



**CREATOR<sup>®</sup> 快捷**

CREATOR CORPORATION (CHINA)

**Pt-HDMI401/801S Switcher  
User's Manual**

Version 1.1

CREATOR CORPORATION CHINA

# The meaning of symbols

## ■ Safety instructions

For your safe and correct use of equipments, we use a lot of symbols on the equipments and in the manuals, demonstrating the risk of body hurt or possible damage to property for the user or others. Indications and their meanings are as follow. Please make sure to correctly understand these instructions before reading the manual.

	<p>This is A level product, which may cause radio interference in the living environment. In this case, users may need to take the feasible measures to get around the interference.</p>
	<p>Remind users that the dangerous voltage without insulation occurring within the equipment may cause people suffer from shock</p>
	<p>CE certification means that the product has reached the directive safety requirements defined by the European Union. Users can be assured about the use of it</p>
	<p>SGS certification means that the product has reached the quality inspection standards proposed by the world's largest SGS.</p>
	<p>This product passed the ISO9001 international quality certification (certification body: TUV Rheinland, Germany).</p>
	<p>Warning: in order to avoid electrical shock, do not open the machine cover, nor is the useless part allowed to be placed in the box. Please contact the qualified service personnel.</p>

## ■ General information instructions

	<p>It lists the factors leading to the unsuccessful operation or set and the relevant information to pay attention to</p>
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# Important note



## Warning

In order to ensure the reliable performance of the equipment and the safety of the user, please observe the following matters during the process of installation, use and maintenance:

### **The matters needing attention of installation**

◆ Please do not use this product in the following places: the place of dust, soot and electric conductivity dust, corrosive gas, combustible gas; the place exposed to high temperature, condensation, wind and rain; the occasion of vibration and impact . Electric shock, fire, wrong operation can lead to damage and deterioration to the product, either;

◆In processing the screw holes and wiring, make sure that metal scraps and wire head will not fall into the shaft of controller, as it could cause a fire, fault, or incorrect operation;

◆When the installation work is over, it should be assured there is nothing on the ventilated face, including packaging items like dust paper. Otherwise this may cause a fire, fault, incorrect operation for the cooling is not free;

◆Should avoid wiring and inserting cable plug in charged state, otherwise it is easy to cause the shock, or electrical damage;;

◆The installation and wiring should be strong and reliable, contact undesirable may lead to false action;

◆For a serious interference in applications, should choose shield cable as the high frequency signal input or output cable, so as to improve the anti-jamming ability of the system.

### **Attention in the wiring**

◆Only after cutting down all external power source, can install, wiring operation begin, or it may cause electric shock or equipment damage;

◆This product grounds by the grounding wires .To avoid electric shocks, grounding wires and the earth must be linked together. Before the connection of input or output terminal, please make sure this product is correctly grounded;

◆Immediately remove all other things after the wiring installation. Please cover the terminals of the products cover before electrification so as to avoid cause electric shock;

### **Matters needing attention during operation and maintenance**

◆Please do not touch terminals in a current state, or it may cause a shock, incorrect operation;

◆Please do cleaning and terminal tighten work after turning off the power supply. These operations can lead to electric shock in a current state;

◆Please do the connection or dismantle work of the communication signal cable , the expansion module cable or control unit cable after turning off the power supply, or it may cause damage to the equipment, incorrect operation;

◆Please do not dismantle the equipment, avoid damaging the internal electrical component;

◆Should be sure to read the manual, fully confirm the safety, only after that can do program changes, commissioning, start and stop operation;

### **Matters needing attention in discarding product**

◆Electrolytic explosion: the burning of electrolytic capacitor on circuit boards may lead to explosion;

◆Please collect and process according to the

classification, do not put into life garbage;

◆Please process it as industrial waste, or according to the local environmental protection regulations.

## Preface

Pt-HDMI401/801S Switcher User's Manual mainly introduces the operation methods of Pt-HDMI401S、Pt-HDMI801S.

This manual is only used as user instruction, not for a repair service usage. The functions or related parameters may be changed since the date of issue, please inquire the supplemental information from CREATOR Electronics or local distributors.

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## Chapter 1 Summary

CREATOR Pt-HDMI401/801S switcher can switch 4/8 channel audio and video input signals into one channel audio and video output signal. High-quality circuit design ensures the quality of audio and video transmission. It is the idea A/V processing equipment matching the video conferencing system, broadcast TV system, CCTV system, and TV monitoring system.

### 1.1 Products

Depending on the situations and needs of different users, HDMI switcher has the following models:

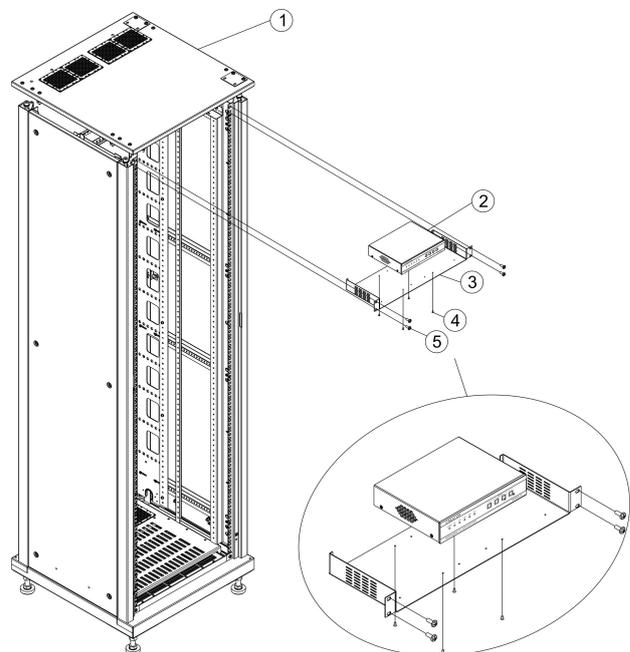
Parameter Type	Video and Audio	
	Input	Output
Pt-HDMI401S	4	1
Pt-HDMI801S	8	1

### 1.2 Features

- ◆ Compatible with HDMI1.3b, HDCP1.2, DVI1.0 standards;
- ◆ Pt-HDMI401S/801S supports the maximum TMDS clock 225MHz;
- ◆ Pt-HDMI401S/801S supports 36 bit deep color high resolution 1080P; supports a maximum resolution of:  
Normal PC: 1600X1200@60\_24bit  
HDPC: 1920X1200@60\_24bit  
HDTV: 1920X1080@60\_36bit;
- ◆ clock regeneration and equalization techniques rebuild longer transmission distance of digital signal, up to 30m (28AWG Cable).
- ◆ Compact, high quality and cost-effective

### 1.3 Controller Installation

Pt-HDMI401/801S switch controller can be mounted in a standard 19-inch rack. Pt-HDMI401S switch controller is 1/2U chassis, optional accessories including a rack-mounted tray, 4/8 KM3X6 countersunk head screws and 4 BM6X16 screws, assembly methods shown below:



- ① Standard 19-inch rack
- ② Pt-HDMI401S switch cotroller
- ③ cabinet installation tray
- ④ KM3X6 countersunk head screws
- ⑤ BM6X16 screws

Installation steps:

- 1, First fix Pt-HDMI401S switch controller and cabinet installation tray with 4PCS KM3X6 countersunk head screws;

2, put the tray fixed the controller horizontally into the cabinet, and fix it with 4PCS BM6X16 screws. As shown on the detailed chart;



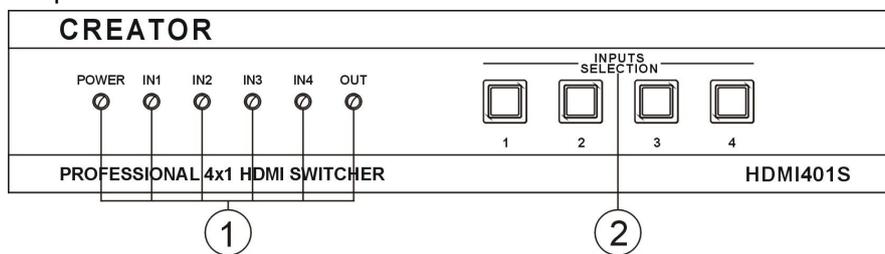
Two Pt-HDMI401S switch controllers or its equivalent-sized chassis can be installed on one installation tray.

Pt-HDMI801S switch controller is standard 1U chassis. The standard accessories of controller contain a pair of mounting brackets and a bag of screws. When install, firstly screw the mounting brackets on the chassis. Then place the controller chassis in a standard 19-inch rack, and fix it with screws.

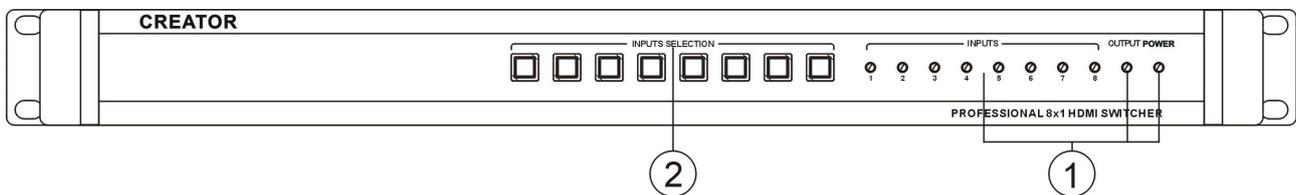
## Chapter 2 System Controller Description

### 2.1 Introduction of the front and rear panels

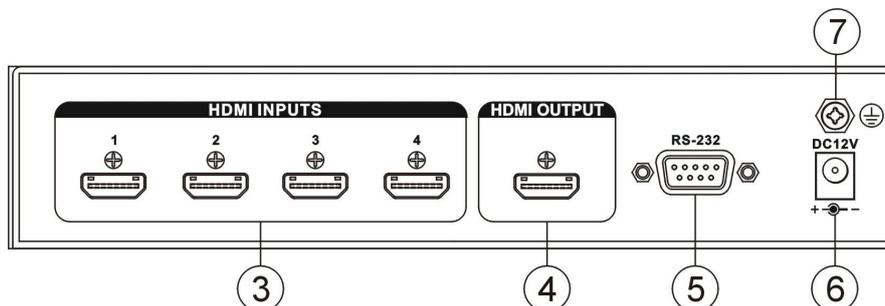
Pt-HDMI401S front panel:



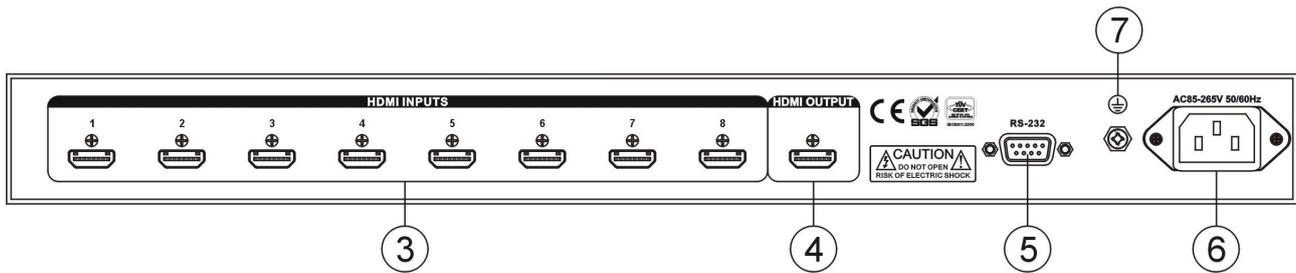
Pt-HDMI801S front panel:



Pt-HDMI401S rear panel:



Pt-HDMI801S rear panel:



### ① POWER—Power Indicator

When the controller is powered, the indicator is lit, vice versa, it does not shine.

#### INPUTS—Input signal indicator

When there is input signal passing through, indicator is lit, and vice versa it does not shine.

#### OUTPUT—Output signal indicator

When there is an output signal passing through, indicator is lit, and vice versa it does not shine.

### ② INPUTS SELECTION—audio and video input selection key

Audio and video HDMI input interface can provide 4/8 audio and video input channels.

In the operation, shortly pressing an input button is to switch the selected input signal onto the input terminal display.

### ③ HDMI INPUTS—audio and video signal input port

With 4/8 HDMI signal ports, can be connected to peripheral device with HDMI interface, such as DVD and so on.

### ④ HDMI OUTPUT—audio and video signal output port

Single HDMI output, can be connected to device like plasma displays.

### ⑤ COM—RS-232control port

Used to connect computers and other control equipment.

### ⑥ Power input port

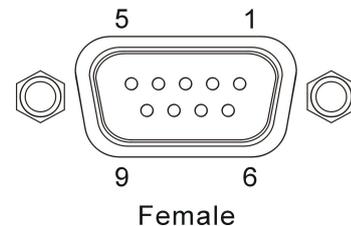
CR-HDMI401S controller support DC12V input;  
CR-HDMI801S controller support AC100 ~ 240V 50/60Hz input.

### ⑦ Ground column.

## 2.2 Interface Description

### 2.2.1 COM port description

CR-HDMI401/801S switch can be used to control a variety of control systems. It can control matrix via RS-232 serial interface, and RS-232 interface pins are described below:



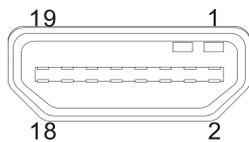
Pin	Signal	Description
1	-	-
2	TXD	RS-232 protocol used to send data
3	RXD	RS-232 protocol, to receive data
4	-	-
5	GND	GND
6	-	-
7	-	-
8	-	-

9

- -

### 2.2.2 HDMI-A Type Link Interface Description

HDMI switcher provides different number of input and output interface according to its distinct models. Users can connect its input interface with a variety of computer signals, audio and video signal equipment, such as DVD players, desktop computers, graphic workstations, and number displays according to different occasions. And the output interface can be connected to projectors, VCR, computer monitors, amplifiers and so on.



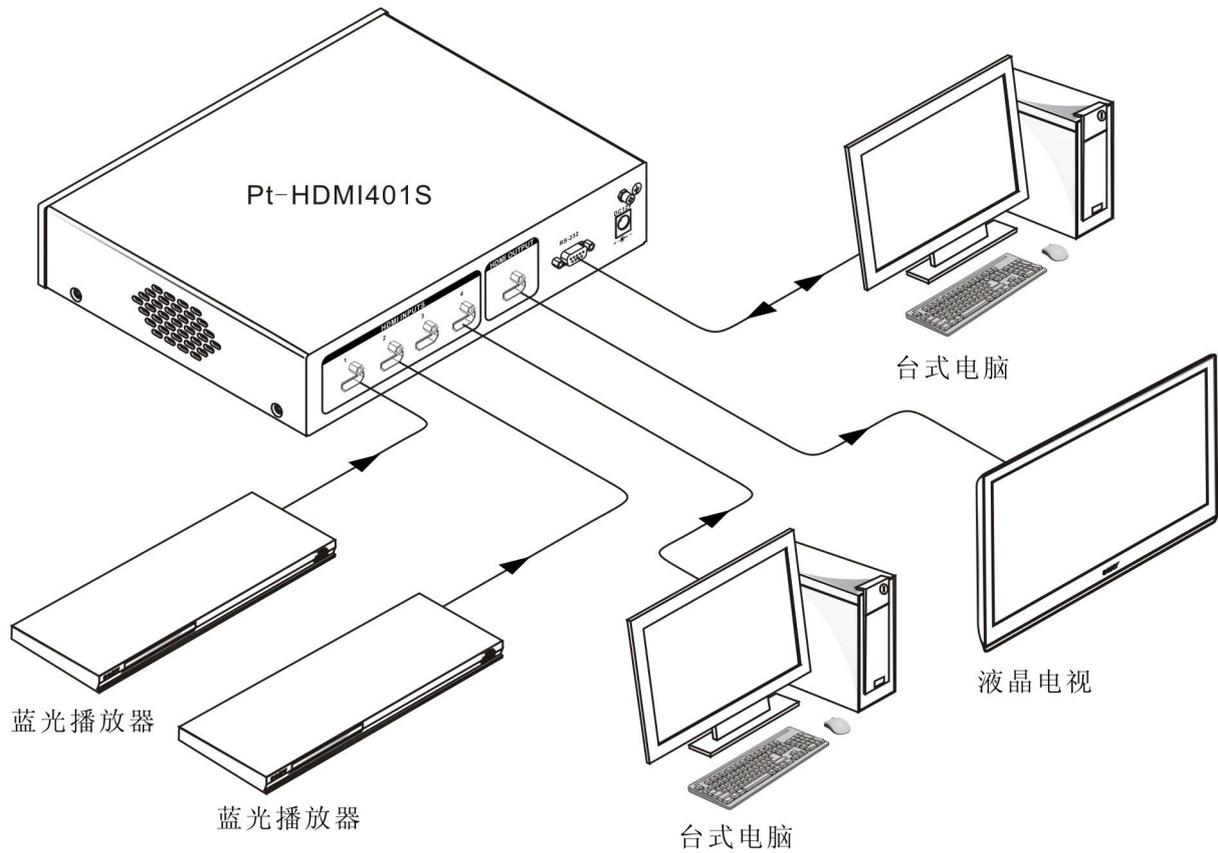
4	TMDS Data1+
5	TMDS Data1 Shield
6	TMDS Data1-
7	TMDS Data0+
8	TMDS Data0 Shield
9	TMDS Data0-
10	TMDS Clock+
11	TMDS Clock Shield
12	TMDS Clock-
13	CEC
14	Reserved (in cable but N.C. on device)
15	SCL
16	SDA
17	DDC/CEC Ground
18	+5V Power
19	Hot Plug Detect

HDMI-A interface pin definition table

PIN	Function
1	TMDS Data2+
2	TMDS Data2 Shield
3	TMDS Data2-

## 2.3 Connection diagram

Here, Pt-HDMI401S is chosen to illustrate the HDMI switcher connection method. The connection method of Pt-HDMI801S is similar to it.



台式电脑 Desktop PC

液晶电视 LCD TV

蓝光播放器 Blu-ray player

## 2.4 RS-232 Control instructions

Pt-HDMI401S

Baud: 9600bps 8,n,1 format: ASCII	
Code	Function
XX \$ 01!	Switch the input channel xx to the output channel xx. = [01,04]

Pt-HDMI801S

Baud: 9600bps 8,n,1 format: ASCII	
Code	Function
XX \$ 01!	Switch the input channel xx to the output channel xx. = [01,08]

## Chapter 3 Parameters

Model Technical Specifications	Pt-HDMI401S	Pt-HDMI801S
<b>Protocol</b>		
	HDMI1.3b,HDCP1.2, DVI1.0	
<b>Video</b>		
Gain	0 dB	
Pixel Bandwidth	165MHz, all-digital	
Interface bandwidth	2.25Gbps, all-digital (A total of 6.75Gbps, each color is 2.25Gbps)	
Maximum supported resolution	Normal-PC: 1600x1200@60_24bit, HDPC: 1920x1200P@ 60_24bit, HDTV: 1920x1080P@60_36bit	
Clock Jitter	<0.15 Tbit	
Risetime	<0.3Tbit (20%--80%)	
Falltime	<0.3Tbit (20%--80%)	
maximum propagation delay	5nS(±1nS)	
<b>Video Input</b>		
Interface	4 HDMI-A female interface	8 HDMI-A female interface
Signal Strength	T.M.D.S. +/- 0.4Vpp	
Minimum / maximum level	T.M.D.S. 2.9V/3.3V	
Impedance	50 Ω	
Input EDID	Automatically read display EDID	
Maximum DC offset error	15mV	
Recommended maximum input distance	Less than 30 m, at 1600x1200 @ 60 (recommend the certified HDMI dedicated wire, such as the wire of Molex TM)	
<b>Video Output</b>		
Interface	1 HDMI-A female interface	
Minimum / maximum level	T.M.D.S. 2.9V/3.3V	
Impedance	50 Ω	
Recommended maximum output distance	Less than 7 meters, at 1600x1200 @ 60 (recommend the certified HDMI dedicated wire,such as the wire of Molex TM)	
<b>Specification</b>		
Power supply	DC12V	AC100~240V 50/60Hz
Power	Maximum 6w	Maximum 12w
Temperature	Storage temperature: -20° ~ +70°C	
Humidity	Storage, use humidity:10% ~ 90%	

Model	Pt-HDMI401S	Pt-HDMI801S
Technical Specifications		
Dimensions	215 (W) X43.6 (H) X164.5 (D) mm	428.6 (W) X43.6 (H) X164.5 (D) mm
Weight	About 1.2kg	About 2.2kg
MTBF	30,000 hours	
Warranty	1 year free warranty and lifetime maintenance	

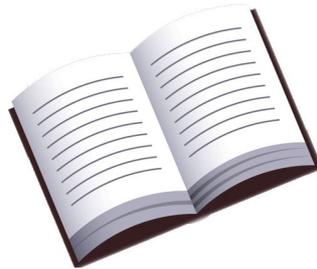
## Chapter4 Accessories

### 4.1 Power Cord

Used to connect the power and controller power input port.

### 4.2 Manual / Warranty card

Manual contains the operating instructions and parameters of the system and so on. Warranty card is used for warranty and maintenance.



## Chapter 5 Troubleshooting

In this section, a list of simple troubleshooting guide is to make up some consequences caused by improper use or installation. If the more serious faults or

problems are arising, please contact the specialized technical personnel.

Symptom	Remedy
Power-on, the front panel power light is not lit.	<ul style="list-style-type: none"><li>● Check whether the normal power is supplied.</li></ul>
Power-on, the front panel power light is lit, but no audio and video output.	<ul style="list-style-type: none"><li>● Check whether the audio and video circuitry is intact.</li><li>● Check the audio and video sources and display devices to make sure they are working properly.</li></ul>



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