDBaseT-Lite, 4K2K & local Out** 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-5022V** features and specifications is subject to change without further notice.